

Power Walkthrough[®] User's Guide



A Note to the User:

We are happy to provide this electronic copy of The *Power Walkthrough User's Guide* and a PDF of the seminar PowerPoint®. You may print your own copy of each, or, if you prefer, you can import the guide into an application such as Good Reader® for the iPad® and take notes electronically.

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Introduction

In 2004, McREL was working with a consortium of 12 schools that had been identified as in need of improvement. A team of McREL consultants worked with teacher leaders and principals from each school, focusing on instructional pedagogy and academic vocabulary. Over a two-year period, six of the schools began showing marked improvement in student achievement, but the other six showed no measureable gains. We wanted to know why and went directly into classrooms to find our answer.

Clipboards in hand, we went from classroom to classroom looking for evidence of the instructional strategies we had covered during our workshops. We then transferred our observation data into Excel and examined the aggregate data. Not surprisingly, the data indicated that the schools realizing significant gains in student achievement were implementing the instructional strategies they were learning. In the schools showing no gains, teachers had not changed their instructional practices despite the professional development they had received.

When we presented the data to the district's executive cabinet, they realized they had been monitoring inputs—what the professional development provided, rather than outputs—student achievement. The superintendent asked us to find a way to help them collect classroom data, and McREL's Power Walkthrough[®] was born.

This story is important because it highlights one of the main premises behind Power Walkthrough. We know that professional development will have no effect on student achievement if the new pedagogical knowledge doesn't find its way into daily instruction.

What is a walkthrough?

A walkthrough is a way to gather data on what happens in the classroom with the intention of providing formative feedback to teachers. Unlike evaluations, walkthroughs help teachers identify what they are doing well (and often), the areas where they need support, and what instruction looks like in their classrooms. Perhaps the best analogy for walkthroughs is getting regular medical check-ups or real-time biofeedback using technology. By paying attention to subtle shifts in our blood pressure, temperature, and heart rate, we can identify areas that need improvement for our long-term health. Likewise, we are able to see patterns in our daily classroom activities that we might have otherwise missed.

We recommend these short, informal observations (3–5 minutes) become a part of a school's culture; it should be natural to see an administrator walking through classrooms at regular intervals. The resulting data are starting points for improving teacher practice throughout the building and informing professional development needs, and we *strongly* recommend that discussions regarding the data not be one-sided; instead, they are opportunities to encourage conversations among teachers, teams, and school leaders.

Unlike formal observations, informal observations are quick “snapshots” of the classroom. An individual observation is not particularly telling of a teacher's practice, but over time, the data will begin to show trends. Think of this process as collecting tiles in a mosaic. No one tile yields

a total picture, but put them together, and an image emerges.

It is especially powerful, as the data begin to portray a picture, to view instruction from the students' points of view. As we begin to explore this idea, imagine whether students at your school or throughout your district would agree or disagree with the following statements:

- I learn using a wide variety of strategies.
- I know different strategies to try if something is confusing to me.
- I have opportunities in class to work by myself, with a partner, in small groups, and as a part of whole-group instruction.
- I use a wide variety of tools to help me gather information and learn new skills or content, collaborate with peers and experts, and share what I am learning beyond my classroom.
- Once I have learned something, I have opportunities to use it in a real-life setting.
- I have opportunities to show my learning in a wide variety of ways.

The ultimate goal of walkthroughs is to give all educators in the building the information they need to hone their craft and keep evolving as professionals. Our perceptions are often jaded by our best intentions, and teachers who are attempting to use a wide variety of strategies may be surprised to find how often students actually are in whole-group instruction or that they use the same four to five methods for assessing learning. Having access to classroom snapshots helps teachers make informed choices about the learning experiences they are providing students.

Here is an example of the power that having walkthrough data can have:

A high school principal on his classroom observation rounds has an interesting conversation with a student in an AVID[®] classroom. AVID (Advancement Via Individual Determination) is a college readiness system aimed at students whose performance is more middle-level than high. One of the components of the program is to teach students to craft levels of questions about the material they are learning.

When the principal asks the student what she is learning, she says she is learning about the Civil War and is trying to write “Level Three” questions. The principal asks, “What is a Level Three question?” The student explains that in AVID there are three levels of questions, and Level One is when you can find the answer right in the text. Level Two is where readers infer answers from what the text implies. Level Three is experience-based, meaning she has to think beyond what the text states to include her prior knowledge, experience, or both.

It occurred to the principal that Level One questions were like the “remember” and “understand” levels of Bloom’s Taxonomy. Level Two questions seemed like the “apply” and “analyze” levels, and Level Three aligned with the “evaluate” and “create” levels.

The principal then asked the student, “What levels of questions do you see most often?” The student replied, “We seem to get more Level One questions. I really wish we would do more Level Two and Three questions. It would make class more interesting.”

Bloom's Taxonomy

The Power Walkthrough process allows districts to collect data on the extent to which the professional development they provide schools actually makes it into the classroom. It also can provide data on the types of professional development that should follow. For example, if a district's data indicate classroom instruction is at the lowest two levels of Bloom's Taxonomy for 80 percent of all instruction, it makes sense to provide school-wide professional development on how to change the level of rigor in the classroom

Recording the level of Bloom's Taxonomy¹ being targeted in the lesson (see Figure 1), in addition to the strategy being employed and the evidence of learning, informs the rigor of the lesson. McREL chose this taxonomy because of its familiarity among educators and its simplicity, which lends itself to a three-to-five minute walkthrough.

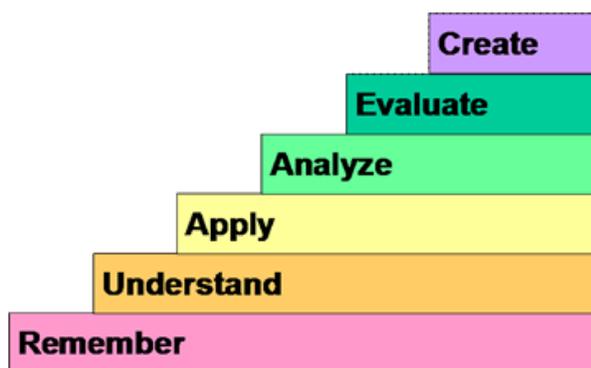


Figure 1: Bloom's Taxonomy

While conducting walkthroughs, identifying the level of rigor can be one of the most challenging aspects. During any one observation, students are operating at various levels of the taxonomy. Observers should record the level of Bloom's *at which the lesson is generally targeted*, knowing that some students will be slightly above or below that target and teachers might differentiate for different learners. To help identify the level of Bloom's, we included a nested list of products, objects, activities, and actions within each level (see Figure 2).

¹ Anderson, L. & Krathwohl, D. (2001). *A taxonomy for learning, teaching, and assessing*. New York: Addison Wesley Longman, Inc.

biggest impact on student achievement:

1. Setting objectives and providing feedback
2. Reinforcing effort and providing recognition
3. Cooperative learning
4. Cues, questions, and advance organizers
5. Nonlinguistic representation
6. Summarizing and note taking
7. Homework and practice
8. Identifying similarities and differences
9. Generating and testing hypotheses

These categories are further grouped into three components that help teachers purposefully plan for using the strategies. Figure 3 shows the new CITW framework.

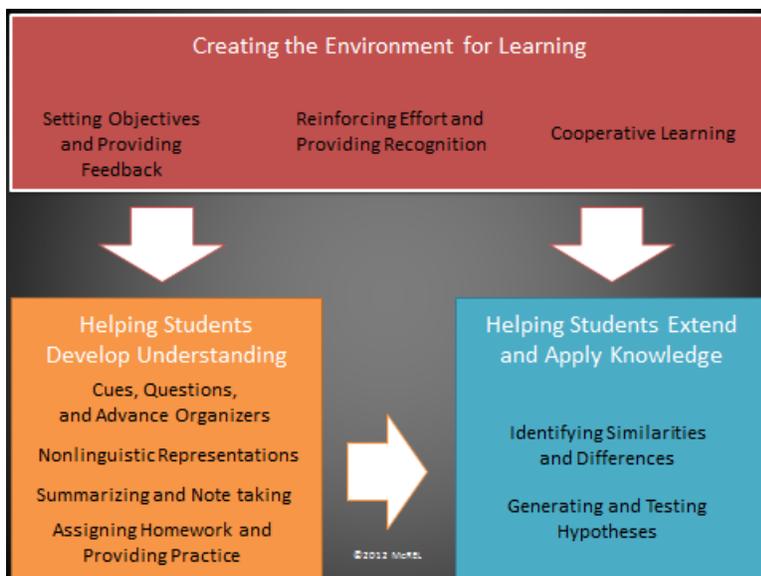


Figure 3: CITW Framework

Strategies for **creating the environment for learning** appear at the top of the framework and flow downward. These affective strategies are the top priority. A teacher might use a variety of graphic organizers and engage students in high-interest experiments, but if students do not understand what they are supposed to learn, do not get feedback on how they are doing, do not believe in their own abilities to be successful, and are not given opportunities for social learning, the other strategies will not succeed.

The second component, **helping students develop understanding**, includes those strategies that are most helpful when introducing new content. These strategies help to activate background knowledge, organize new and potentially confusing information, summarize what is being learned, and provide practice or review what was learned.

The third component of the framework includes those strategies that are the ultimate goal of education: **helping students extend and apply knowledge** at high levels and in new situations.

These are the strategies that, in terms of Bloom’s Taxonomy, help students analyze data and information, evaluate one solution or proposal over another, and create new inventions using what they have learned.

In the remainder of this section, we provide an overview of each category of strategies. We introduce each strategy, provide classroom recommendations that are drawn directly from the research, and include a checklist to help you better determine which strategy to use. We also describe classroom vignettes, which portray practical ways to implement the strategies in a busy classroom.

In addition, a district may want to consider an in-depth study of the strategies by facilitating a book study of *Classroom Instruction that Works, 2nd Edition* (Dean et al., 2012) or by inviting a McREL consultant to work with teachers and administrators.

Grouping strategies

Grouping strategies include whole group, small group, individual, pair, and cooperative learning:

Whole group – Students all do the same thing under the guidance or direct instruction of the teacher. Examples include lecture, watching a video, teacher-directed question and answer, guided practice, and band practice.

Small group – Students work in groups of 3–6 in an activity that requires interaction. They are not merely seated at the same tables, but doing something that requires input from each member of the group. Examples include working on a project, doing an experiment as a team, and researching for a presentation.

Individual – Students work independently with very little, if any, teacher involvement. They may do different kinds of work or the same type of work but with little or no interaction with the teacher or other students. Examples include completing homework, writing (without teacher guidance), silent reading, and testing.

Pair – Students intentionally work with a partner, and both members of the pair are engaged in the activity. Examples include guided reading, review of material, and think-pair-share.

Cooperative learning – Students work in groups of 2–5, and there is evidence of positive interdependent and individual accountability (Dean, et al., 2012). Positive interdependence means that each member of the group has an identifiable role or responsibility toward task completion; individual accountability means that each member of the team receives feedback on how his or her personal efforts contribute to achieving the overall goal. While cooperative learning is a research-based instructional strategy included in *Classroom Instruction that Works, 2nd Edition* (Dean, et al, 2012), we include it here because students most often are engaged in other instructional strategies while in cooperative learning groups. Examples include jigsaw activities, WebQuests, three-step interviews, and structured problem solving.

Getting started with the template: Segment of class

After choosing the school, teacher, grade, and content area, the first item you will record in the Power Walkthrough template is the segment of class you happen to be observing. This is important data to enter, as it can inform you of how random your walkthroughs are in terms of timing as well as give indication of how strategies are used throughout the cycle of a lesson. The three options you will have in the pull-down menu are:

Beginning (first 10 minutes)

Middle

End (last 10 minutes)

Chapter 1: Creating the Environment for Learning

In the Power Walkthrough template (Figure 4), the affective strategies that create an environment conducive to learning, except for Cooperative Learning, appear as a checklist (Cooperative Learning is captured in the Grouping section.). Check as many or as few as you see.

The screenshot shows a software interface for 'Creating the Environment'. At the top, there is a section labeled '1. Segment of Class' with a dotted line and a 'Middle' button. Below that is '2. Creating the Environment', which contains a checklist with three items: 'Setting Objectives' (checked with a green checkmark), 'Providing Feedback' (checked with a green checkmark), and 'Effort and Recognition' (unchecked with an empty circle).

Figure 4: Creating the Environment Software View

Setting Objectives

One of the most important strategies when starting a lesson, this strategy helps teachers to ensure that students have a clear understanding of key concepts and or skills they should have at the end of the activity, lesson, or unit. While schools and districts have different protocols and procedures for communicating objectives, McREL encourages all faculty members in a building to agree on criteria for posting objectives. For example, a school might decide that objectives must be written in kid-friendly language and be posted in a particular area of the room. The four classroom recommendations for setting objectives are:

1. Set learning objectives that are specific but not restrictive.	Objectives should be stated specifically enough so that students (and teachers, administrators, and parents) have a clear idea of what students will be learning, but not so specific that it describes a particular learning activity. There should be room for differentiation and for students to show their learning in a variety of ways. Conversely, objectives stated too broadly give little direction for learning. For example, labeling the bodies of water in a city is not an objective; it is an activity. However, knowing how key geographical features impacted the development of the city is an objective.
2. Communicate the learning objectives to students and parents.	McREL encourages schools and districts to decide upon criteria for communicating objectives and to help teachers become consistent in doing so. For example, some schools focus on stating the objective in age-appropriate language. Others focus on where to post the objective in the classroom so that students and visitors can rely on more than just verbal communication. Leaders also should discuss with teachers how to communicate unit objectives to parents. Different populations may have different language and media needs.
3. Connect the learning objectives to previous	Teachers should give students a context for learning. By helping students pay attention to the ways past lessons connect to current

and future learning.	lessons, teachers scaffold learning for students and help them understand what they should be learning.
4. Engage students in setting personal learning objectives.	Within any given unit, give students a chance to personalize learning objectives. While time may not allow for this daily, giving students the opportunity to find something personally meaningful within a unit helps engage learners and provides real-world context to the material.

The classroom walkthrough checklists following each strategy home in on important elements of the instructional strategies during brief classroom walkthroughs. They are not evaluative assessments; rather, they are indicators that can be quickly observed. They assist an observer in accurately determining which learning strategies are being used by the teacher, students, or both.

Classroom Walkthrough Indicators—Setting Objectives

SETTING OBJECTIVES – STRATEGY INDICATORS	YES	NO
1. The objectives are posted or on a handout in clear sight of all students for reference throughout the lesson.		
2. Objectives are written in student-friendly language that clearly reflects the content that students will learn and/or the skills they will acquire.		
3. The teacher ensures the objectives reflect the content and skills to be learned rather than a list of activities. (<i>The “what” of the learning, not just the “how.”</i>)		
4. Learning objectives are rigorous and age-appropriate.		
5. The teacher includes opportunities to determine students’ existing knowledge and skills in addition to misconceptions related to the objectives.		
6. Learning activities tightly align with the objectives.		
7. The teacher regularly references the objectives.		
8. The teacher explains the objectives and allows students the opportunity to make sense of what they will be learning and doing.		
9. The teacher helps students connect what they are learning and doing with the objectives.		
10. The teacher uses transitions to help students to make connections between the objectives of the unit/lesson and those of previous or future units.		

Classroom Snapshot

Ms. Jamieson, a middle school principal, has been focusing with her staff on verbally communicating clear objectives as they begin their lessons and making certain that students

understand the connections between what they are doing and previous lessons on the same topic. As Ms. Jamieson walks into a 6th-grade mathematics classroom, she observes the teacher telling students, “We’ve been learning how to add and subtract fractions with like denominators. Today, we’re going to apply that knowledge and what we learned about writing equivalent fractions to add fractions with unlike denominators. Eventually, you will be able to apply this knowledge to a cooking activity in which you will combine ingredients to make a Fall Festival cake.” Ms. Jamieson notices that the teacher’s statement not only focuses the students, it encourages them to commit to the learning objectives.

Providing Feedback

The second strategy in the environment framework speaks to the need for students to receive regular updates on how they are doing in regard to learning a specific skill or content. Closely tied to Setting Objectives, feedback provides milestones so that students know whether they are on track. Though we often think of this strategy as teacher-led, McREL’s research encourages teachers to also provide students with opportunities for self-assessment and peer-feedback. The four classroom recommendations are:

1. Provide feedback that addresses what is correct and elaborates on what students need to do next.	Feedback should not be judgmental, but should help students see the modifications and next steps to take.
2. Provide feedback appropriately in time to meet students’ needs.	Research shows that giving feedback after every item is less effective than giving feedback after a series of items. Students also need feedback in a timely manner so they are able to recall and reflect upon their thinking as they performed the task.
3. Provide feedback that is criterion referenced.	Rubrics are excellent tools for giving student feedback, as they specifically outline the criteria on which students are assessed.
4. Engage students in the feedback process.	Students should have ample opportunities to self-assess and to give and receive peer feedback.

Classroom Walkthrough Indicators—Providing Feedback

PROVIDING FEEDBACK – STRATEGY INDICATORS	YES	NO
1. Feedback seems to be given in a timely manner.		
2. The teacher ensures that well-defined criteria have been established against which work or performances is to be judged.		
3. The teacher provides feedback that is specific enough to help students improve by elaborating on what they already know or strengthening a skill.		
4. The feedback provided aligns with the learning objective.		
5. When appropriate, the teacher provides corrective feedback instead of praise		

PROVIDING FEEDBACK – STRATEGY INDICATORS	YES	NO
for effort.		
6. The teacher assists students in developing the skills necessary to provide their own feedback.		
7. After providing students with feedback, the teacher allows students to revise their work until correct.		

Classroom Snapshot

Mr. Dunlap is observing a high school English class. As he walks in, he sees the teacher working individually with a student who is struggling to write a persuasive essay. As they work through the essay, the teacher provides feedback that commends the student’s enthusiasm for her topic and helps her rewrite the essay as a call to action rather than as a diatribe. At the end of the session, Mr. Dunlap overhears the teacher say, “I think our next step is to show readers what first intrigued you to take action. You mention that you saw a video about the amount of waste going to landfills. Perhaps we could find some exact numbers about how much trash we produce. That would help readers understand your passion for creating change.” Here, the teacher has provided specific and helpful feedback while guiding the student to take needed future steps.

Reinforcing Effort and Providing Recognition

These two strategies are treated as one as they speak to the need for educators to recognize the effort put forth by students. Many students enter school with the belief that success comes as a result of innate abilities, outside influences (such as friends or family), or simply as luck. By helping students understand the role that effort plays in success, teachers give them a sense of control over their destiny and a motivating reason for trying harder. There are six overall classroom recommendations for reinforcing effort and providing recognition:

1. Teach students about the relationship between effort and achievement.	Encourage teachers to share their own stories of overcoming obstacles through hard work as well as stories of famous people who have achieved success through hard work. Teachers should especially be mindful to include success stories of people from similar backgrounds.
2. Provide students with explicit guidance about what it means to expend effort.	Sometimes, students do not have a clear understanding of what “effort” looks like. Describe detailed scenarios or have students share steps they took to work through a difficult task or concept.
3. Ask students to keep track of their effort and achievement.	When students self-assess their own effort and track the outcome, they often see a relationship develop over time between effort and achievement.
4. Promote a mastery goal orientation.	When teachers adopt a mastery-goal orientation, they emphasize learning and meeting goals rather than comparing students’ performances. This doesn’t mean that performance is unimportant;

	rather, it acknowledges that overemphasizing performance can lead to a decrease in student motivation, persistence, and willingness to seek help.
5. Provide praise that is specific and aligned with expected performance and behaviors.	Generic praise does little to motivate students. When students meet a specific criteria or goal, they view the praise they receive as more genuine.
6. Use concrete symbols of recognition.	Though the day-to-day verbal interactions of praise are more effective, this does not mean that concrete symbols should be omitted altogether. On occasion, these can be motivating means of rewarding students for hard work, especially if the skill's value is not initially apparent.

Classroom Walkthrough Indicators—Reinforcing Effort

REINFORCING EFFORT – STRATEGY INDICATORS	YES	NO
1. The teacher helps students understand the relationship between how hard they work and their success.		
2. The teacher provides students with examples of effort and stories about people who have overcome odds and/or have worked hard in order to succeed.		
3. The teacher asks students to provide stories about effort and success.		
4. The teacher models breaking tasks into smaller component parts so that students can hear about and visualize what it means to work hard.		
5. The teacher and/or students use rubrics and/or lists to define what effort means.		
6. The teacher provides students with opportunities to track their effort and relate their success to it.		

Classroom Walkthrough Indicators—Providing Recognition

PROVIDING RECOGNITION – STRATEGY INDICATORS	YES	NO
1. The teacher recognizes students for their academic achievements based upon an established set of criteria or expected/desired level of achievement.		
2. The teacher recognizes students for how hard they work.		
3. The teacher asks students how they would like to be recognized for their learning.		
4. The teacher provides recognition that is genuine and specific to the individual.		

PROVIDING RECOGNITION – STRATEGY INDICATORS	YES	NO
5. The teacher helps students understand the connections between feedback, effort, and recognition.		
6. The teacher provides students with instruction to assist them in recognizing one another.		

Classroom Snapshot

Mr. Ervin, an elementary school principal, walks into a 3rd-grade class as students are working on biographies of a favorite person from their state’s history. Based on previous experience, he knows that one of the students in this class is especially apprehensive about writing and often will disengage from writing activities.

Today seems no different. The other students go through their notes to type their reports, and Mr. Ervin watches as the teacher cajoles and works with the reluctant student. He overhears her say, “You’ve really done a nice job of outlining what you want to say about your subject. You have worked so hard at this skill, and I can see lots of improvement.” The teacher goes on, saying, “I think if you just start turning these phrases in your notes into full sentences, you’ll find that a lot of your writing already is finished.”

Mr. Ervin is pleased that the teacher not only praised the student for effort he has made in taking notes, but that she connected his hard work to the current assignment.

Cooperative Learning

McREL encourages those conducting walkthroughs to note how students are grouped. Having this type of data is paramount in informing educators how often teachers give students opportunities to learn socially, to have student-centered activities, and vary how students receive information. If you find that the majority of instruction is conducted in whole-class lecture followed by individual practice, students may not be getting ample time to engage in and apply what they are learning at high levels.

Student grouping generally is described as whole-class, pairs, small groups, or individual. However, when certain criteria are met, students may be engaged in a formal cooperative learning activity. According to McREL’s definition of *formal* cooperative learning, there must be (1) individual and group accountability and (2) positive interdependence.

The three classroom recommendations for incorporating formal cooperative learning are:

1. Include elements of positive interdependence and individual accountability.	Design activities that require each member to fulfill a pre-determined role in order for the group assignment to be successful.
2. Organize groups of three to five students.	Studies show that when learners, including adults, are placed in groups larger than five, motivation is negatively

	affected. Each member of the group needs to feel that his or her contributions will be appreciated.
3. Use cooperative learning consistently and systematically.	Teachers should not overuse formal cooperative groups. Students need individual processing time as well as opportunities for quick, informal learning sessions with peers. They can also benefit from whole-class instruction as long as this, too, is not overused.

Classroom Walkthrough Indicators—Cooperative Learning

COOPERATIVE LEARNING – STRATEGY INDICATORS	YES	NO
1. The teacher instructs students in how to work together as a team, listen, negotiate, and lead.		
2. The teacher chooses cooperative learning projects and activities that require a group effort to be successful.		
3. The teacher makes sure that there are different roles and responsibilities for every student and that they are clear and reasonable.		
4. Cooperative learning groups are heterogeneous both academically and socially.		
5. The teacher provides rubrics for both the overall project goals and the roles/responsibilities of each student.		
6. Cooperative learning groups consist of five or fewer students so that all students can have a voice.		
7. The teacher ensures that group sizes and available resources match well enough so that students have most of what they need in order to achieve their learning objectives.		

Classroom Snapshot

Mrs. Fleur, a high school principal, has been working with her staff on varying how students are grouped during instruction. When she first started doing walkthroughs, she was surprised, as were her teachers, at how often students were being taught by passively sitting and listening to a whole-class lecture. While she felt that great lectures still needed to play a role in instruction, she broached the subject with her staff about the importance of students having varied experiences with peers while learning.

The staff decided upon a goal of reducing whole class instruction from 50 percent to 40 percent. Throughout the semester, they focused on actively putting students into small groups, pairs, and, occasionally, formal cooperative groups. They also included individual work time, when appropriate. To help teachers remember, they added a small checklist on their existing lesson plan template to indicate how students were grouped.

At the end of the semester, Mrs. Fleur and her faculty were happy to find that they had not only met their data goal, but they had received unprompted positive feedback from students. Many expressed renewed enthusiasm in learning simply because they were being given opportunities to debrief and talk with peers about the concepts.

Chapter 2: Helping Students Develop Understanding

The second section of the CITW framework includes strategies that help students acquire and integrate new knowledge. These strategies help to connect to prior learning and activate background knowledge as well as organize new and potentially confusing information.

In the Power Walkthrough template, these strategies appear as Primary and Secondary Instructional Strategies on a pull-down menu (Figure 5). Generating and Testing Hypotheses, Identifying Similarities and Differences, and Nonlinguistic Representation have an additional checklist attached to them. When one of these three categories is chosen, a checklist of processes is provided to give you the option of choosing *one* of these processes within that particular category (e.g. Nonlinguistic Representation > Graphic Organizers). Choose the primary strategy you observe being used during your visit to the classroom. You also have the option of recording a secondary strategy you observe. For example, if students are conducting an experiment and using a graphic organizer to help them organize their findings, the primary strategy would be Generating and Testing Hypotheses: Experimental Inquiry. The secondary strategy would be Nonlinguistic Representation: Graphic Organizers.

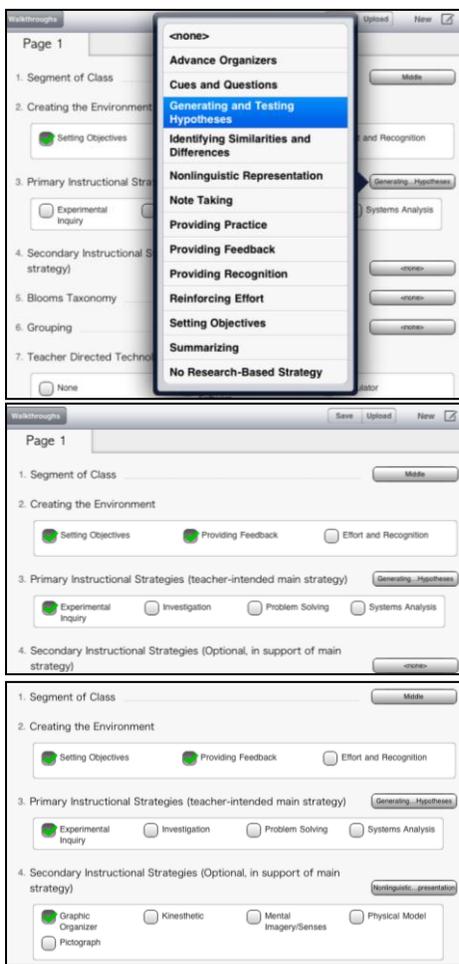


Figure 5: Primary Instructional Strategy Software View

Cues and Questions

Cuing and questioning students at the beginning of the unit allows the teacher to determine what students already know about the topic as well as reminding the students what they may already know. For example, if a teacher is starting a unit on subtraction, she may start by first asking them questions about what they have learned about addition. The four classroom recommendations for Cues and Questions are:

1. Focus on what is important.	Make sure students are asked questions that focus their attention on the most important things the teacher wants them to learn, not simply something that is unusual or exciting.
2. Use explicit cues.	Encourage teachers to be direct about the focus of the day or lesson. For example, a teacher might say, “Today, students, we are going to talk about causes of the Civil War, especially in terms of how two very different economies led to such vastly different ways of life.”
3. Ask inferential questions.	These types of questions move beyond simple recall and ask students to use their background knowledge to take an educated guess at the answer. For example, if students have been studying the Baroque period in art, music, or history and are now moving into the late-Baroque, or Rococo period, the teacher might say, “It is very common in human nature for the younger generation to adopt beliefs, styles, and preferences that are in direct opposition to the preferences of the generation before them. Given that pattern of human behavior, how do you think Louis XV’s generation reacted to the styles of Louis XIV? What changes can you anticipate as we move into this period?”
4. Ask analytic questions.	These questions require students to analyze information or data and are not quickly answered. An example might be, “Given the last ten years of hurricane data, choose your top three and your bottom three choices of cities in which you would want to build a new high-rise.”

Classroom Walkthrough Indicators—Cues and Questions

CUES AND QUESTIONS – STRATEGY INDICATORS	YES	NO
1. The teacher uses cues and questions to help students understand how and what they are about to learn connects to what they already know.		
2. The teacher uses cues and questions to focus on what is important while providing information, sharing examples, and engaging students.		
3. The teacher uses explicit cues at the beginning of a lesson/unit to focus students on the important content to come.		

CUES AND QUESTIONS – STRATEGY INDICATORS	YES	NO
4. The teacher uses cues throughout the lesson or unit to focus students on making sense of the content they have just learned.		
5. The teacher continually asks questions that require students to make inferences and draw upon what they already know to address missing information in the lesson.		
6. The teacher continually asks analytic questions to prompt students to think more deeply and critically about the information presented.		

Classroom Snapshot

Mr. Young is conducting walkthroughs in his elementary building one morning. He enters a 2nd-grade classroom just as the teacher is introducing a new book the class is going to read. He is just in time to hear the teacher give an initial cue followed by a series of questions.

“We have been reading books by Chris van Allsburg and you all have started to notice a pattern. What are some of the things you’ve noticed about his books?”

The students’ answers vary: one says the pictures are very interesting, and another student says there is always a “twist” at the end of the story, and that the stories often teach a lesson.

The teacher continues.

“Based on what you know about his books so far, I’m going to show you the cover and title of his next book. I want you to do a ‘turn and talk’ with your elbow partner and discuss what you think this book might be about. Our next book is...*The Sweetest Fig*.”

Mr. Young not only observed effective cuing, but also saw evidence that the teacher provided tiered questions—from simple recall to those that require inferential thinking.

Advance Organizers

When most people think of “advance organizers,” they think of graphic organizers. While these are, indeed, one type of advance organizer, this category can include anything that activates background knowledge and engages students in new content. They are activities or tools given *in advance* of the learning activity. The four classroom recommendations reflect the use of a variety of advance organizers:

1. Use expository advance organizers.	These are fact-based advance organizers, such as an outline, a brief video clip, or a vocabulary list.
2. Use narrative advance organizers.	These activities introduce new information in story format. Teachers of very young students, for example, may read Eric Carle’s <i>The Very Hungry Caterpillar</i> as an advance organizer to a unit on butterfly metamorphosis. Similarly, a teacher may show

	pictures and tell a story about her trip to Rome in anticipation of a study on ancient Rome.
3. Use skimming as an advance organizer.	Similar to expository advance organizers, these activities require students to quickly skim upcoming information to prepare for new learning. Students may, for example, read headings and words in bold in their text book. They may skim an article or read through a brief website to remind them of what they already know about a topic.
4. Use graphic advance organizers.	These tools use visual means to help students organize information.

Classroom Walkthrough Indicators—Advance Organizers

ADVANCE ORGANIZERS – STRATEGY INDICATORS	YES	NO
1. The teacher helps students develop an understanding of how their background and prior knowledge connects with what they are about to learn.		
2. The teacher uses an advance organizer to focus students on what is important while providing information, sharing examples, and engaging students.		
3. The teacher uses advance organizers at the beginning of a lesson or unit to focus students on the important content to come.		
4. The teacher continues to use an advance organizer throughout the instruction as a means to align learning with the intended learning objective.		

Classroom Snapshot

Mrs. Bernstein is observing a high school geometry class. She notes that, before teaching his students the formula for calculating the area of an irregular trapezoid, Mr. Silverman tells his students about the time he and his wife built a stone patio in their backyard. Before going to the store, he had to determine how much stone to buy. He wanted to make sure he didn't buy too much stone and waste money or buy too little and have to make several trips to the store for more supplies. He explains how he measured the area for the patio, draws illustrations on the board, and demonstrates how he was able to determine the right amount of stone he needed.

This narrative advance organizer gives Mr. Silverman's students a focus on why learning how to calculate the area of an irregular trapezoid is something that has importance outside of the classroom. It helps set the objective more clearly and provides his students with a concrete example they can then use to build meaning.

Nonlinguistic Representation

This category of strategies helps students create mental images of what they are learning. The more teachers use nonlinguistic representation, and allow students to use the same strategy to show their learning, the more they will tap into different modes of communication for their

students. The five recommendations for this category outline the five different activities that can produce nonlinguistic representation:

1. Use graphic organizers.	The same graphic organizers you use to introduce a new topic can be used throughout a lesson and even as a formative assessment tool. These organizers include timelines, thinking maps, word webs, or other means of graphically organizing information.
2. Make or use physical models or manipulatives.	Have students use models to enhance their understanding of a concept. For example, students may use base-ten blocks to help them better understand exchanging when adding or subtracting. Or students may use a model of the Bohr diagram to help them remember the electron configurations of various elements.
3. Generate mental pictures.	A variety of activities can help students generate mental pictures of what they are learning to aid in recall. For example, a teacher may read aloud an excerpt from a book, play a recording, or show a reenactment of a famous speech.
4. Create pictures, illustrations, and pictographs.	Pictures and graphs are powerful tools that help students not only learn, understand, and retain knowledge, but are equally effective in showing what was learned. For example, a teacher may use pictures and illustrations to explain the components of a water cycle. Then, students can opt to draw a picture of the water cycle to show what they learned. In many cases, students may be better able to demonstrate understanding through pictures rather than through writing or testing.
5. Engage in kinesthetic activities.	As with pictures, engaging students in kinesthetic activities can be a powerful learning and formative assessment tool. An example could be having students act out the parts of the cell (e.g. nucleus, cell wall, and mitochondria) or using their arms to show the difference between radius and diameter.

Classroom Walkthrough Indicators—Nonlinguistic Representations

NONLINGUISTIC REPRESENTATIONS – STRATEGY INDICATORS	YES	NO
1. The teacher intentionally engages students in using nonlinguistic representations.		
2. The teacher assists students in using a graphic organizer (descriptive pattern, time sequence patterns, process/cause-effect patterns, episode patterns, generalization/principle patterns, concept patterns).		

NONLINGUISTIC REPRESENTATIONS – STRATEGY INDICATORS	YES	NO
3. The teacher asks students to create mental images of their thinking and assists them in adding details, including emotions and the five senses.		
4. The teacher/students use physical models to deepen student understanding of abstract concepts or items difficult to interact with in person.		
5. The teacher/students use kinesthetic movement to help elaborate on learning.		
6. The teacher/students use pictures and pictographs to assist in representing student ideas and deepening their understanding.		
7. The teacher explains, models, and has students practice their application of nonlinguistic representations within a familiar context.		

Classroom Snapshot

Mrs. Gonzales is conducting walkthroughs in her middle school. Knowing that her faculty has been focusing on providing multiple avenues for accessing knowledge, she is pleased to see how often teachers are using nonlinguistic representation throughout their lessons. For example, students in a math class this morning are creating a dance to help them remember the terms *symmetry*, *rotation*, and *reflection*. Students in a social studies class are listening to an actor's recording of Samuel Adams' "American Independence" speech with the assignment of listening as a sympathizer of the colonists or as a loyalist to England, an exercise that helps them create mental images of some of the conditions leading up to the Revolutionary War. Finally, students in a science class are creating models of various molecules to use later to see if there is a correlation between the molecular structure and the hardness of a mineral.

Mrs. Gonzales' walkthroughs reveal a wide variety of nonlinguistic representations being used in the classrooms. She also notes how enthusiastic and engaged students are in these particular lessons.

Summarizing

This category of strategies refers to the need for students to capture main ideas and key points of what they are learning for later access. When students summarize, they are learning to omit extraneous material and focus on what is most important. The three classroom recommendations for summarizing are:

1. Teach students the rule-based summarizing strategy.	<p>By providing students with a protocol for summarizing, teachers help to scaffold a potentially confusing activity. The summarizing rules are:</p> <ul style="list-style-type: none"> • Take out material that is not important to understanding. • Take out words that repeat information. • Replace a list of things with one word that describes them
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	<p>(e.g., replace “oak, elm, and maple” with “trees”).</p> <ul style="list-style-type: none"> Find a topic sentence or create one if it is missing.
2. Use summary frames.	These six frames help students identify the type of text or media they are summarizing (such as a narrative or a definition of a new word), and provide questions to help them summarize (see Summary Frames).
3. Engage students in reciprocal teaching.	In this activity, students are given roles in cooperative groups to help them summarize, generate questions, clarify ideas, and predict what is coming next in the text.

Summary Frames

Narrative/Story Frame

- Who are the main characters? What distinguishes them from other characters?
- When and where did the story take place? What were the circumstances?
- What prompted the action in the story?
- How did the characters express their feelings?
- What did the main characters decide to do? Did they set a goal? What was it?
- How did the main characters try to accomplish their goals?
- What were the consequences?

Topic-Restriction-Illustration Frame

- Topic:** What is the general statement or topic?
- Restriction:** What information does the author give that boxes in or narrows the general statement or topic?
- Illustration:** What examples does the author give to illustrate the topic or restriction?

Definition Frame

- What is being defined?
- To which general category does the item belong?
- What characteristics separate the item from the other items in the general category?
- What are some types or classes of the item being defined?

Argumentation Frame

- Evidence:** What information is presented that leads to a claim?
- Claim:** What is asserted as true? What basic statement or claim is the focus of the information?
- Support:** What examples or explanations support the claim?
- Qualifier:** What restricts the claim, or what evidence counters the claim?

The Conversation Frame

- How did the members of the conversation greet each other?
- What question or topic was insinuated, revealed, or referred to?
- How did their discussion progress?
- How did the conversation conclude?

Problem/Solution Frame

1. What is the problem?
2. What is a possible solution?
3. What is another possible solution?
4. Which solution has the best chance of succeeding and why?

Note Taking

This strategy helps students to capture salient points as they are learning new material. Students must be explicitly taught how to take notes and to realize that verbatim note taking is unlikely to be effective. Different students will prefer different types of note-taking, so it is recommended that teachers introduce students to many formats of notes such as informal outlines, webbing, and combination notes which combine linguistic and non-linguistic representation.

Three recommendations reflect research evidence:

Give students teacher-prepared notes.	Students may not have a model of what well-organized notes look like. Teachers can provide this model as needed, gradually giving less support as students become efficient note-takers.
Teach students a variety of note-taking formats.	Each student will likely develop a preference for the type of notes that help him or her best summarize and understand new material. Introduce a variety of note-taking formats so that students can find what works best for them.
Provide opportunities for students to revise their notes and use them for review.	Students may not realize the purpose of taking notes. By encouraging them to revise and review their notes, teachers are helping students to develop life-long skills that will help them in future learning experiences.

Classroom Walkthrough Indicators—Note Taking

NOTE TAKING – STRATEGY INDICATORS	YES	NO
1. The teacher models and instructs students in a variety of note-taking formats.		
2. The teacher provides students with opportunities to practice note-taking techniques using familiar information before they are expected to use them with new material.		
3. The teacher provides explicit corrective feedback that helps students elaborate on their understanding and improve their note-taking skills.		
4. The teacher instructs students to leave space between each note they take to create room to add to their notes as they continue learning about the topic.		

NOTE TAKING – STRATEGY INDICATORS	YES	NO
5. The teacher intentionally builds time into lessons for students to review and edit their notes.		
6. The teacher provides time for students to share their thinking with other students in order to improve their notes.		

Classroom Snapshot

Ms. Cho, an elementary school assistant principal, is conducting walkthroughs today in her kindergarten classrooms. While all of the kindergarteners are learning about butterfly metamorphosis this week, one lesson, in particular, caught her attention. As the teacher read a book that focused on words that begin with the letter “B,” he had his students draw small sketches of what they were learning onto rolls of calculator paper. For example, the students wrote “B” on their paper, then drew pictures of bees, babies, bottles, and bacon. Ms. Cho realized the teacher was introducing a very early form of note taking.

Homework

McREL does not generally address the strategy of homework with classroom walkthroughs. If during an observation students are going over homework together, first determine which strategy they used to complete their homework. Did the students practice basic skills? Were they asked to compare and contrast two things they had learned? Was their assignment to revise their notes? Determine the strategy assigned for homework and use that to inform the walkthrough.

Practice

Having students practice what they are learning helps them retrieve, use, and apply new knowledge. During the “shaping” phase of learning (i.e., during the first two to six practice sessions), it is vital that students receive corrective feedback. Otherwise, they risk practicing a skill incorrectly. The three classroom recommendations for this strategy are:

1. Clearly identify and communicate the purpose of practice activities.	Students are more likely to be engaged in practice activities and to put forth their best effort if they know how particular skills will help them in future activities.
2. Design practice sessions that are short, focused, and distributed over time.	Practice sessions should not be long periods of rote activity. Short practice sessions focused on specific skills and information are most effective. As students are first learning the material, they should practice frequently. As they become more comfortable with a task, the sessions can be spaced out over longer periods.
3. Provide feedback on practice sessions.	Feedback is especially important during early practice sessions to ensure that students are practicing skills correctly and are getting guidance for improvement.

Classroom Walkthrough Indicators—Practice

PRACTICE – STRATEGY INDICATORS	YES	NO
1. The teacher clearly identifies the purpose of practice.		
2. The teacher provides specific time for guided practice.		
3. The teacher provides a way for students to track and monitor their progress.		
4. The teacher provides specific feedback on the individual steps in a practiced process.		

Classroom Snapshot

After gathering walkthrough data for six months, a team of teachers at Smithfield Middle School noted how often they were employing the strategy of practice with their students. While they knew that practicing what was learned is a vital part of the learning process, they began to worry about the amount of time they were spending on this strategy. One teacher asked, “If we are having students practice 73 percent of the time they are in our classrooms, what *aren’t* they doing? What strategies are they not getting time to use?”

The other teachers agreed, and the team decided to focus more intently on *which* skills needed practice. Throughout several faculty meetings, the team honed their scope and sequence, engaging in difficult discussions about what students should memorize (and therefore practice) versus skills and information students could look up or use tools to solve.

With a more refined list of tasks for students to practice, teachers found that they were able to practice less and use other strategies, such as classification or investigations, more often. This was reflected in the walkthrough data, which showed an increase in the variety of strategies teachers were using.

Chapter 3: Helping Students Extend and Apply Knowledge

The third and final section of the CITW framework focuses on strategies that help students apply what they have learned in real-world contexts. These strategies speak to higher order thinking skills such as analyzing and evaluating information.

Identifying Similarities and Differences

As students learn new materials and skills, it is important that they have opportunities to add this new knowledge to existing schema and to look for patterns across their summative understanding. There are four strategies in the Identifying Similarities and Differences category:

1. **Comparing** is the process of identifying similarities between or among things or ideas. The term contrasting refers to the process of identifying differences; most educators, however, use the term comparing to refer to both.
2. **Classifying** is the process of organizing things into groups and labeling them according to their similarities.
3. **Creating metaphors** is the process of identifying a general or basic pattern in a specific topic and then finding another topic that seems quite different but has the same general pattern.
4. **Creating analogies** is the process of identifying relationships between pairs of concepts; that is, identifying relationships between relationships.

The three classroom recommendations for this strategy are:

1. Teach students a variety of ways to identify similarities and differences.	Teach students the four processes above so they actively use them while learning.
2. Guide students as they engage in the process of identifying similarities and differences.	Because this is a higher order thinking skill, students will likely need tools such as graphic organizers or teacher-prepared notes as they begin to use this strategy. It is important that students have familiar content with this strategy.
3. Provide supporting cues to help students identify similarities and differences.	Effective teachers direct students' attention to important features of targeted knowledge. Cues and guiding questions also are important ways to scaffold this strategy for students.

Classroom Walkthrough Indicators—Identifying Similarities and Differences

IDENTIFYING SIMILARITIES & DIFFERENCES – STRATEGY INDICATORS	YES	NO
1. The teacher provides explicit and direct instruction related to comparing, classifying, creating metaphors, and creating analogies.		

IDENTIFYING SIMILARITIES & DIFFERENCES – STRATEGY INDICATORS	YES	NO
2. The teacher helps students understand this strategy by teaching comparison before providing instruction about classification, creating metaphors, and creating analogies.		
3. The teacher instructs students in comparing, classifying, creating metaphors, and creating analogies using a familiar context and content.		
4. The teacher models comparing, classifying, creating metaphors, and creating analogies prior to having students practice each of the four strategies.		
5. The teacher provides multiple opportunities for students to practice each of the four strategies.		
6. The teacher explains the steps for each of the processes involved in comparing, classifying, creating metaphors, and creating analogies.		
7. The teacher gives corrective feedback to students as they learn and practice the steps associated with comparing, classifying, creating metaphors, and creating analogies.		
8. The teacher uses graphic organizers to aid students in representing their learning for each of the four strategies.		
9. The teacher helps students see patterns and connections as they create metaphors and analogies.		

Classroom Snapshot

Mr. Denapoli walks into a 12th-grade English class and notices that the following learning objective is posted on the dry erase board: Your objective at the end of this lesson is to know the defining characteristics of a variety of literary forms and genres.

The students have created a horizontal list on the board of favorite books, movies, and television shows, and the teacher has vertically listed 12 common themes in literature. As Mr. Denapoli observes, the students work in groups to match the movies, books, and television shows they selected to the appropriate theme (and determine if any don't fit neatly into one or more themes). The teacher has intentionally used the strategy of classification to encourage his students to make personal connections to familiar material and to think critically about books that they are reading. Using classification in this manner provides students a robust learning experience.

Generating and Testing Hypotheses

The final strategy allows students to apply what they have learned in real-world contexts and to begin to create their own learning. These tasks move beyond memorizing knowledge. The two classroom recommendations for this strategy are:

1. Engage students in a variety of structured tasks	Teachers should engage students in various processes to help them generate and test hypotheses. McREL has identified four
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for generating and testing hypotheses.	<p>activities that engage students in this process:</p> <ul style="list-style-type: none"> • Systems analysis: analyzing the parts of a system and the manner in which they interact • Problem solving: overcoming constraints or limiting conditions that are in the way of achieving goals • Experimental inquiry: generating and testing explanations of observed phenomena • Investigation: identifying and resolving issues regarding past events about which there are confusions or contradictions
2. Ask students to explain their hypotheses and their conclusions.	This strategy can backfire if students develop misconceptions and don't have opportunities to discuss their thinking with others and to challenge their ideas. By ensuring students have opportunities to explain their hypotheses and conclusions, teachers are encouraging intellectual discourse.

Classroom Walkthrough Indicators—Generating and Testing Hypotheses

GENERATING AND TESTING HYPOTHESES – STRATEGY INDICATORS	YES	NO
1. The teacher intentionally has students use inductive or deductive reasoning when they are generating hypotheses.		
2. The teacher monitors for and corrects misconceptions when students are engaged in inductive reasoning.		
3. The teacher intentionally has students explain their thinking and justify their conclusions.		
4. The teacher explicitly teaches the steps of systems analysis, problem solving, experimental inquiry, and investigation to students.		
5. The teacher models the strategies of systems analysis, problem solving, experimental inquiry, and investigation to students.		
6. The teacher provides mini-lessons to help students better understand the individual steps of each strategy, how to develop a good hypothesis (prediction, estimation, inference, foreshadow), and how to write a good explanation of their conclusions.		
7. The teacher uses familiar content to teach the strategies of generating and testing hypotheses.		
8. The teacher provides students with useful and relevant graphic organizers to help them frame their thinking.		
9. The teacher provides guidance as students generate and test their hypotheses.		

Classroom Snapshot

Ms. Dean and Mr. Goodwin enter a busy 2nd-grade classroom during their morning walkthroughs. The students, sitting in groups of three, are having animated discussions. It takes the principals several seconds to locate the teacher, as he is quietly circulating among the groups, offering suggestions and redirecting when necessary. Above the din, they overhear one of the students explaining to other members of her group a pattern she has discovered about multiples of nine.

“See how all of these add up to nine?” she asks the others. “Oh yeah!” agrees a team member. “Look... $3+6$...that’s nine. And $1+8$...that’s also nine.” The third member of the group chimes in: “Four plus five isn’t here. Maybe that’s another one.”

The principals realize that the teacher has allowed the students to use inductive reasoning to discover patterns in multiples of nine. After a few minutes, the teacher brings the class together for a discussion about their findings, providing an opportunity to address any mistakes or misconceptions. By allowing students to “discover” the pattern through generating and testing hypotheses, this teacher has helped them learn a key tool in multiplication without telling them facts to memorize.

Chapter 4: Technology in the Classroom

Schools and districts have spent thousands, even millions, of dollars on technology, and recording classroom use of technology can tell school leaders whether those dollars are being well used. In addition, by recording the various technology tools teachers and students are using, you are completing the picture of what instruction looks like on a day-to-day basis. To illustrate, consider the following walkthrough observations:

Instructional strategy: cues and questions

Student grouping: whole group

Level of Bloom’s Taxonomy being targeted: Remember/Understand

Evidence of Learning: Teacher-led question/answer

Technology used by the teacher: interactive whiteboard

Technology used by the student: none

The mental picture that you likely created was a traditional classroom setting in which the teacher led a discussion with the whole class, introduced new content, and used an interactive whiteboard to demonstrate a procedure or give information. This could have been a very engaging lesson, however, if most of the walkthroughs in a school look like this one, the mosaic doesn’t depict a student-centered learning environment.

Let’s compare the first walkthrough data to this one:

Instructional strategy: classification

Student grouping: small group

Level of Bloom’s Taxonomy being targeted: Analyze/Evaluate

Evidence of Learning: Student writing, student discussion

Technology used by the teacher: brainstorming software, interactive whiteboard

Technology used by the student: collaborative software, brainstorming software, Web-based research

In this instance, you likely pictured a lively, student-centered classroom with small groups researching, organizing, and collaborating as they classify content that they have learned. Noting this technology, along with the strategies, grouping, levels of Bloom’s Taxonomy, and evidence of learning helps to inform the observer that this is an active learning environment.

Notice that our descriptions of the technology in use are generic. This not only keeps schools from having to update their walkthrough software with each new technology purchase, but it also keeps the focus on the *intent* of the tool rather than the tool itself. For instance, in the second walkthrough, the observer recorded that students were using collaborative software. They were, in fact, using a wiki to gather what they were learning. They could also have used a collaborative drawing program on multiple tablets, a collaborative word processor such as Google Docs[®], or a collaborative multimedia tool such as VoiceThread[®]. All of these tools have unique capabilities, but their common purpose is to help people collaborate and combine information.

Teacher use of technology

In the Power Walkthrough template, you may select as many or as few technologies that you see the teacher *actively* using while you are in the classroom. For example, if there is a document or PowerPoint slide being projected on a screen, but it is never referenced by the teacher or intended to be used by the students while you are in the room, it should not be recorded. If, on the other hand, the teacher refers to the display or students are using it as a reference, it should be recorded. Following are definitions and examples of the technologies you will find in our template³:

None – No technology is being actively used by the teacher while in the classroom.

Brainstorming/Idea Mapping Software – The teacher is using technology to help organize thinking, connect and categorize ideas, and show processes. Examples include Inspiration[®], Kidspiration[®], Bubbl.us[®], Tagxedo[®], Wordle[®], and Mindmeister[®].

Calculator – The teacher is using and displaying calculators while you are in the classroom. The school or district should determine whether to collect data on graphing calculators only or if any calculator should be tallied.

Communication/Collaboration Tool – The teacher is using tools that replace the traditional telephone with video, audio, text, or any combination of the three or is using a tool to collaborate. Examples include Skype[®], iChat[®], FaceTime[®], Tango[®], GoToMeeting[®], WebEx[®], Adobe Connect[®], Monk-E Mail[®], chats, e-mail, wikis, Google Sites[®], and TypeWith.me[®].

Data Collection and Analysis Tool – The teacher is using technology to gather and analyze data. Examples include SurveyMonkey[®], Google[®] spreadsheets/forms, Excel[®], Numbers[®], SurveyGizmo[®], eClicker[®], PollEverywhere[®], and probe ware (temperature probes, motion sensors, etc.).

Database and Reference – The teacher is using technology resources that provide information and data. Examples include searching on the Internet, Rubistar[®], Visuwords[®], VisualThesaurus[®], Wikipedia[®], Wolfram Alpha[®], and GapMinder[®].

Diagnostic/Prescriptive System – The teacher is using software programs that monitor student performance, provide feedback, and provide data. Examples include Star Reading/Math[®], integrated learning systems, Khan Academy[®], Alpine Achievement[®], and Infinite Campus[®].

Display Tool – The teacher is using a document camera such as an Elmo[®] to display documents or show objects. While this might look the same as an overhead projector, only track the document camera that is plugged into a projector.

³ Pitler, H., Hubbell, E. R., Kuhn, M., & Malenoski, K. (2007). *Using technology with classroom instruction that works*. Alexandria, VA: Association for Supervision and Curriculum Development.

Instructional Interactives – The teacher is using interactive technologies that he or she manipulates to enhance students’ understanding of a skill or concept. This can include games, manipulatives, and software that assesses the learner and differentiates the activity or curriculum based on the learner’s needs. Examples include Fast ForWord®, MathBoard®, virtual manipulatives, iCivics®, Kitses.com®, Intro to Math®, National Library of Virtual Manipulatives®, StarWalk®, The Elements®, and Mr. Nussbaum®.

Instructional Media – The teacher is using videos or recordings, commercial or teacher/student created, for learning purposes. Examples include BrainPOP®, Discovery Education Streaming®, Safari Montage®, teacher or student made via VoiceThread®, WatchKnow®, and iTunes U®.

Interactive Whiteboard – The teacher is using an interactive whiteboard as part of instruction while you are in the room. For this category to be checked, the teacher must be using one of the board’s interactive features as opposed to simply using the device as a projection screen. Examples include Smartboard®, Promethean Board®, and Interwrite®.

Kinesthetic Technology – The teacher is using technologies that interact with the user’s geographical and/or physical location and movements. Examples include Wii®, XBoxConnect®, GPS devices, V.Smile Motion®, and Star Chart®.

Multimedia Creation – The teacher is using technologies that allow her to combine audio, video, music, pictures, drawings, or any combination into a final product. Examples include Camtasia®, iMovie®, VoiceThread®, PowerPoint®, Movie Maker®, Keynote®, Photoshop®, iPhoto®, Paint®, Doodlebuddy®, DrawFree®, Glogster®, GarageBand®, and Final Cut Pro®.

Student Response Systems – These systems allow teachers to create quizzes or questionnaires and allow students to answer or vote with individual devices. Common manufacturers include eClicker® and Promethean Activote®.

Word Processing – The teacher is using word processing software to model taking notes, demonstrate formatting, or create documents. Examples include Microsoft Word®, Pages®, Open Office®, or Notes®.

Non-Educational Use – The teacher is using technology, but there is no clear educational connection between the technology in use and the instruction taking place. Examples include showing a movie without an educational connection or shopping on eBay.

Student use of technology

This component is about specifically collecting data on the technologies any or all students are *actively* using while you are in the classroom. Choose as many of these technologies as are appropriate, based on what you observe. For example, if most of the class is involved in direct instruction with the teacher, but one or two students are using Star Math in the back of the room, select “diagnostic/prescriptive software” to account for those students using technology. Remember that for you to select any of these technologies, they must be *in use* while you are in

the room. Following are definitions and examples of the technologies in our template⁴:

None – No technology is being actively used by any student while in the classroom.

Brainstorming/Idea Mapping Software – At least some students are using technology to help organize thinking, connect and categorize ideas, and show processes. Examples include Inspiration, Kidspiration, Bubbl.us, Tagxedo, Wordle, and Mindmeister.

Calculator – At least some students are using and displaying calculators while you are in the classroom. The school or district should determine whether to collect data on graphing calculators only or if any calculator should be tallied.

Communication/Collaboration Tool – At least some students are using tools that replace the traditional telephone with video, audio, text, or any combination of the three or are using technologies that enable or enhance the ability for them to work together even when geographically separated. Examples include Skype, iChat, FaceTime, Tango, GoToMeeting, WebEx, Adobe Connect, Monk-E Mail, chats, e-mail, wikis, Google Sites, and TypeWith.me.

Data Collection Tool – At least some students are using technology to gather and analyze data. Examples include SurveyMonkey, Google spreadsheets/forms, Excel, Numbers, SurveyGizmo, eClicker, PollEverywhere, and probeware (temperature probes, motion sensors, etc.).

Database and Reference – At least some students are using technology resources that provide them with information and data. Examples include searching on the Internet, Rubistar, Visuwords, VisualThesaurus, Wikipedia, Wolfram Alpha, and GapMinder.

Diagnostic/Prescriptive System – At least some students are using software programs that monitor their performance, provide feedback, and provide data on their performance to their teachers. Examples include Star Reading/Math, integrated learning systems, Khan Academy, Alpine Achievement, and Infinite Campus.

Display Tool – At least some students are using a document camera, such as an Elmo, to display documents or show objects. While this might look the same as an overhead projector, only track the document camera that is plugged into a projector.

Instructional Interactives – At least some students are using interactive technologies that are manipulated by the student to enhance understanding of a skill or concept. This can include games, manipulatives, and software that assesses the learner and differentiates the activity or curriculum based on the learner's needs. Examples include Fast ForWord, MathBoard, virtual manipulatives, iCivics, Kitses.com, Intro to Math, National Library of Virtual Manipulatives, StarWalk, The Elements, and Mr. Nussbaum.

⁴ Pitler, H., Hubbell, E. R., Kuhn, M., & Malenoski, K. (2007). *Using technology with classroom instruction that works*. Alexandria, VA: Association for Supervision and Curriculum Development.

Instructional Media – At least some students are using videos or recordings, commercial or teacher/student created, for learning purposes. Examples include BrainPOP, Discovery Education Streaming, Safari Montage, teacher or student made via VoiceThread, WatchKnow, and iTunes U.

Interactive Whiteboard – At least some students are using one of the interactive features of the whiteboard while you are in the room. Examples include Smartboard, Promethean Board, and Interwrite.

Kinesthetic Technology – At least some students are using technologies that interact with the user's geographical and/or physical location and movements. Examples include Wii, XboxConnect, GPS devices, V.Smile Motion, and Star Chart.

Multimedia Creation – At least some students are using technologies that allow them to combine audio, video, music, pictures, drawings, or any combination into a final product. Examples include Camtasia, iMovie, VoiceThread, PowerPoint, Keynote, Photoshop, iPhoto, Paint, Doodlebuddy, DrawFree, Glogster, GarageBand, Final Cut Pro, and Windows Live Movie Maker®.

Word Processing – At least some students are using word processing software to take notes, do assignments, or create documents. Examples include Microsoft Word, Pages, Open Office, and Notes.

Non-Educational Use – At least some students are using technology, but there is no clear educational connection between the technology being used and students' activities in the classroom. Examples include World of Warcraft® and personal social media sites.

Chapter 5: Checking for Learning and Implementation Schedule

This component of the template is about gathering data on the types of activities and/or artifacts that might provide evidence of student learning. We are not using this component to say students are in fact learning; rather, we are looking at the indicators for information they might provide about student learning. You should select all of the indicators observed. Looking at this component, along with all of the other components, can begin to draw a picture of what a day in the life of your students looks like.

Indicators of Learning

The indicators, along with McREL’s definitions, follow.

Experimenting – Students conduct experiments, either physically in the classroom, or virtually, using simulation software.

Formative Assessment (Informal Assessment) – Students engage in activities that provide teachers with formative information they can use to guide instruction. These include student/teacher interviews, questioning in class, and student demonstration at the board or in front of the class

Guided Reading – In this instructional setting, the teacher works with a small group of students to help them learn effective strategies for processing text with understanding. Several reading programs, including some from Pearson® and Scholastic®, specify guided reading as an intentional strategy.

Learning Game – This is a game in which there are rules, a direct tie to the learning objective, and some kind score is kept. Examples include vocabulary bingo, mathematics charades, Pictionary® using vocabulary words, and Yatzee® for mathematics.

Oral Reading – This is students reading aloud for a partner or the entire class and includes class choral reading. During an observation, you would not record both guided reading and oral reading, as oral reading is a component of guided reading.

Peer Teaching – In this case, a student is intentionally placed in the role of teacher. It is not where a student in a small group setting just becomes the dominant voice. Examples are reciprocal teaching or when a student presents new information to the class and quizzes them on that information.

Practicing – Students engage in guided practice activities. Examples include worksheets, activity sheets, music/drama rehearsal, and skills practice in physical education.

Silent Reading (little evidence) – Students read silently for all or a portion of the observation. We noted “little evidence” because silent reading without some kind of accountability shows little evidence of learning.

Simulating/Modeling – Students run simulations or create models (usually kinesthetic representations) either physically or using software, to explore or test ideas or represent learning. Examples include using base ten blocks in mathematics, creating representations of atoms using toothpicks and marshmallows, or testing genetic theory using an ExploreLearning® gizmo.

Student Demonstrating – Students demonstrate a skill or process, either for the teacher or other students in the classroom. Examples include students going to the board to work mathematics problems and students showing their work on a document camera or projector and talking through the editing process.

Student Discussion – Students engage in student-to-student conversation around learning topics and independent of teacher direction. Examples include think-pair-share, “elbow partner” discussions, and expert groups in cooperative learning.

Student Drawing – Students draw, either on paper or using software, to represent learning of a process or concept. Examples include students drawing or painting in art class, drawing a sketch of an experiment in science journals, creating a drawing of an idea or concept as part of combination notes, or a Frayer® model.

Student Graphic Organizing – Students use a graphic organizer, either provided by the teacher or student created, to help them organize their thinking and/or serve as a mental image of an idea or concept. Examples include students using a Venn diagram or comparison matrix, creating a bubble map in Inspiration® or Kidspiration®, or using online software such as Mindmeister® or Bubbl.us®.

Student Performing/Presenting – Students are in front of the class performing or presenting a skill or educational idea. Examples include a student reading a prepared report to the class, performing a piece of music, or teaching other students how to conduct a part of a procedure.

Student Planning – Students actively plan a project or other learning activity, either individually or as a group. Examples are using collaboration software and writing in their agendas.

Student Tutoring – Students tutor other students while you are in the classroom. Examples are older students working with “reading buddies” and students who already have mastered an idea or concept intentionally helping other students in the room learn that idea or concept.

Student Worksheet – Students complete a worksheet provided by the teacher or from their curriculum. Examples include fill-in-the-blank, short answer, constructed response, and a combination of types of questions.

Student Writing – Students write, either with paper-and-pencil or on computers. The writing is directly connected to what students should be learning, as opposed to non-school related writing.

Student-Teacher Interview – The teacher works with one or a small group of students to find out what students know about a topic and to provide them feedback.

Summative Assessment (Formal Assessment) – The student is involved in assessment including quizzes and other summative tests. These assessments can be paper/pencil, performance-based, and Web-based.

Teacher-Directed Lecture (little evidence) – The teacher delivers a lecture for all or much of the duration of the observation. There is little or no teacher/student interaction. (It is unlikely you will record both Teacher-Directed Lecture and Teacher-Directed Question/Answer in one 3–5 minute observation. If there is some teacher questioning with students providing answers, record only Teacher-Directed Question/Answer.)

Teacher-Directed Question/Answer – The teacher asks students questions and provides opportunities for students to answer.

The student interview

A final component of walkthroughs should include asking a student what he or she is learning and why. Students should be able to generally articulate the learning goal, but often, they will tell you what they are doing rather than what they are learning.

For example, a student might say, “We are writing a report about Daniel Boone.” The observer should follow up with a probing question such as, “What do you think your teacher wants you to learn when you write the report?” The answer might be about Westward expansion, colonial times, or how to write a descriptive paper.

There should be a direct connection between the student's answer and the posted learning objective. If, over time, the data show that students can at least partially articulate the learning goal, it is an indication that the teacher has made a point of making certain that students know what is expected of them and why they are learning the required skills and content.

In McREL's walkthrough protocol, we recommend asking one student per classroom walkthrough. You may further prompt a student to better determine whether the student can articulate the learning goal. You may ask other students as well, but record the first student's answer for the sake of fidelity. The one exception to this would be if the student is unable to answer for any given reason (e.g., does not yet understand or speak the language, has a speech impediment, etc.). Most importantly, observers should make every effort to randomly select a student each time and to select students without following patterns of race, gender, proximity to the teacher, placement in the room, etc.

It is possible, and even likely, that you will talk with more than one student while in the classroom. If you ask a student to state the learning objective, and he or she only gives you a partial stating of the objective, but students two and three fully articulate the objective, you should still select “partially stated the objective” because the first response was a partial one. Similarly, if the first child you talk with completely articulates the objective, but no other child in

the room is able to do so, you should record the response of the first child. By sticking with the response of the first student you talk with, you avoid the tendency to keep asking until you find a student who knows the answer.

Recommended implementation schedule

Before walkthroughs begin, it is crucial for teachers to understand the “what” and “why” of the Power Walkthrough process. If teachers suddenly see administrators and other observers inexplicably “appear” in their classrooms, it might heighten stress and create questions about the intent of the process.

Step one

McREL recommends you introduce the process to teachers at a staff meeting before actual walkthroughs begin. Provide teachers an overview of the process and a copy of the observation protocol and debriefing form (see Appendix C). Talk briefly about the *Classroom Instruction that Works* strategies. If you feel it’s appropriate, give them copies of the strategy rubrics (see Appendix F). The more transparent you are at the outset, the more likely you will be successful in the long-term. Be sure to explain that the Power Walkthrough process is NOT evaluative, and that the entire staff will be examining building-wide data together.

Once the staff is aware of the process, begin conducting walkthroughs in pairs or small groups. It is especially important at the beginning of the process to work with other administrators. We know from our research on practice that when learning a new process, it takes 20–24 repetitions to approach 80 percent mastery. Think of your first walkthroughs as guided practice as you move toward the mastery level.

While conducting group walkthroughs, take the “McREL Protocol for Classroom Walkthrough Debrief,” (Appendix C) and go through the questions and prompts after each observation. Your goal is not to do as many walkthroughs as possible, but to conduct a 3–5 minute observation, immediately followed by a 10–20 minute discussion about what you saw. It is important to begin to develop inter-rater reliability. The more you conduct walkthroughs and debrief in pairs or small groups, the more likely you are to begin to code things the same way.

After one month

Plan to do a minimum of two walkthroughs per day, on average. Consistency of practice will assist you in gaining a deeper understanding of the protocol. At the end of one month of observations, you will then have about 40+ observations—enough data to begin sharing with your staff.

Print copies of the “Overall Template Report” prior to your monthly staff meeting (see Appendix H). Display the report on a projector and explain the data as your staff follows along on their copies. Ask the staff to discuss in small groups what they think the data indicate. Remind them that this isn’t as much about the teacher as it is about what students are experiencing on a typical day in school.

Give staff the S.M.A.R.T. Goal Action Plan Template (see Appendix D). After staff has discussed the data, ask them to think about one element they would like to work together to change over the next 30 days. Use the instructions on the S.M.A.R.T. Goal Action Plan Template to develop both a S.M.A.R.T. goal and an action plan.

Monitor progress toward the S.M.A.R.T. goal as a regular line item at your monthly staff meetings. Make necessary modifications to the goal and/or action plan, based on the Power Walkthrough data.

After a semester

Now that staff members have gained experience and confidence in the goal/action plan process, provide them with both building-wide and team data. You create the team overall template report by using the filters at the top of the report to select the demographic slice of data you want to display. Staff should be seated by team and use their team's data to establish team-specific S.M.A.R.T. goals and action plans.

Glossary

Power Walkthrough Software Terms

Administrator: A level of user in Power Walkthrough. Users at this level may gather data from anyone who conducts walkthroughs in his or her building and may add, edit, and deactivate teacher names. Principals at each school would need to be listed at this level in order to have control over personnel listings in the software (see Principal and Teacher).

McREL (Mid-continent Research for Education and Learning): A nonprofit educational research and professional development organization based in Denver, Colorado. In Power Walkthrough, this organization trains participants on recognizing research-based instructional strategies and using the Power Walkthrough software and template.

Media-X: A software development company based in Ottawa, Ontario, Canada. This company creates and supports the software platform that Power Walkthrough is built upon.

Ning: A free social networking service that McREL uses for the User's Group for Power Walkthrough clients. On the Ning site, members can read announcements, access the User's Guide, materials, and how-to documents. (<http://mcrelpwt.ning.com>)

Primary Strategy: The primary intended strategy being used in the classroom at the time of the observation.

Principal: A level of user in Power Walkthrough. A client at the Principal level can see data from all who conduct walkthroughs in his or her building, but does not have rights to add, edit, or deactivate teachers (see Administrator and Teacher).

Secondary Strategy: A strategy that is being used in support of the primary strategy. For example, if students are classifying as their primary strategy, but the teacher has provided a graphic organizer to help them with this activity, then Nonlinguistic Representation: Graphic Organizer is the secondary strategy. This section is optional in Power Walkthrough.

Teacher: A level of user in Power Walkthrough. Teachers may have paid accounts, otherwise they have no access.

Template: The form used in Power Walkthrough to gather data. Initially, McREL will share a suggested template. After using this template for six to nine months, the district is encouraged to personalize the template if they wish.

Walkthrough: A way to gather data on what happens in the classroom with the intention of providing formative feedback to teachers.

Instructional Strategies

Creating the Environment for Learning

Creating the Environment for Learning: This includes strategies that help students understand what they are supposed to learn, receive feedback on how they are doing, and are given the opportunity for social learning. Without these in place, other instructional strategies are less likely to be successful. (Setting Objectives, Providing Feedback, Reinforcing Effort, Providing Recognition, and Cooperative Learning)

Setting Objectives: This strategy helps students to understand what is expected of them on a day-to-day basis. Teachers are encouraged to allow students to personalize learning objectives as much as possible. This strategy helps to create the learning environment and falls into the affective side, as opposed to the pedagogical side, of teaching.

Providing Feedback: This category provides ongoing formative assessment so that students and teachers can adjust for learning. This strategy helps to create the learning environment and falls into the affective side, as opposed to the pedagogical side, of teaching.

Reinforcing Effort: This strategy helps students to learn to operate from a belief in the connection between effort and achievement rather than operating from a belief in luck, ability, or associates. This strategy helps to create the learning environment and falls into the affective side, as opposed to the pedagogical side, of teaching.

Providing Recognition: This strategy recognizes hard work and/or achievement in individual students. This strategy helps to create the learning environment and falls into the affective side, as opposed to the pedagogical side, of teaching.

Cooperative Learning: When conducting walkthroughs, McREL usually records only formal cooperative learning groups in this category, in which students have defined roles and are assessed individually as well as part of a group.

Helping Students Develop Understanding

Helping Students Develop Understanding: This includes those strategies that are most helpful when introducing new content. These strategies help to activate background knowledge, organize new and potentially confusing information, summarize what is being learned, and provide practice or review what was learned. (Cues, Questions, and Advance Organizers, Nonlinguistic Representations, Summarizing and Note taking, and Homework and Providing Practice)

Cues and Questions: This strategy activates background knowledge and helps students to organize what they already know about a topic.

Advance Organizers: This strategy helps students to activate background knowledge and organize new information. Examples include, but are not limited to, short movies, pictures, skimming, stories, and graphic organizers.

Nonlinguistic Representation: This category includes using kinesthetic representation, pictures, illustrations, or pictographs, mental pictures, graphic organizers, and physical models and manipulatives to help students understand new content or to demonstrate understanding. A nonlinguistic representation gives the learner a mental image of the learning. Examples include, but are not limited to, Base Ten blocks, reading stories aloud, using graphs, having students draw diagrams, and reenacting scenes from history or literature.

Kinesthetic Activities: As with pictures, engaging students in kinesthetic activities can be a powerful learning and formative assessment tool. An example could be having students act out the parts of the cell (e.g. nucleus, cell wall, and mitochondria) or using their arms to show the difference between radius and diameter.

Pictures, Illustrations, and Pictographs: Pictures and graphs are powerful tools that help students not only learn, understand, and retain knowledge, but are equally effective in showing what was learned. For example, a teacher may use pictures and illustrations to explain the components of a water cycle. Then, students can opt to draw a picture of the water cycle to show what they learned. In many cases, students may be better able to demonstrate understanding through pictures rather than through writing or testing.

Mental Pictures: A variety of activities can help students generate mental pictures of what they are learning to aid in recall. For example, a teacher may read aloud an excerpt from a book, play a recording, or show a reenactment of a famous speech.

Graphic Organizer: A subcategory of both Advance Organizers and Nonlinguistic Representation, these tools help students to visualize information and relationships between concepts. Common examples include KWL or KWHL charts, flow charts, and graphs. When a graphic organizer is provided in advance of the learning it would be considered an Advance Graphic Organizer. When used during a lesson and even as a formative assessment tool, these advance organizers would be considered part of Nonlinguistic Representation. These organizers include timelines, thinking maps, word webs, or other means of graphically organizing information.

Physical models or Manipulatives: Have students use models to enhance their understanding of a concept. For example, students may use base-ten blocks to help them better understand exchanging when adding or subtracting. Or students may use a model of the Bohr diagram to help them remember the electron configurations of various elements.

Summarizing: This strategy helps students to synthesize what they have learned. Students may summarize verbally, in writing, or in projects.

Summary Frames: These help students identify the type of text or media they are summarizing (such as a narrative or a definition of a new word), and provide questions to help them summarize. Summary frames look like questions asked as a quiz after reading or watching the material, but they are really a form of advance organizer and help the student “frame” their thinking and provide information to be used in a summary.

Note Taking: Students are actively engaged in taking notes, with direction provided by the teacher.

Providing Practice: This category helps students to practice what they have learned so that the skill or recall is permanent.

Helping Students Extend and Apply Knowledge

Helping Students Extend and Apply Knowledge: These are the strategies that, in terms of Bloom's Taxonomy, help students analyze data and information, evaluate one solution or proposal over another, and create new inventions using what they have learned at high levels and in new situations. (Identifying Similarities and Differences and Generating and Testing Hypotheses)

Identifying Similarities and Differences: This category helps students to apply what they have learned in higher-order thinking. Activities in this strategy include comparing, classifying, constructing metaphors, and constructing analogies.

Comparing is the process of identifying similarities between or among things or ideas. The term contrasting refers to the process of identifying differences; most educators, however, use the term comparing to refer to both.

Classifying is the process of organizing things into groups and labeling them according to their characteristics.

Creating Metaphors is the process of identifying a general or basic pattern in a specific topic and then finding another topic that seems quite different but has the same general pattern.

Creating Analogies is the process of identifying relationships between pairs of concepts; that is, identifying relationships between relationships.

Generating and Testing Hypotheses: This strategy engages students in higher-order thinking skills and helps them to apply concepts and skills they have learned to real-world situations. This category usually comes toward the middle or end of a unit. Activities can include systems analyses, problem solving, experimental inquiry, or investigations.

Systems Analysis: Analyzing the parts of a system and the manner in which they interact.

Problem Solving: Overcoming constraints or limiting conditions that are in the way of achieving goals.

Experimental Inquiry: Generating and testing explanations of observed phenomena.

Investigation: Identifying and resolving issues regarding past events about which there are confusions or contradictions.

Bloom's Taxonomy

Remember: A level on Bloom's Taxonomy that engages students in recalling simple facts. Common activities at this level include matching, identifying, and supplying short answers to prompts.

Understand: A level on Bloom's Taxonomy that engages students in paraphrasing or explaining what they have learned. Common activities at this level include providing phrases to prompts and summarizing.

Apply: A level on Bloom's Taxonomy that engages students in implementing or using what they have learned. Common activities at this level include calculating, illustrating, and solving.

Analyze: A level on Bloom's Taxonomy that engages students in breaking concepts down into parts and comparing them. Common activities at this level include classifying and structuring.

Evaluate: A level on Bloom's Taxonomy that engages students in critiquing or testing what they have learned. Common activities at this level include reviewing, moderating, or writing a persuasive piece.

Create: The level on Bloom's Taxonomy that engages students in restructuring knowledge in new and innovative ways. Common activities at this level include designing, producing, and inventing.

Grouping

Cooperative Learning: Students work in groups of 2–5, where each member of the group has an identifiable role or responsibility toward task completion. Examples include jigsaw activities, WebQuests, three-step interviews, and structured problem solving.

Individual: Students work independently with very little, if any, teacher involvement. They may do different kinds of work or the same type of work but with little or no interaction with the teacher or other students. Examples include completing homework, writing (without teacher guidance), silent reading, and testing.

Pair: Students intentionally work with a partner, and both members of the pair are engaged in the activity. Examples include guided reading, review of material, and think-pair-share.

Small Group: Students work in groups of 3–6 in an activity that requires interaction. They are not merely seated at the same tables, but doing something that requires input from each member of the group. Examples include working on a project, doing an experiment as a team, and researching for a presentation.

Whole Group: Students all do the same thing under the guidance or direct instruction of the teacher. Examples include lecture, watching a video, teacher-directed question and answer, guided practice, and band practice.

Teacher use of technology

None: No technology is being actively used by the teacher while in the classroom.

Brainstorming/Idea Mapping Software: The teacher is using technology to help organize thinking, connect and categorize ideas, and show processes. Examples include Inspiration[®], Kidspiration[®], Bubbl.us[®], Tagxedo[®], Wordle[®], and Mindmeister[®].

Calculator: The teacher is using and displaying calculators while you are in the classroom. The school or district should determine whether to collect data on graphing calculators only or if any calculator should be tallied.

Communication/Collaboration Tool: The teacher is using tools that replace the traditional telephone with video, audio, text, or any combination of the three or is using a tool to collaborate. Examples include Skype[®], iChat[®], FaceTime[®], Tango[®], GoToMeeting[®], WebEx[®], Adobe Connect[®], Monk-E Mail[®], chats, e-mail, wikis, Google Sites[®], and TypeWith.me[®].

Data Collection and Analysis Tool: The teacher is using technology to gather and analyze data. Examples include SurveyMonkey[®], Google[®] spreadsheets/forms, Excel[®], Numbers[®], SurveyGizmo[®], eClicker[®], PollEverywhere[®], and probe ware (temperature probes, motion sensors, etc.).

Database and Reference: The teacher is using technology resources that provide information and data. Examples include searching on the Internet, Rubistar[®], Visuwords[®], VisualThesaurus[®], Wikipedia[®], Wolfram Alpha[®], and GapMinder[®].

Diagnostic/Prescriptive System: The teacher is using software programs that monitor student performance, provide feedback, and provide data. Examples include Star Reading/Math[®], integrated learning systems, Khan Academy[®], Alpine Achievement[®], and Infinite Campus[®].

Display Tool: The teacher is using a document camera such as an Elmo[®] to display documents or show objects. While this might look the same as an overhead projector, only track the document camera that is plugged into a projector.

Instructional Interactives: The teacher is using interactive technologies that he or she manipulates to enhance students' understanding of a skill or concept. This can include games, manipulatives, and software that assesses the learner and differentiates the activity or curriculum based on the learner's needs. Examples include Fast ForWord[®], MathBoard[®], virtual manipulatives, iCivics[®], Kitses.com[®], Intro to Math[®], National Library of Virtual Manipulatives[®], StarWalk[®], The Elements[®], and Mr. Nussbaum[®].

Instructional Media: The teacher is using videos or recordings, commercial or teacher/student created, for learning purposes. Examples include BrainPOP[®], Discovery Education Streaming[®], Safari Montage[®], teacher or student made via VoiceThread[®], WatchKnow[®], and iTunes U[®].

Interactive Whiteboard: The teacher is using an interactive whiteboard as part of instruction while you are in the room. For this category to be checked, the teacher must be using one of the board's interactive features as opposed to simply using the device as a projection screen. Examples include Smartboard[®], Promethean Board[®], and Interwrite[®].

Kinesthetic Technology: The teacher is using technologies that interact with the user's geographical and/or physical location and movements. Examples include Wii[®], XboxConnect[®], GPS devices, V.Smile Motion[®], and Star Chart[®].

Multimedia Creation: The teacher is using technologies that allow her to combine audio, video, music, pictures, drawings, or any combination into a final product. Examples include Camtasia[®], iMovie[®], VoiceThread[®], PowerPoint[®], Movie Maker[®], Keynote[®], Photoshop[®], iPhoto[®], Paint[®], Doodlebuddy[®], DrawFree[®], Glogster[®], GarageBand[®], and Final Cut Pro[®].

Student Response Systems: These systems allow teachers to create quizzes or questionnaires and allow students to answer or vote with individual devices. Common manufacturers include eClicker[®] and Promethean Activote[®].

Word Processing: The teacher is using word processing software to model taking notes, demonstrate formatting, or create documents. Examples include Microsoft Word[®], Pages[®], Open Office[®], or Notes[®].

Non-Educational Use: The teacher is using technology, but there is no clear educational connection between the technology in use and the instruction taking place. Examples include showing a movie without an educational connection or shopping on eBay.

Student use of technology

None: No technology is being actively used by any student while in the classroom.

Brainstorming/Idea Mapping Software: At least some students are using technology to help organize thinking, connect and categorize ideas, and show processes. Examples include Inspiration, Kidspiration, Bubbl.us, Tagxedo, Wordle, and Mindmeister.

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Student Demonstrating: Students demonstrate a skill or process, either for the teacher or other students in the classroom. Examples include students going to the board to work mathematics

problems and students showing their work on a document camera or projector and talking through the editing process.

Student Discussion: Students engage in student-to-student conversation around learning topics and independent of teacher direction. Examples include think-pair-share, “elbow partner” discussions, and expert groups in cooperative learning.

Student Drawing: Students draw, either on paper or using software, to represent learning of a process or concept. Examples include students drawing or painting in art class, drawing a sketch of an experiment in science journals, creating a drawing of an idea or concept as part of combination notes, or a Frayer© model.

Student Graphic Organizing: Students use a graphic organizer, either provided by the teacher or student created, to help them organize their thinking and/or serve as a mental image of an idea or concept. Examples include students using a Venn diagram or comparison matrix, creating a bubble map in Inspiration® or Kidspiration®, or using online software such as Mindmeister® or Bubbl.us®.

Student Performing/Presenting: Students are in front of the class performing or presenting a skill or educational idea. Examples include a student reading a prepared report to the class, performing a piece of music, or teaching other students how to conduct a part of a procedure.

Student Planning: Students actively plan a project or other learning activity, either individually or as a group. Examples are using collaboration software and writing in their agendas.

Student Tutoring: Students tutor other students while you are in the classroom. Examples are older students working with “reading buddies” and students who already have mastered an idea or concept intentionally helping other students in the room learn that idea or concept.

Student Worksheet: Students complete a worksheet provided by the teacher or from their curriculum. Examples include fill-in-the-blank, short answer, constructed response, and a combination of types of questions.

Student Writing: Students write, either with paper-and-pencil or on computers. The writing is directly connected to what students should be learning, as opposed to non-school related writing.

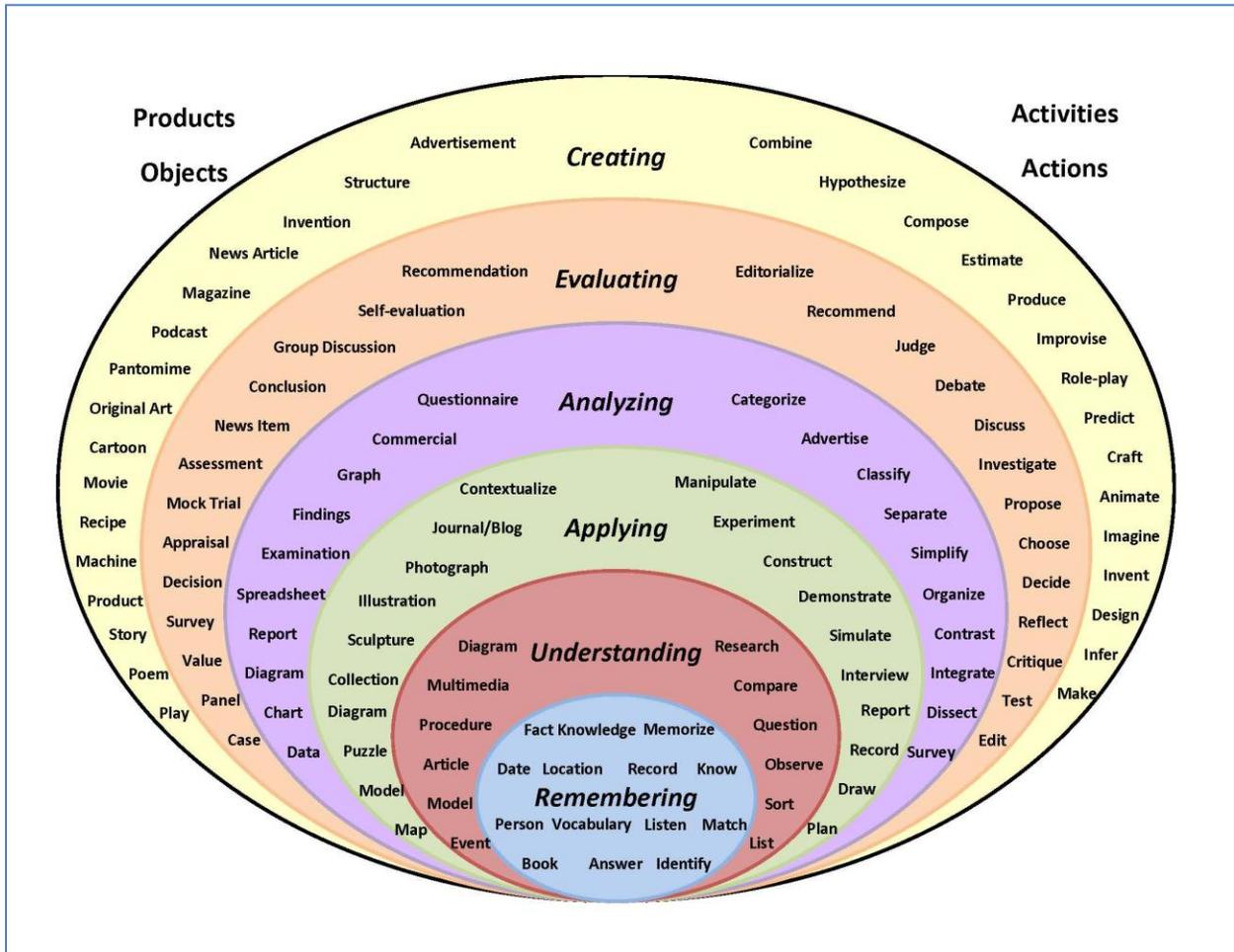
Student-Teacher Interview: The teacher works with one or a small group of students to find out what students know about a topic and to provide them feedback.

Summative Assessment (Formal Assessment): The student is involved in assessment including quizzes and other summative tests. These assessments can be paper/pencil, performance-based, and Web-based.

Teacher-Directed Lecture (little evidence): The teacher delivers a lecture for all or much of the duration of the observation. There is little or no teacher/student interaction. (It is unlikely you will record both Teacher-Directed Lecture and Teacher-Directed Question/Answer in one 3–5

minute observation. If there is some teacher questioning with students providing answers, record only Teacher-Directed Question/Answer.)

Teacher-Directed Question/Answer: The teacher asks students questions and provides opportunities for students to answer.



**Appendix B:
McREL Observation Protocol**

McREL Template 2012		
Observer:	Person Observed:	
Date- / /	Time- :	
Grade <input type="checkbox"/> Kindergarten <input type="checkbox"/> 7 th Grade <input type="checkbox"/> 1 st Grade <input type="checkbox"/> 8 th Grade <input type="checkbox"/> 2 nd Grade <input type="checkbox"/> 9 th Grade <input type="checkbox"/> 3 rd Grade <input type="checkbox"/> 10 th Grade <input type="checkbox"/> 4 th Grade <input type="checkbox"/> 11 th Grade <input type="checkbox"/> 5 th Grade <input type="checkbox"/> 12 th Grade <input type="checkbox"/> 6 th Grade <input type="checkbox"/> Mixed	Content <input type="checkbox"/> Language Arts <input type="checkbox"/> Music <input type="checkbox"/> Math <input type="checkbox"/> Special Education <input type="checkbox"/> Science <input type="checkbox"/> Vocational Arts <input type="checkbox"/> Social Studies <input type="checkbox"/> Other <input type="checkbox"/> World Language <input type="checkbox"/> Art <input type="checkbox"/> Health/PE	
Segment of Class (Choose one) <input type="checkbox"/> Beginning (first 10 minutes) <input type="checkbox"/> Middle <input type="checkbox"/> End (last 10 minutes)		
Creating the Environment (Choose ALL that apply) <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Effort and Recognition		
Primary Instructional Strategy (teacher-intended main strategy) Choose one from the drop down. If checkboxes appear, check the specific strategy within the category.		
<input type="checkbox"/> Advance Organizers <input type="checkbox"/> Cues/Questions <input type="checkbox"/> Generating and Testing Hypotheses <ul style="list-style-type: none"> <input type="checkbox"/> Experimental Inquiry <input type="checkbox"/> Investigation <input type="checkbox"/> Problem Solving <input type="checkbox"/> Systems Analysis <input type="checkbox"/> Identifying Similarities and Differences <ul style="list-style-type: none"> <input type="checkbox"/> Compare/Classify <input type="checkbox"/> Metaphor/Analogy 	<input type="checkbox"/> Nonlinguistic Representation <ul style="list-style-type: none"> <input type="checkbox"/> Graphic Organizer <input type="checkbox"/> Kinesthetic <input type="checkbox"/> Mental Imagery/Senses <input type="checkbox"/> Physical Model <input type="checkbox"/> Pictograph <input type="checkbox"/> Note Taking <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Providing Practice <input type="checkbox"/> Providing Recognition	<input type="checkbox"/> Reinforcing Effort <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Summarizing <input type="checkbox"/> No research-based strategy

Secondary Instructional Strategy (optional, in support of main strategy)

Choose one from the drop down. If checkboxes appear, check the specific strategy within the category.

- Advance Organizers*
- Cues/Questions*
- Generating and Testing Hypotheses*
 - Experimental Inquiry*
 - Investigation*
 - Problem Solving*
 - Systems Analysis*
- Identifying Similarities and Differences*
 - Compare/Classify*
 - Metaphor/Analogy*

- Nonlinguistic Representation*
 - Graphic Organizer*
 - Kinesthetic*
 - Mental Imagery/Senses*
 - Physical Model*
 - Pictograph*
- Note Taking*
- Providing Feedback*
- Providing Practice*
- Providing Recognition*

- Reinforcing Effort*
- Setting Objectives*
- Summarizing*
- No research-based strategy*

Bloom's Taxonomy (Choose one)

- No Instruction*
- Remember*
- Understand*
- Apply*

- Analyze*
- Evaluate*
- Create*

Grouping (Choose one)

- Whole Group*
- Small Group*
- Pair*

- Individual*
- Cooperative Group*

Teacher Directed Technology (Choose ALL that apply)

- None*
- Brainstorming/Idea Mapping Software*
- Calculator*
- Communication/Collaboration Tool*
- Data Collection/ Analysis Tool*
- Database and Reference*

- Diagnostic/Prescriptive System*
- Display tool*
- Instructional Interactive*
- Instructional Media*
- Interactive whiteboard*
- Kinesthetic Technology*

- Multimedia Creation*
- Non-Educational Use*
- Student Response Systems*
- Word processing*

Student Centered Technology (Choose ALL that apply)

- None*
- Brainstorming/Idea Mapping Software*
- Calculator*
- Communication/Collaboration Tool*
- Data Collection/ Analysis Tool*
- Database and Reference*

- Diagnostic/Prescriptive System*
- Display tool*
- Instructional Interactive*
- Instructional Media*
- Interactive whiteboard*
- Kinesthetic Technology*

- Multimedia Creation*
- Non-Educational Use*
- Student Response Systems*
- Word processing*

Indicators of Learning (Choose ALL that apply)

- | | | |
|--|--|--|
| <input type="checkbox"/> <i>Experimenting</i> | <input type="checkbox"/> <i>Silent reading (little evidence)</i> | <input type="checkbox"/> <i>Student Worksheet</i> |
| <input type="checkbox"/> <i>Formal Assessment</i> | <input type="checkbox"/> <i>Simulating/Modeling</i> | <input type="checkbox"/> <i>Student Writing</i> |
| <input type="checkbox"/> <i>Formative Assessment (Informal Assessment)</i> | <input type="checkbox"/> <i>Student Demonstrating</i> | <input type="checkbox"/> <i>Student-Teacher Interview</i> |
| <input type="checkbox"/> <i>Guided Reading</i> | <input type="checkbox"/> <i>Student Discussion</i> | <input type="checkbox"/> <i>Summative Assessment (Formal Assessment)</i> |
| <input type="checkbox"/> <i>Learning game</i> | <input type="checkbox"/> <i>Student Drawing</i> | <input type="checkbox"/> <i>Teacher directed lecture (little evidence)</i> |
| <input type="checkbox"/> <i>Oral reading</i> | <input type="checkbox"/> <i>Student Graphic Organizing</i> | <input type="checkbox"/> <i>Teacher directed question/ answer</i> |
| <input type="checkbox"/> <i>Peer teaching</i> | <input type="checkbox"/> <i>Student Performing/ Presenting</i> | |
| <input type="checkbox"/> <i>Practicing</i> | <input type="checkbox"/> <i>Student planning</i> | |
| | <input type="checkbox"/> <i>Student Tutoring</i> | |

Student Interview (what and why?) (Choose one)

- Articulated learning objective(s)*
- Partially articulated learning objective(s)*
- Could not articulate learning objective(s)*

Optional Observations

McREL Template 2012

Observer:	Person Observed:	
Date- / /	Time- :	
Grade <input type="checkbox"/> Kindergarten <input type="checkbox"/> 7 th Grade <input type="checkbox"/> 1 st Grade <input type="checkbox"/> 8 th Grade <input type="checkbox"/> 2 nd Grade <input type="checkbox"/> 9 th Grade <input type="checkbox"/> 3 rd Grade <input type="checkbox"/> 10 th Grade <input type="checkbox"/> 4 th Grade <input type="checkbox"/> 11 th Grade <input type="checkbox"/> 5 th Grade <input type="checkbox"/> 12 th Grade <input type="checkbox"/> 6 th Grade <input type="checkbox"/> Mixed	Content <input type="checkbox"/> Language Arts <input type="checkbox"/> Music <input type="checkbox"/> Math <input type="checkbox"/> Special Education <input type="checkbox"/> Science <input type="checkbox"/> Vocational Arts <input type="checkbox"/> Social Studies <input type="checkbox"/> Other <input type="checkbox"/> World Language <input type="checkbox"/> Art <input type="checkbox"/> Health/PE	
Segment of Class (Choose one) <input type="checkbox"/> Beginning (first 10 minutes) <input type="checkbox"/> Middle <input type="checkbox"/> End (last 10 minutes)		
Creating the Environment (Choose ALL that apply) <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Effort and Recognition		
Primary Instructional Strategy (teacher-intended main strategy) Choose one from the drop down. If checkboxes appear, check the specific strategy within the category.		
<input type="checkbox"/> Advance Organizers <input type="checkbox"/> Cues/Questions <input type="checkbox"/> Generating and Testing Hypotheses <ul style="list-style-type: none"> <input type="checkbox"/> Experimental Inquiry <input type="checkbox"/> Investigation <input type="checkbox"/> Problem Solving <input type="checkbox"/> Systems Analysis <input type="checkbox"/> Identifying Similarities and Differences <ul style="list-style-type: none"> <input type="checkbox"/> Compare/Classify <input type="checkbox"/> Metaphor/Analogy 	<input type="checkbox"/> Nonlinguistic Representation <ul style="list-style-type: none"> <input type="checkbox"/> Graphic Organizer <input type="checkbox"/> Kinesthetic <input type="checkbox"/> Mental Imagery/Senses <input type="checkbox"/> Physical Model <input type="checkbox"/> Pictograph <input type="checkbox"/> Note Taking <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Providing Practice <input type="checkbox"/> Providing Recognition	<input type="checkbox"/> Reinforcing Effort <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Summarizing <input type="checkbox"/> No Research-Based Strategy
Secondary Instructional Strategy (optional, in support of main strategy) Choose one from the drop down. If checkboxes appear, check the specific strategy within the category.		
<input type="checkbox"/> Advance Organizers <input type="checkbox"/> Cues/Questions <input type="checkbox"/> Generating and Testing Hypotheses <ul style="list-style-type: none"> <input type="checkbox"/> Experimental Inquiry <input type="checkbox"/> Investigation <input type="checkbox"/> Problem Solving <input type="checkbox"/> Systems Analysis <input type="checkbox"/> Identifying Similarities and Differences <ul style="list-style-type: none"> <input type="checkbox"/> Compare/Classify <input type="checkbox"/> Metaphor/Analogy 	<input type="checkbox"/> Nonlinguistic Representation <ul style="list-style-type: none"> <input type="checkbox"/> Graphic Organizer <input type="checkbox"/> Kinesthetic <input type="checkbox"/> Mental Imagery/Senses <input type="checkbox"/> Physical Model <input type="checkbox"/> Pictograph <input type="checkbox"/> Note Taking <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Providing Practice <input type="checkbox"/> Providing Recognition	<input type="checkbox"/> Reinforcing Effort <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Summarizing

Bloom's Taxonomy (Choose one)		
<input type="checkbox"/> <i>No Instruction</i>	<input type="checkbox"/> <i>Analyze</i>	
<input type="checkbox"/> <i>Remember</i>	<input type="checkbox"/> <i>Evaluate</i>	
<input type="checkbox"/> <i>Understand</i>	<input type="checkbox"/> <i>Create</i>	
<input type="checkbox"/> <i>Apply</i>		
Grouping (Choose one)		
<input type="checkbox"/> <i>Whole Group</i>	<input type="checkbox"/> <i>Individual</i>	
<input type="checkbox"/> <i>Small Group</i>	<input type="checkbox"/> <i>Cooperative Group</i>	
<input type="checkbox"/> <i>Pair</i>		
Teacher Directed Technology (Choose ALL that apply)		
<input type="checkbox"/> <i>None</i>	<input type="checkbox"/> <i>Diagnostic/Prescriptive System</i>	<input type="checkbox"/> <i>Multimedia Creation</i>
<input type="checkbox"/> <i>Brainstorming/ Idea Mapping Software</i>	<input type="checkbox"/> <i>Display Tool</i>	<input type="checkbox"/> <i>Non-Educational Use</i>
<input type="checkbox"/> <i>Calculator</i>	<input type="checkbox"/> <i>Instructional Interactive</i>	<input type="checkbox"/> <i>Student Response Systems</i>
<input type="checkbox"/> <i>Communication/ Collaboration Tool</i>	<input type="checkbox"/> <i>Instructional Media</i>	<input type="checkbox"/> <i>Word Processing</i>
<input type="checkbox"/> <i>Data Collection/ Analysis Tool</i>	<input type="checkbox"/> <i>Interactive Whiteboard</i>	
<input type="checkbox"/> <i>Database and Reference</i>	<input type="checkbox"/> <i>Kinesthetic Technology</i>	
Student Centered Technology (Choose ALL that apply)		
<input type="checkbox"/> <i>None</i>	<input type="checkbox"/> <i>Diagnostic/Prescriptive System</i>	<input type="checkbox"/> <i>Multimedia Creation</i>
<input type="checkbox"/> <i>Brainstorming/ Idea Mapping Software</i>	<input type="checkbox"/> <i>Display Tool</i>	<input type="checkbox"/> <i>Non-Educational Use</i>
<input type="checkbox"/> <i>Calculator</i>	<input type="checkbox"/> <i>Instructional Interactive</i>	<input type="checkbox"/> <i>Student Response Systems</i>
<input type="checkbox"/> <i>Communication/ Collaboration Tool</i>	<input type="checkbox"/> <i>Instructional Media</i>	<input type="checkbox"/> <i>Word Processing</i>
<input type="checkbox"/> <i>Data Collection/ Analysis Tool</i>	<input type="checkbox"/> <i>Interactive Whiteboard</i>	
<input type="checkbox"/> <i>Database and Reference</i>	<input type="checkbox"/> <i>Kinesthetic Technology</i>	
Indicators of Learning (Choose ALL that apply)		
<input type="checkbox"/> <i>Experimenting</i>	<input type="checkbox"/> <i>Silent Reading (little evidence)</i>	<input type="checkbox"/> <i>Student Worksheet</i>
<input type="checkbox"/> <i>Formative Assessment (Informal Assessment)</i>	<input type="checkbox"/> <i>Simulating/ Modeling</i>	<input type="checkbox"/> <i>Student Writing</i>
<input type="checkbox"/> <i>Guided Reading</i>	<input type="checkbox"/> <i>Student Demonstrating</i>	<input type="checkbox"/> <i>Student-Teacher Interview</i>
<input type="checkbox"/> <i>Learning Game</i>	<input type="checkbox"/> <i>Student Discussion</i>	<input type="checkbox"/> <i>Summative Assessment (Formal Assessment)</i>
<input type="checkbox"/> <i>Oral Reading</i>	<input type="checkbox"/> <i>Student Drawing</i>	<input type="checkbox"/> <i>Teacher Directed Lecture (little evidence)</i>
<input type="checkbox"/> <i>Peer Teaching</i>	<input type="checkbox"/> <i>Student Graphic Organizing</i>	<input type="checkbox"/> <i>Teacher Directed Question/ Answer</i>
<input type="checkbox"/> <i>Practicing</i>	<input type="checkbox"/> <i>Student Performing/ Presenting</i>	
	<input type="checkbox"/> <i>Student Planning</i>	
	<input type="checkbox"/> <i>Student Tutoring</i>	
Student Interview (what and why?) (Choose one)		
<input type="checkbox"/> <i>Articulated Learning Objective(s)</i>		
<input type="checkbox"/> <i>Partially Articulated Learning Objective(s)</i>		
<input type="checkbox"/> <i>Could Not Articulate Learning Objective(s)</i>		
Optional Observations		

McREL Template 2012

Observer:	Person Observed:
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Date- / /	Time- :
-------------------	-------------

Grade <input type="checkbox"/> Kindergarten <input type="checkbox"/> 7 th Grade <input type="checkbox"/> 1 st Grade <input type="checkbox"/> 8 th Grade <input type="checkbox"/> 2 nd Grade <input type="checkbox"/> 9 th Grade <input type="checkbox"/> 3 rd Grade <input type="checkbox"/> 10 th Grade <input type="checkbox"/> 4 th Grade <input type="checkbox"/> 11 th Grade <input type="checkbox"/> 5 th Grade <input type="checkbox"/> 12 th Grade <input type="checkbox"/> 6 th Grade <input type="checkbox"/> Mixed	Content <input type="checkbox"/> Language Arts <input type="checkbox"/> Music <input type="checkbox"/> Math <input type="checkbox"/> Special Education <input type="checkbox"/> Science <input type="checkbox"/> Vocational Arts <input type="checkbox"/> Social Studies <input type="checkbox"/> Other <input type="checkbox"/> World Language <input type="checkbox"/> Art <input type="checkbox"/> Health/PE
---	---

Segment of Class (Choose one)

Beginning (first 10 minutes)

Middle

End (last 10 minutes)

Creating the Environment (Choose ALL that apply)

Setting Objectives

Providing Feedback

Effort and Recognition

Primary Instructional Strategy (teacher-intended main strategy)
 Choose one from the drop down. If checkboxes appear, check the specific strategy within the category.

<input type="checkbox"/> Advance Organizers <input type="checkbox"/> Cues/Questions <input type="checkbox"/> Generating and Testing Hypotheses <ul style="list-style-type: none"> <input type="checkbox"/> Experimental Inquiry <input type="checkbox"/> Investigation <input type="checkbox"/> Problem Solving <input type="checkbox"/> Systems Analysis <input type="checkbox"/> Identifying Similarities and Differences <ul style="list-style-type: none"> <input type="checkbox"/> Compare/Classify <input type="checkbox"/> Metaphor/Analogy 	<input type="checkbox"/> Nonlinguistic Representation <ul style="list-style-type: none"> <input type="checkbox"/> Graphic Organizer <input type="checkbox"/> Kinesthetic <input type="checkbox"/> Mental Imagery/Senses <input type="checkbox"/> Physical Model <input type="checkbox"/> Pictograph <input type="checkbox"/> Note Taking <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Providing Practice <input type="checkbox"/> Providing Recognition	<input type="checkbox"/> Reinforcing Effort <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Summarizing <input type="checkbox"/> No Research-Based Strategy
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Secondary Instructional Strategy (optional, in support of main strategy)
 Choose one from the drop down. If checkboxes appear, check the specific strategy within the category.

<input type="checkbox"/> Advance Organizers <input type="checkbox"/> Cues/Questions <input type="checkbox"/> Generating and Testing Hypotheses <ul style="list-style-type: none"> <input type="checkbox"/> Experimental Inquiry <input type="checkbox"/> Investigation <input type="checkbox"/> Problem Solving <input type="checkbox"/> Systems Analysis <input type="checkbox"/> Identifying Similarities and Differences <ul style="list-style-type: none"> <input type="checkbox"/> Compare/Classify <input type="checkbox"/> Metaphor/Analogy 	<input type="checkbox"/> Nonlinguistic Representation <ul style="list-style-type: none"> <input type="checkbox"/> Graphic Organizer <input type="checkbox"/> Kinesthetic <input type="checkbox"/> Mental Imagery/Senses <input type="checkbox"/> Physical Model <input type="checkbox"/> Pictograph <input type="checkbox"/> Note Taking <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Providing Practice <input type="checkbox"/> Providing Recognition	<input type="checkbox"/> Reinforcing Effort <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Summarizing
--	---	--

Bloom's Taxonomy (Choose one)		
<input type="checkbox"/> <i>No Instruction</i>	<input type="checkbox"/> <i>Analyze</i>	
<input type="checkbox"/> <i>Remember</i>	<input type="checkbox"/> <i>Evaluate</i>	
<input type="checkbox"/> <i>Understand</i>	<input type="checkbox"/> <i>Create</i>	
<input type="checkbox"/> <i>Apply</i>		
Grouping (Choose one)		
<input type="checkbox"/> <i>Whole Group</i>	<input type="checkbox"/> <i>Individual</i>	
<input type="checkbox"/> <i>Small Group</i>	<input type="checkbox"/> <i>Cooperative Group</i>	
<input type="checkbox"/> <i>Pair</i>		
Teacher Directed Technology (Choose ALL that apply)		
<input type="checkbox"/> <i>None</i>	<input type="checkbox"/> <i>Diagnostic/Prescriptive System</i>	<input type="checkbox"/> <i>Multimedia Creation</i>
<input type="checkbox"/> <i>Brainstorming/ Idea Mapping Software</i>	<input type="checkbox"/> <i>Display Tool</i>	<input type="checkbox"/> <i>Non-Educational Use</i>
<input type="checkbox"/> <i>Calculator</i>	<input type="checkbox"/> <i>Instructional Interactive</i>	<input type="checkbox"/> <i>Student Response Systems</i>
<input type="checkbox"/> <i>Communication/ Collaboration Tool</i>	<input type="checkbox"/> <i>Instructional Media</i>	<input type="checkbox"/> <i>Word Processing</i>
<input type="checkbox"/> <i>Data Collection/ Analysis Tool</i>	<input type="checkbox"/> <i>Interactive Whiteboard</i>	
<input type="checkbox"/> <i>Database and Reference</i>	<input type="checkbox"/> <i>Kinesthetic Technology</i>	
Student Centered Technology (Choose ALL that apply)		
<input type="checkbox"/> <i>None</i>	<input type="checkbox"/> <i>Diagnostic/Prescriptive System</i>	<input type="checkbox"/> <i>Multimedia Creation</i>
<input type="checkbox"/> <i>Brainstorming/ Idea Mapping Software</i>	<input type="checkbox"/> <i>Display Tool</i>	<input type="checkbox"/> <i>Non-Educational Use</i>
<input type="checkbox"/> <i>Calculator</i>	<input type="checkbox"/> <i>Instructional Interactive</i>	<input type="checkbox"/> <i>Student Response Systems</i>
<input type="checkbox"/> <i>Communication/ Collaboration Tool</i>	<input type="checkbox"/> <i>Instructional Media</i>	<input type="checkbox"/> <i>Word Processing</i>
<input type="checkbox"/> <i>Data Collection/ Analysis Tool</i>	<input type="checkbox"/> <i>Interactive Whiteboard</i>	
<input type="checkbox"/> <i>Database and Reference</i>	<input type="checkbox"/> <i>Kinesthetic Technology</i>	
Indicators of Learning (Choose ALL that apply)		
<input type="checkbox"/> <i>Experimenting</i>	<input type="checkbox"/> <i>Silent Reading (little evidence)</i>	<input type="checkbox"/> <i>Student Worksheet</i>
<input type="checkbox"/> <i>Formative Assessment (Informal Assessment)</i>	<input type="checkbox"/> <i>Simulating/ Modeling</i>	<input type="checkbox"/> <i>Student Writing</i>
<input type="checkbox"/> <i>Guided Reading</i>	<input type="checkbox"/> <i>Student Demonstrating</i>	<input type="checkbox"/> <i>Student-Teacher Interview</i>
<input type="checkbox"/> <i>Learning Game</i>	<input type="checkbox"/> <i>Student Discussion</i>	<input type="checkbox"/> <i>Summative Assessment (Formal Assessment)</i>
<input type="checkbox"/> <i>Oral Reading</i>	<input type="checkbox"/> <i>Student Drawing</i>	<input type="checkbox"/> <i>Teacher Directed Lecture (little evidence)</i>
<input type="checkbox"/> <i>Peer Teaching</i>	<input type="checkbox"/> <i>Student Graphic Organizing</i>	<input type="checkbox"/> <i>Teacher Directed Question/ Answer</i>
<input type="checkbox"/> <i>Practicing</i>	<input type="checkbox"/> <i>Student Performing/ Presenting</i>	
	<input type="checkbox"/> <i>Student Planning</i>	
	<input type="checkbox"/> <i>Student Tutoring</i>	
Student Interview (what and why?) (Choose one)		
<input type="checkbox"/> <i>Articulated Learning Objective(s)</i>		
<input type="checkbox"/> <i>Partially Articulated Learning Objective(s)</i>		
<input type="checkbox"/> <i>Could Not Articulate Learning Objective(s)</i>		
Optional Observations		

McREL Template 2012

Observer:	Person Observed:	
Date- / /	Time- :	
Grade <input type="checkbox"/> Kindergarten <input type="checkbox"/> 7 th Grade <input type="checkbox"/> 1 st Grade <input type="checkbox"/> 8 th Grade <input type="checkbox"/> 2 nd Grade <input type="checkbox"/> 9 th Grade <input type="checkbox"/> 3 rd Grade <input type="checkbox"/> 10 th Grade <input type="checkbox"/> 4 th Grade <input type="checkbox"/> 11 th Grade <input type="checkbox"/> 5 th Grade <input type="checkbox"/> 12 th Grade <input type="checkbox"/> 6 th Grade <input type="checkbox"/> Mixed	Content <input type="checkbox"/> Language Arts <input type="checkbox"/> Music <input type="checkbox"/> Math <input type="checkbox"/> Special Education <input type="checkbox"/> Science <input type="checkbox"/> Vocational Arts <input type="checkbox"/> Social Studies <input type="checkbox"/> Other <input type="checkbox"/> World Language <input type="checkbox"/> Art <input type="checkbox"/> Health/PE	
Segment of Class (Choose one) <input type="checkbox"/> Beginning (first 10 minutes) <input type="checkbox"/> Middle <input type="checkbox"/> End (last 10 minutes)		
Creating the Environment (Choose ALL that apply) <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Effort and Recognition		
Primary Instructional Strategy (teacher-intended main strategy) Choose one from the drop down. If checkboxes appear, check the specific strategy within the category.		
<input type="checkbox"/> Advance Organizers <input type="checkbox"/> Cues/Questions <input type="checkbox"/> Generating and Testing Hypotheses <ul style="list-style-type: none"> <input type="checkbox"/> Experimental Inquiry <input type="checkbox"/> Investigation <input type="checkbox"/> Problem Solving <input type="checkbox"/> Systems Analysis <input type="checkbox"/> Identifying Similarities and Differences <ul style="list-style-type: none"> <input type="checkbox"/> Compare/Classify <input type="checkbox"/> Metaphor/Analogy 	<input type="checkbox"/> Nonlinguistic Representation <ul style="list-style-type: none"> <input type="checkbox"/> Graphic Organizer <input type="checkbox"/> Kinesthetic <input type="checkbox"/> Mental Imagery/Senses <input type="checkbox"/> Physical Model <input type="checkbox"/> Pictograph <input type="checkbox"/> Note Taking <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Providing Practice <input type="checkbox"/> Providing Recognition	<input type="checkbox"/> Reinforcing Effort <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Summarizing <input type="checkbox"/> No Research-Based Strategy
Secondary Instructional Strategy (optional, in support of main strategy) Choose one from the drop down. If checkboxes appear, check the specific strategy within the category.		
<input type="checkbox"/> Advance Organizers <input type="checkbox"/> Cues/Questions <input type="checkbox"/> Generating and Testing Hypotheses <ul style="list-style-type: none"> <input type="checkbox"/> Experimental Inquiry <input type="checkbox"/> Investigation <input type="checkbox"/> Problem Solving <input type="checkbox"/> Systems Analysis <input type="checkbox"/> Identifying Similarities and Differences <ul style="list-style-type: none"> <input type="checkbox"/> Compare/Classify <input type="checkbox"/> Metaphor/Analogy 	<input type="checkbox"/> Nonlinguistic Representation <ul style="list-style-type: none"> <input type="checkbox"/> Graphic Organizer <input type="checkbox"/> Kinesthetic <input type="checkbox"/> Mental Imagery/Senses <input type="checkbox"/> Physical Model <input type="checkbox"/> Pictograph <input type="checkbox"/> Note Taking <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Providing Practice <input type="checkbox"/> Providing Recognition	<input type="checkbox"/> Reinforcing Effort <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Summarizing

Bloom's Taxonomy (Choose one)		
<input type="checkbox"/> <i>No Instruction</i>	<input type="checkbox"/> <i>Analyze</i>	
<input type="checkbox"/> <i>Remember</i>	<input type="checkbox"/> <i>Evaluate</i>	
<input type="checkbox"/> <i>Understand</i>	<input type="checkbox"/> <i>Create</i>	
<input type="checkbox"/> <i>Apply</i>		
Grouping (Choose one)		
<input type="checkbox"/> <i>Whole Group</i>	<input type="checkbox"/> <i>Individual</i>	
<input type="checkbox"/> <i>Small Group</i>	<input type="checkbox"/> <i>Cooperative Group</i>	
<input type="checkbox"/> <i>Pair</i>		
Teacher Directed Technology (Choose ALL that apply)		
<input type="checkbox"/> <i>None</i>	<input type="checkbox"/> <i>Diagnostic/Prescriptive System</i>	<input type="checkbox"/> <i>Multimedia Creation</i>
<input type="checkbox"/> <i>Brainstorming/ Idea Mapping Software</i>	<input type="checkbox"/> <i>Display Tool</i>	<input type="checkbox"/> <i>Non-Educational Use</i>
<input type="checkbox"/> <i>Calculator</i>	<input type="checkbox"/> <i>Instructional Interactive</i>	<input type="checkbox"/> <i>Student Response Systems</i>
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<input type="checkbox"/> <i>Formative Assessment (Informal Assessment)</i>	<input type="checkbox"/> <i>Simulating/ Modeling</i>	<input type="checkbox"/> <i>Student Writing</i>
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Optional Observations		

McREL Template 2012

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Date- / /	Time- :	
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Segment of Class (Choose one) <input type="checkbox"/> Beginning (first 10 minutes) <input type="checkbox"/> Middle <input type="checkbox"/> End (last 10 minutes)		
Creating the Environment (Choose ALL that apply) <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Effort and Recognition		
Primary Instructional Strategy (teacher-intended main strategy) Choose one from the drop down. If checkboxes appear, check the specific strategy within the category.		
<input type="checkbox"/> Advance Organizers <input type="checkbox"/> Cues/Questions <input type="checkbox"/> Generating and Testing Hypotheses <ul style="list-style-type: none"> <input type="checkbox"/> Experimental Inquiry <input type="checkbox"/> Investigation <input type="checkbox"/> Problem Solving <input type="checkbox"/> Systems Analysis <input type="checkbox"/> Identifying Similarities and Differences <ul style="list-style-type: none"> <input type="checkbox"/> Compare/Classify <input type="checkbox"/> Metaphor/Analogy 	<input type="checkbox"/> Nonlinguistic Representation <ul style="list-style-type: none"> <input type="checkbox"/> Graphic Organizer <input type="checkbox"/> Kinesthetic <input type="checkbox"/> Mental Imagery/Senses <input type="checkbox"/> Physical Model <input type="checkbox"/> Pictograph <input type="checkbox"/> Note Taking <input type="checkbox"/> Providing Feedback <input type="checkbox"/> Providing Practice <input type="checkbox"/> Providing Recognition	<input type="checkbox"/> Reinforcing Effort <input type="checkbox"/> Setting Objectives <input type="checkbox"/> Summarizing <input type="checkbox"/> No Research-Based Strategy
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<input type="checkbox"/> <i>Understand</i>	<input type="checkbox"/> <i>Create</i>	
<input type="checkbox"/> <i>Apply</i>		
Grouping (Choose one)		
<input type="checkbox"/> <i>Whole Group</i>	<input type="checkbox"/> <i>Individual</i>	
<input type="checkbox"/> <i>Small Group</i>	<input type="checkbox"/> <i>Cooperative Group</i>	
<input type="checkbox"/> <i>Pair</i>		
Teacher Directed Technology (Choose ALL that apply)		
<input type="checkbox"/> <i>None</i>	<input type="checkbox"/> <i>Diagnostic/Prescriptive System</i>	<input type="checkbox"/> <i>Multimedia Creation</i>
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<input type="checkbox"/> <i>Understand</i>	<input type="checkbox"/> <i>Create</i>	
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Teacher Directed Technology (Choose ALL that apply)		
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Optional Observations		

Appendix C: McREL Protocol for Classroom Walkthrough Debrief

Purpose of group classroom visits and debrief

The primary purpose of the group/buddy classroom visits followed by debrief sessions is to deepen the observers' understanding of the elements in the walkthrough and to increase inter-rater reliability. The goal is not to "cover" the building, but rather to do a few 3–5 minute observations, each followed by a 10–20 minute discussion of that visit. It is this discussion that is the most valuable part of the process. McREL is providing the following series of questions to guide you through the debrief process.

Creating the Environment (ongoing and integrated with the primary strategy)

- Setting Objectives*
- Providing Feedback*
- Effort and Recognition*

Learning Objective (the goal should be that 100% of classrooms have posted learning objectives stated in student-friendly terms)

- Was there a posted learning objective stated in student friendly terms?
- Was that objective aligned to the activity being taught? (Remember that objectives can extend over a longer period of time, with new activities posted every day under those objectives.)
- Was there a posted activity, rather than an objective?
- If there wasn't a posted objective, did a student handout contain the learning objective for the activity?
- Was there a rubric specific to the objective that students were using to help guide in the lesson?

Providing Feedback

- Was there specific feedback provided by the teacher that was connected to the stated learning objective and corrective in nature?
- Were students using a rubric to provide peer- or self-feedback?

Effort and Recognition

- Was a connection being made by the teacher or others between effort and achievement toward the learning objective? (e.g., "That was really a tough problem, but you stayed with it and were able to get the right answer. Great job, Alex.")
- Was there evidence of students tracking their effort and achievement? (e.g., Students keeping track of their effort as measured by a rubric and their achievement in their math minute drills over time.)
- Was specific and personalized recognition provided as students moved toward achieving the learning objective?
- Did the teacher provide rewards to students for meeting or moving toward a learning objective?

Primary Instructional Strategy (teacher-intended main strategy)

If you were to ask the teacher what they had intended the lesson to accomplish, what might they have said?

- I wanted the students to classify this set of terms/items. (Identifying Similarities and Differences: Compare/Classify)
- They are practicing solving equations. (Providing Practice)
- I wanted them to think about different ways of solving this problem. (Generating and Testing Hypotheses: Problem Solving)
- They are doing an experiment to learn more about chemical reactions. (Generating and Testing Hypotheses: Experimental Inquiry)
- They just finished a big project and I am giving them a break today. (No research-based strategy)

When you think you have identified a primary strategy, is it really aligned with the research?

- “I think this was *Generating and Testing Hypotheses: Problem Solving*.” The steps for this strategy are:
 1. Identify the goal you are trying to accomplish.
 2. Describe the barriers or constraints that are preventing you from achieving your goal—that are creating the problem.
 3. Identify different solutions for overcoming the barriers or constraints and hypothesize which solution is likely to work.
 4. Try your solution—either in reality or through a simulation.
 5. Explain whether your hypothesis was correct; determine if you want to test another hypothesis using a different solution.

Ask yourself, “Does this match the activity you just observed?”

- If your first inclination is either *providing practice* or *cues and questions*, is there a larger, more foundational strategy you might be missing? Sometimes, but certainly not always, these two strategies in particular are used as supporting strategies.

Secondary Instructional Strategy (in support of main strategy, optional)

There is not always a secondary strategy, but if you identify one, it should be in support of the main strategy. If your first thought in the classroom was, “This is *Cues and Questions*,” but as you thought about it more, it really was a comparison activity; the *Cues and Questions* is likely the secondary strategy. While they can be either primary or secondary strategies, likely strategies that you might see as support strategies are:

- Cues and Questions
- Providing Practice
- Nonlinguistic Representation: Graphic Organizer
- Summarizing
- Note Taking

Bloom's Taxonomy

No Instruction

Remember

Analyze

Create

Understand

Evaluate

Apply

Remember: Can students recall or remember information?

- Straight recall of facts and information.
- Reciting times tables (not doing calculations).
- Listing states and their capitals.
- Copying definitions of vocabulary words from board or dictionary.

Understand: Can students explain ideas of concepts?

- Explain why gasoline floats on top of water.
- Uses a provided formula to calculate the area of a rectangle.
- Writes a book report.
- Paraphrases a story.
- Prepare a flowchart to show the sequence of events.

Apply: Can the student use the information in a new, different, or real-world way?

- Select the correct mathematic process to solve a problem.
- Work with a small group to dramatize a story selection.
- Constructs a model to show how erosion occurs.
- Classifies conflicts in recent stories into different categories provided by the teacher.

Analyze: Can the student distinguish between the different parts?

- Categorize organisms found in a local pond based on the criteria we just learned.
- Create an advertisement to target a specific audience.
- Dissect and diagram a fetal pig.

Evaluate: Can the student take a stand and justify a position?

- Debate the relative merits of raising the driving age to 18.
- Write an editorial on a specific topic.
- Use the problem solving framework to decide how best to overcome a barrier.

Create: Can the student create a new product or point of view?

- Take a story just studied and write a version in today's context.
- Create a movie that clearly explains a concept being studied.
- Hypothesize what the consequences of the passage of a bill today will be in 20 years.

Grouping

Whole Group
Small Group
Pair

Individual
Cooperative Group

- Were all students doing the same work with the same expected product? (whole group)
- Were students working in informal groups of 3-5 on different assignments and/or with various expected products? (small group)
- Was each student working alone? (individual)
- Was each student working with only one other student? (pair)
- Was there evidence of formal cooperative groups?
 - Assigned roles and responsibilities
 - Individual and group accountability

Teacher Directed Technology

- Was the teacher actually using technology during your observation?
- If an interactive whiteboard was being used, were features of the whiteboard being used, or could the same presentation have been displayed on the wall?

Student Centered Technology

- Are students actively using the technology?
- Is even one student using technology anywhere in the room?

Indicators of Learning

- It is not a question of “are they learning?” The question is what is happening or being produced that would provide indicators of learning?
- Remember you can select as many as applicable.

Student Interview

- Ask a random student, “What are you learning?”
- If they reply with an activity, ask, “Why are you doing that?”
- Other questions might include:
 - How will you know when you have learned this?
 - How will you be able to use this?
- If you talk to a number of students, only code the first student you talk with.

If you see something that needs immediate attention, it is appropriate to address it. As you start to see trends in a classroom or as a staff in general, use the aggregate information to begin coaching. For example, you have been in a room 4–5 times and notice that if the teacher had only stopped on occasion and had the students do a think-pair-share; it would have elevated the level of the lesson. Talk with the teacher and make that suggestion.

**Appendix D:
S.M.A.R.T. Goal Action Plan Template**

**McREL Power Walkthrough
S.M.A.R.T. Goal Action Plan Template**

S.M.A.R.T. Goal (Specific, Measureable, Attainable, Relevant, Time-based)

Example – We will decrease the percentage of whole group instruction from 64% to 58% by our next monthly staff meeting, as measured by the Power Walkthrough software.

The action plan should include two components.

- What do you need from the administration?
- What will you do differently in your instruction?

Example – We would like an after-school workshop on collaborative learning and a few examples of lesson plans teachers in our building have using small and cooperative groups. During the next month I will plan at least five lessons using small or cooperative groupings.

<p>S.M.A.R.T. Goal Specific Measureable Attainable Relevant Time-based</p>	
<p>Action Plan</p> <p>-What do I need from the administration?</p> <p>-What will I do differently in my instruction?</p>	

Appendix E: McREL Implementation Planning Guide

Prior to conducting Walkthroughs

Activity	Person Responsible	When
Introduce teachers to walkthrough, showing sample data reports, template, and debrief protocol		
Overview of CITW strategies		
Conduct walkthroughs in teams with intensive debrief after each walkthrough		

After first 30 days of walkthroughs

Activity	Person Responsible	When
Create Overall Template report and print for all staff		
Share Overall Template report with staff		
Facilitate S.M.A.R.T. Goal/Action Plan process (using provided template)		

Appendix F: Instructional Rubrics and Checklists

Teacher Rubric - Setting Objectives

Set learning objectives that are specific but not restrictive. <i>Common Core, state and local standards, or curriculum documents are generally the source for this information. Teachers must unpack their standards document to drill down to more specific statements of knowledge and skills. Activities should directly align with the learning objective.</i>			
4	3	2	1
I consistently set specific learning objectives for each of my lessons based upon the Common Core, state standards, or district curriculum documents. My students understand that objectives come from standards and curriculum documents and not the textbook.	I consistently set specific learning objectives for each of my lessons based upon the Common Core, state standards, or district curriculum documents.	I occasionally set specific learning objectives for each of my lessons based upon the Common Core, state standards, or district curriculum documents.	I seldom set specific learning objectives for each of my lessons based upon the Common Core, state standards, or district curriculum documents.
I consistently identify the knowledge and skills my students are expected to know within the objective. My students can explain the knowledge and skills they are to be learning.	I consistently identify the knowledge and skills my students are expected to know within the objective.	I occasionally identify the knowledge and skills my students are expected to know within the objective.	I seldom identify the knowledge and skills my students are expected to know within the objective.
I consistently design and use learning activities that are directly aligned with the objective. My students can articulate the connection between the activity they are doing and the learning objective.	I consistently design and use learning activities that are directly aligned with the objective.	I occasionally design and use learning activities that are directly aligned with the objective.	I seldom design and use learning activities that are directly aligned with the objective.
Communicate the learning objectives to students and parents. <i>Communicate learning objectives in student-friendly language by explicitly posting them, stating them verbally, and calling attention to them throughout a unit or lesson.</i>			
4	3	2	1
I consistently post and discuss the objective throughout the lesson and use it for closure. My students are able to ask questions to clarify the words in the learning objective.	I consistently post and discuss the learning objective in student-friendly language.	I occasionally post and discuss the learning objectives in student-friendly language.	I seldom post and discuss the learning objectives in student-friendly language.
I consistently discuss the learning objective with my students. My students can verbalize what they are expected to learn and demonstrate.	I consistently discuss the learning objective with my students.	I occasionally discuss the learning objective with my students.	I seldom discuss the learning objective with my students.

I consistently reference the learning objective during the lesson and make connections between the learning activities and objectives during my instruction. My students can articulate the connection between what they are doing and what they are to be learning.	I consistently reference the learning objective during the lesson and make connections between the learning activities and objective during my instruction.	I occasionally reference the learning objective during the lesson and make connections between the learning activities and objective during my instruction.	I seldom reference the learning objective during the lesson and make connections between the learning activities and objective during my instruction.
Connect the learning objectives to present and future learning. <i>Teachers should explain how learning objectives connect with previous lessons or units or with the larger picture of a particular unit or course.</i>			
4	3	2	1
I consistently explain to my students how learning objectives for the current lesson connect with previous lessons or units or with the larger picture of a particular unit or course. My students can communicate and discuss with each other the connections they see to their previous learning.	I consistently explain to my students how learning objectives for the current lesson connect with previous lessons or units or with the larger picture of a particular unit or course.	I occasionally explain to my students how learning objectives for the current lesson connect with previous lessons or units or with the larger picture of a particular unit or course.	I seldom explain to my students how learning objectives for the current lesson connect with previous lessons or units or with the larger picture of a particular unit or course.
Engage students in setting personal learning objectives. <i>Once the teacher has established and shared the learning objective, it is important for students to have the opportunity to adapt the objective to their personal interests.</i>			
4	3	2	1
I consistently ask my students to personalize the objective by connecting what they will be learning to something they want to learn and/or already know. My students can personalize their learning goals and develop a plan for accomplishing their personalized goals.	I consistently ask my students to personalize the objective by connecting what they will be learning to something they want to learn and/or already know.	I occasionally ask students to personalize the objective by connecting what they will be learning to something they want to learn and/or already know.	I seldom ask students to personalize the objective by connecting what they will be learning to something they want to learn and/or already know.
I consistently have my students review their personalized goals to check their progress toward new learning. My students can discuss their progress over time.	I consistently have my students review their personalized goals to check their progress toward new learning.	I occasionally have my students review their personalized goals to check their progress toward new learning.	I seldom have my students review their personalized goals to check their progress toward new learning.

Student Checklist - Setting Objectives

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
LEARNING OBJECTIVES <small>Specific, but flexible</small>	I understand that the goals/learning objectives my teacher posts for the class align with standards and curriculum documents.				
	I can explain the knowledge and skills I am supposed to be learning.				
	I understand how the activities I do in class connect with the learning objectives.				
COMMUNICATE <small>To students and parents</small>	The objectives in my class are written in language I understand.				
	I know where to find my class goals/learning objectives because they are posted in the same place every day.				
	It helps me when my teacher gives me time to discuss what we are learning with my peers.				
	I can explain the connections between what I am doing and the learning objective.				
CONNECT <small>To prior learning</small>	I connect what I'm supposed to learn to things I already know or want to learn.				
	When my teacher gives us opportunities to discuss the learning goals it helps me make clearer connections to prior learning.				
PERSONAL <small>Making goals your own</small>	I have a clear plan to accomplish my personal learning goals.				
	I take time to reflect on the progress I'm making towards achieving my goals and in learning new things.				

Teacher Rubric - Providing Feedback

Feedback should be corrective. <i>Feedback should help students understand what was correct as well as specifics about what was incorrect. Effective feedback should also provide information about how close students come to meeting the criterion and details about what they need to do to attain the next level of performance.</i>			
4	3	2	1
I consistently provide corrective feedback on what is correct and incorrect and explain why. My students understand how feedback helps them get closer to the learning objective.	I consistently provide corrective feedback on what is correct and incorrect and explain why.	I occasionally provide corrective feedback on what is correct and incorrect and explain why.	I seldom provide corrective feedback on what is correct and incorrect and explain why.
I consistently give my students an opportunity to correct mistakes or redo work based on feedback. My students use the feedback I provide to revise their work.	I consistently give my students an opportunity to correct mistakes or redo work based on feedback.	I occasionally give my students an opportunity to correct mistakes or redo work based on feedback.	I seldom give my students an opportunity to correct mistakes or redo work based on feedback.
Feedback should be timely. <i>Providing immediate feedback can encourage students to practice, and it helps them make connections between what they do and the results they achieve.</i>			
4	3	2	1
I consistently provide corrective feedback promptly after a test or performance. My students can use feedback to improve their practice.	I consistently provide corrective feedback promptly after a test or performance.	I occasionally provide corrective feedback promptly after a test or performance.	I seldom provide corrective feedback promptly after a test or performance.
I consistently provide my students with feedback to assist them in making connections between what they are doing and the results they hope to achieve. My students can use feedback I provide to make connections between what they are doing and the results they are achieving.	I consistently provide my students with feedback to assist them in making connections between what they are doing and the results they hope to achieve.	I occasionally provide my students with feedback to assist them in making connections between what they are doing and the results they hope to achieve.	I seldom provide my students with feedback to assist them in making connections between what they are doing and the results they hope to achieve.
Feedback should be specific to a criterion. <i>Feedback should address the knowledge that students are supposed to learn and provide information that helps them know what needs to be done to improve their performance. Rubrics are a valuable tool for providing the criterion and judging performance.</i>			
4	3	2	1
I consistently explain what is required to reach a proficient level of performance. My students can describe what is required to reach a proficient level of performance.	I consistently explain what is required to reach a proficient level of performance.	I occasionally explain what is required to reach a proficient level of performance.	I seldom explain what is required to reach a proficient level of performance.
I consistently provide criterion/rubrics prior to the unit of study that describes each level of performance. My students are able to use the criterion/rubric as a target for their performance.	I consistently provide criterion/rubrics prior to the unit of study that describes each level of performance.	I occasionally provide criterion/rubrics prior to the unit of study that describes each level of performance.	I seldom provide criterion/rubrics prior to the unit of study that describes each level of performance.

4	3	2	1
I consistently use criterion/rubrics to judge student performance. My students can judge their work based upon the criterion/rubrics provided.	I consistently use criterion/rubrics to judge student performance.	I occasionally use criterion/rubrics to judge student performance.	I seldom use criterion/rubrics to judge student performance.
Engage students in the feedback process. <i>Although teachers are the primary providers of feedback, students can effectively monitor their own progress. Student-led feedback positively impacts student achievement.</i>			
4	3	2	1
I consistently provide opportunities for my students to monitor their own progress. My students understand how to use rubrics to improve their work.	I consistently provide opportunities for my students to monitor their own progress.	I occasionally provide opportunities for my students to monitor their own progress.	I seldom provide opportunities for my students to monitor their own progress.
I consistently model techniques for my students to use as they compare their work and that of peers to the criterion/rubrics provided. My students can use the criterion/rubrics to judge their work and that of peers.	I consistently model techniques for my students to use as they compare their work and that of peers to the criterion/rubrics provided.	I occasionally model techniques for my students to use as they compare their work and that of peers to the criterion/rubrics provided.	I seldom model techniques for my students to use as they compare their work and that of peers to the criterion/rubrics provided.

Student Checklist - Providing Feedback

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
CORRECTIVE	I understand how feedback helps me get closer to the learning objective.				
	When my teacher corrects my papers, I receive feedback on what is correct and incorrect, and why.				
	I redo my work based on the feedback my teacher gives me.				
TIMELY	My teacher grades and returns my tests and major assignments quickly after I take or turn them in.				
	I use feedback from my teacher to make connections between what I am doing and the results I want.				
CRITERIA	I can describe what is required to reach a proficient level of performance.				
	I can use the criterion/rubrics my teacher provides as a target for my learning.				
	I can use the criterion/rubrics my teacher provides to judge my work.				
SELF-ASSESS	I can use rubrics as a guide to improve my work.				
	My teacher spends class time teaching me how to judge and reflect on my own work and progress.				
	I can use rubrics to judge my work and the work of my peers.				

Teacher Rubric - Reinforcing Effort

Teach students about the relationship between effort and achievement. <i>Teaching about effort can positively influence students' thinking, behavior, and beliefs about their ability to succeed if it helps students understand that success comes because of effort and that they control the amount of effort they put forth.</i>			
4	3	2	1
I understand the importance of effort and continually explain to my students how effort can positively affect school and life success. My students can identify how effort or the lack of effort has impacted their personal success.	I understand the importance of effort, and continually explain to my students how effort can positively affect school and life success.	I have a limited understanding of the importance of effort and occasionally explain to my students how effort can positively affect school and life success.	I don't understand the importance of effort and use global statements that reference working hard and study habits.
I continually provide personal, local, and national stories that demonstrate the impact of effort on success. My students can locate and share stories that demonstrate the impact of effort.	I continually provide personal, local, and national stories that demonstrate the impact of effort on achievement.	I occasionally provide personal, local, and national stories that demonstrate the impact of effort on success.	I seldom provide personal, local, and national stories that demonstrate the impact of effort on success.
I continually monitor my students' attitudes toward the impact of effort on their success. My students monitor their attitudes toward the impact of effort on their success.	I continually monitor my students' attitudes toward the impact of effort on their success.	I occasionally monitor my students' attitudes toward the impact of effort on their success.	I seldom or never monitor student attitudes toward the impact of effort on their success.
Provide students with explicit guidance about what it means to expend effort. <i>Teachers can help students develop an operational definition for what it means to work hard by being explicit about the actions and behaviors associated with effort in a variety of academic situations.</i>			
I continually use rubrics and checklists to help students understand what effort means in my class. My students can define what effort means to them in my class.	I continually use rubrics and checklists to help students understand what effort means in my class.	I occasionally use rubrics and checklists to help students understand what effort means in my class.	I seldom use rubrics and checklists to help students understand what effort means in my class.
I continually provide direct instruction about the role of effort so my students understand that the more purposefully and strategically they work the more successful they will be at a task. My students can apply the principles of effort to their work.	I continually provide direct instruction about the role of effort so my students understand that the more purposefully and strategically they work the more successful they will be at a task.	I occasionally provide direct instruction about the role of effort relative to the fact that the harder students work the more successful they will be at a task.	I seldom provide information relative to the fact that the harder my students work the more successful they will be at a task.
I continually set high expectations related to effort that challenge my students to stay with a task until it is completed. My students set rigorous goals and identify the effort needed to achieve them.	I continually set high expectations related to effort that challenge my students to stay with a task until it is completed.	I occasionally set expectations related to effort that challenge my students to stay with a task until it is completed.	I seldom set expectations related to effort.

Ask students to track their effort and achievement. *A powerful way to help students make the connection between effort and success is to ask students to keep track of their effort and its relationship to achievement.*

4	3	2	1
I continually provide opportunities for my students to keep track of grades relative to the amount of effort expended on tasks and tests. My students conference with me and their peers to clearly articulate how effort impacts their achievement.	I continually provide opportunities for my students to keep track of their grades/achievement in relation to the amount of effort applied.	I occasionally provide opportunities for my students to keep track of their grades/achievement in relation to the amount of effort applied.	I seldom or never provide opportunities for my students to keep track of their grades/achievement in relation to the amount of effort applied.
I continually provide criteria or ask my students to assist in providing criteria against which students can judge their effort and achievement. My students apply those criteria to their work.	I continually provide criteria against which my students can judge their effort and achievement.	I occasionally provide criteria against which my students can judge their effort and achievement.	I seldom or never provide criteria against which my students can judge their effort and achievement.
I continually model for my students how to reflect on the impact of their effort on their overall achievement/performance and assist them in making changes for the future. My students model for each other the impact of how their effort impacts overall achievement.	I continually model for my students how to reflect on the impact of their effort on their overall achievement/performance and assist them in making changes for the future.	I occasionally model for my students how to reflect on the impact of their effort on their overall achievement/performance.	I seldom if ever model for my students how to reflect on the impact of their effort on their overall achievement/performance.

Student Checklist - Reinforcing Effort

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
IMPORTANCE OF EFFORT	I understand how my effort can impact my school and life success based on my teacher's stories and examples.				
	I understand that the more purposefully I work at a task the more successful I will be.				
	I work strategically at a given task in order to meet the expectations set by my teacher.				
	I share stories from my life or the news that demonstrate the success of someone who has put forth a strong effort.				
	I keep track of how the effort I put in impacts my success in this class.				
EXPLICIT GUIDANCE Means to expend effort	I can use rubrics and checklists to help me understand what expending effort means.				
	I can share the principles of effort to my work.				
	I can set rigorous goals and identify the effort needed to achieve them.				
TRACKING Effort & Achievement	I am able to keep track of my grades, progress, and effort in this class.				
	I am able to judge the impact that my efforts have on my achievement/performance in this class.				
	I reflect on the impact of my effort on my achievement/performance and make changes for the future.				

Teacher Rubric - Providing Recognition

Promote a mastery-goal orientation. <i>When teachers adopt a mastery-goal orientation, they emphasize learning and meeting goals rather than comparing students' performances (i.e., performance orientation).</i>			
4	3	2	1
I consistently encourage my students to praise one another. My students use praise with their peers.	I consistently encourage my students to praise one another.	I occasionally encourage my students to praise one another.	I rarely encourage my students to praise one another.
I consistently praise my students using the research on effective praise (e.g., praise delivered is contingent on effort applied toward the objective, specifies particulars of accomplishment, orients students to appreciate their own accomplishments, uses students prior accomplishments as basis for present accomplishments). My students can articulate the connection between the praise they receive and the work they have done.	I consistently praise my students using the research on effective praise (e.g., praise delivered is contingent on effort applied toward the objective, specifies particulars of accomplishment, orients students to appreciate their own accomplishments, uses students prior accomplishments as basis for present accomplishments).	I occasionally praise my students using the research on effective praise (e.g., praise delivered is contingent on effort applied toward the objective, specifies particulars of accomplishment, orients students to appreciate their own accomplishments, uses students prior accomplishments as basis for present accomplishments).	I seldom praise my students using the research on effective praise (e.g., praise delivered is contingent on effort applied toward the objective, specifies particulars of accomplishment, orients students to appreciate their own accomplishments, uses students prior accomplishments as basis for present accomplishments).
Personalize the Recognition. <i>When recognizing an accomplishment at a certain level of proficiency, it is best to make the recognition as personal to the student as possible.</i>			
4	3	2	1
I consistently provide sincere and deserved recognition for student tasks accomplished at a pre-established level of proficiency. My students understand that praise they receive is for achievement of a task or goal.	I consistently provide sincere and deserved recognition for student tasks accomplished at a pre-established level of proficiency.	I occasionally provide sincere and deserved recognition for student tasks accomplished at a pre-established level of proficiency.	I seldom provide sincere and deserved recognition for student tasks accomplished at a pre-established level of proficiency.
I consistently personalize the recognition I provide students based upon student needs and preferences. My students can express how they would most like to be recognized.	I consistently personalize the recognition I provide students based upon student needs and preferences.	I occasionally personalize the recognition I provide students based upon student needs and preferences.	I seldom personalize the recognition I provide students based upon student needs and preferences.
Symbols of Recognition. <i>It is appropriate to give verbal recognition for accomplishments as well as to offer students concrete, symbolic tokens of recognition.</i>			
4	3	2	1
I consistently provide praise (oral or written) that is deserved and based on criteria. My students know why they are receiving oral or written praise or recognition.	I consistently provide praise (oral or written) that is deserved and based on criteria.	I occasionally provide praise (oral or written) that is deserved and based on criteria.	I seldom provide praise (oral or written) that is deserved and based on criteria.

4	3	2	1
Verbal praise is consistently paired with concrete symbols of recognition when appropriate as a motivational tool. My students know why they are receiving verbal praise or recognition.	Verbal praise is consistently paired with concrete symbols of recognition when appropriate as a motivational tool.	Verbal praise is occasionally paired with concrete symbols of recognition when appropriate as a motivational tool.	Verbal praise is seldom paired with concrete symbols of recognition when appropriate as a motivational tool.

Providing Recognition - Student Checklist

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
PERSONALIZED RECOGNITION	My teacher praises me when my work meets the expectations he/she established.				
	My teacher knows me well enough to know what kind of praise/recognition works best for me.				
SYMBOLS OF RECOGNITION	I understand that giving and receiving praise helps me accomplish more.				
	Because I understand that giving and receiving praise helps others accomplish more, I take time to praise my peers.				
	My teacher gives me specific praise that helps me recognize my past, present, and future accomplishments.				
	I have communicated my preferences for receiving recognition to my teacher and he/she provides me with the type of recognition I like.				

Teacher Rubric - Cooperative Learning

<p>Include the elements of positive interdependence and individual accountability. <i>Groups should feel a sense of camaraderie and interdependence. While group accountability encourages teamwork, individual accountability is also needed to encourage personal responsibility and motivate students to do their share of the work.</i></p>			
4	3	2	1
I consistently encourage students to work together as a team (to listen, negotiate, and lead). This may include modeling positive behaviors, students role-playing, and analyzing positive and negative cooperative learning scenarios. My students can set their own group norms when working in groups.	I consistently encourage students to work together as a team (to listen, negotiate, and lead). This may include modeling positive behaviors, students role-playing, and analyzing positive and negative cooperative learning scenarios.	I occasionally encourage students to work together as a team. This may include modeling positive behaviors, students role-playing, and/or analyzing positive and negative cooperative learning scenarios.	I seldom teach students how to work together as a team.
I consistently plan cooperative learning projects and activities that require a group effort to be successful. My students understand that they produce a better product when all contribute.	I consistently plan cooperative learning projects and activities that require a group effort to be successful.	I occasionally plan cooperative learning projects and activities that require a group effort to be successful.	I seldom plan cooperative learning projects and activities that require a group effort to be successful. Any individual student could accomplish the task working independently.
I consistently provide different roles and responsibilities for every student and try to make sure that they are clear and reasonable. My students understand they individually contribute to the success of their group.	I consistently provide different roles and responsibilities for every student and try to make sure that they are clear and reasonable.	I occasionally provide different roles and responsibilities for every student and try to make sure that they are clear and reasonable.	I seldom provide different roles and responsibilities for every student.
I consistently assign students to cooperative learning groups so that they are heterogeneous both academically and socially. My students can tell you what the individual strengths of their group members are.	I consistently assign students to cooperative learning groups so that they are heterogeneous both academically and socially.	I occasionally assign students to cooperative learning groups so that they are heterogeneous both academically and socially.	I seldom assign students to cooperative learning groups so that they are heterogeneous both academically and socially.
I consistently provide a rubric or list for both the overall project goal and the roles/responsibilities of each student. My students take an active role in assessing the contributions of their peers toward the project goals.	I consistently provide a rubric or list for both the overall project goal and the roles/responsibilities of each student.	I occasionally provide a rubric or list for both the overall project goal and the roles/responsibilities of each student.	I seldom provide a rubric or list for both the overall project goal and the roles/responsibilities of each student.

Keep group size to no more than five. <i>If groups get too big, leadership opportunities are scarce, student input is diluted, and there are not enough meaningful responsibilities to go around.</i>			
4	3	2	1
I consistently design cooperative learning groups so that the size is no more than five students to ensure that all students can have a voice. My students know they are all important to the group's success.	I consistently design cooperative learning groups so that the size is no more than five students to ensure that all students can have a voice.	I occasionally design cooperative learning groups so that the size is no more than five students to ensure that all students can have a voice.	I rarely design cooperative learning groups so that the size is no more than five students to ensure that all students can have a voice.
I consistently make sure group sizes and available resources match well enough so that students have most of what they need to achieve their learning objectives. My students know how to obtain the needed resources.	I consistently make sure group sizes and available resources match well enough so that students have most of what they need to achieve their learning objectives.	I occasionally make sure group sizes and available resources match well enough so that students have most of what they need to achieve their learning objectives.	Group sizes and available resources seldom match well. Often, students do not have all of what they need to achieve their learning objectives.
Use cooperative learning consistently and systematically. <i>Facilitating cooperative learning is a busy task that needs purposeful objectives, structure, clear directions, and continual progress monitoring to be successful.</i>			
4	3	2	1
I consistently tell students about the objectives and success criteria of their cooperative learning projects and activities and always provide them with the opportunity to reflect upon the criteria in group discussions.	I consistently tell students about the objectives and success criteria of their cooperative learning projects and activities and occasionally provide them with the opportunity to reflect upon the criteria in group discussions.	I occasionally tell students about the objectives and success criteria of their cooperative learning projects and activities.	The objectives and success criteria for cooperative learning projects and activities are seldom provided or understood by students.
I consistently provide methods and directions for cooperative learning projects and activities. All students can articulate the process and explain it to others.	I consistently provide methods and directions for cooperative learning projects and activities.	I occasionally provide methods and directions for cooperative learning projects and activities.	I seldom provide methods and directions for cooperative learning projects and activities.
I consistently monitor the cooperation of groups and the progress of each student's learning. My students use provided rubrics and lists to monitor their own learning.	I consistently monitor the cooperation of groups and the progress of each student's learning.	I occasionally monitor the cooperation of groups and/or the progress of each student's learning.	I seldom monitor the cooperation of groups and/or the progress of each student's learning.

Student Checklist - Cooperative Learning

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
POSITIVE INTERDEPENDENCE	My group understands that we must work together to succeed. We use negotiation and compromise to solve problems. We listen to and respect everyone's input.				
	Group members use teamwork to help each other succeed without unfairly burdening any particular members. Responsibilities are shared evenly. Everyone encourages each other to work hard.				
	Our cooperative learning projects and activities are not the kinds that are easily done by individuals. These projects and activities work best when we cooperate as a team.				
	Our group feels accountable to each other for the group's overall success. My teacher encourages and evaluates the success of the overall group.				
	My group and I clearly understand the objectives of our cooperative learning projects and activities.				
	My teacher makes sure that my peers and I fully understand the methods and directions for cooperative learning projects and activities in writing and by modeling correct behavior.				
INDIVIDUAL ACCOUNTABILITY	My role and responsibilities to the group are reasonable and clearly understood. I contribute my knowledge, opinions, and skills to the team effort.				
	In addition to my overall group's responsibilities, I maintain my focus on my personal responsibilities to the group and complete tasks on time.				
	In addition to the assessment of the overall group's performance, my teacher assesses the individual performance of each person's responsibilities to the group.				
GROUP SIZE	The size of my cooperative group fits well with the purpose of the learning and the responsibilities of the group members (2-5 members per group).				
	My teacher makes certain that group sizes and available resources match well so that we have what we need to be successful in our learning.				
	My teacher continually monitors the progress of my learning and my group's collaboration.				

Teacher Rubric - Cues and Questions

Focus on what is important. <i>Focusing on the important aspects of a topic helps students garner the point of the lesson and helps them to integrate what they are learning with their relevant prior knowledge.</i>			
4	3	2	1
I continually focus on what is important and do not stray with the examples, questions, or activities that I use. My students can identify and apply their background knowledge as they use the important information.	I continually focus on what is important and do not stray with the examples, questions, or activities that I use.	I occasionally focus on what is important and sometimes stray with the examples, questions, or activities that I use.	I seldom focus on what is important and frequently stray with the examples, questions, or activities that I use.
Use explicit cues. <i>Explicit cues activate students' prior knowledge by bringing to mind their relevant personal experiences or situations that they encounter on a regular basis.</i>			
4	3	2	1
I continually use explicit cues to present students with a preview of to-be-learned information. My students use cues to focus their thinking around the topic.	I continually use explicit cues to present students with a preview of to-be-learned information.	I occasionally use explicit cues to present students with a preview of to-be-learned information.	I seldom use explicit cues to present students with a preview of to-be-learned information.
I continually use explicit cues to assist my students to connect new learning to personal experience or prior knowledge. My students use graphic organizers to help them elicit prior knowledge and connect it to new learning.	I continually use explicit cues to assist my students to connect new learning to personal experiences or prior knowledge.	I occasionally use explicit cues to assist my students to connect new learning to personal experience or prior knowledge.	I seldom use explicit cues to assist my students to connect new learning to personal experience or prior knowledge.
Ask inferential questions. <i>When teachers ask questions that require students to make inferences, students draw upon what they already know to "fill in the blanks" adding information that is missing in the presented material.</i>			
4	3	2	1
I continually provide opportunities for my students to think inferentially. My students can defend their inferences to ensure they are logical and use available information.	I continually provide opportunities for my students to think inferentially.	I occasionally provide opportunities for my students to think inferentially.	I seldom provide opportunities for my students to think inferentially.
I continually place key inferential questions in my lesson plans. My students can identify and craft inferential questions to deepen their thinking.	I continually place key inferential questions in my lesson plans.	I occasionally place key inferential questions in my lesson plans.	I seldom or never place key inferential questions in my lesson plans.

Ask analytic questions. *Analytic questions prompt students to think more deeply and critically about the information presented. Teachers can frame questions around the skills of analyzing errors, constructing support, and analyzing perspectives.*

4	3	2	1
I continually provide opportunities for my students to think analytically. My students can explain their thinking.	I continually provide opportunities for my students to think analytically.	I occasionally provide opportunities for my students to think analytically.	I seldom provide opportunities for my students to think analytically.
I continually place key analytic questions in my lesson plans. My students can identify and craft analytic questions to deepen their thinking.	I continually place key analytic questions in my lesson plans.	I occasionally place key analytic questions in my lesson plans.	I seldom or never place key analytic questions in my lesson plans.
I continually provide opportunities for students to analyze their errors and construct support for their thinking. My students often challenge each other to justify their statements.	I continually provide opportunities for students to analyze their errors and construct support for their thinking.	I occasionally provide opportunities for students to analyze their errors and construct support for their thinking.	I seldom provide opportunities for students to analyze their errors and construct support for their thinking.

Student Checklist - Cues and Questions

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
FOCUS	I understand how my teacher focuses me on the important information we are about to learn.				
	I can relate my personal experiences and background knowledge directly to the content we are studying.				
EXPLICIT CUES	I understand how the cues my teacher provides helps me to focus on the topic we are learning.				
	I understand how the graphic organizers my teacher provides helps me to focus on the topic we are learning.				
INFERENTIAL QUESTIONS	I understand how to make logical connections and inferences based on the information provided.				
	I understand the difference between predicting and inferring.				
	I understand how to create my own inferential questions to deepen my understanding and my peers' understanding of the topic.				
ANALYTIC QUESTIONS	I understand how to analyze information for errors.				
	I understand how to construct supporting evidence for my thinking.				
	I understand how to craft analytic questions.				
	I understand how to challenge my peers to justify their assumptions.				

Teacher Rubric - Advance Organizers

Use expository advance organizers. <i>Expository advance organizers describe or explain in written or verbal form the new content students are about to learn. They emphasize the important content and help students build a framework for learning by providing the meaning and purpose of what is to follow.</i>			
4	3	2	1
I consistently provide expository advance organizers to describe or explain in written or oral form the new content to be learned. My students can articulate how the expository organizer helps them to connect prior learning to the new learning.	I consistently provide expository advance organizers to describe or explain in written or oral form the new content to be learned.	I occasionally provide expository advance organizers to describe or explain in written or oral form the new content to be learned.	I seldom provide expository advance organizers to describe or explain in written or oral form the new content to be learned.
I consistently provide expository advance organizers to emphasize the important content and provide my students with a framework for their learning. My students understand the purpose of using an expository advance organizer to frame their learning.	I consistently provide expository advance organizers to emphasize the important content and provide my students with a framework for their learning.	I occasionally provide expository advance organizers to emphasize the important content and provide my students with a framework for their learning.	I seldom provide expository advance organizers to emphasize the important content and provide my students with a framework for their learning.
Use narrative advance organizers. <i>Narrative advance organizers present information to students in a story format and serve to engage students' interest while at the same time activating their prior knowledge on a topic.</i>			
4	3	2	1
I consistently use narrative advance organizers to engage students' interest. My students are able to create their own stories that connect with the new learning.	I consistently use narrative advance organizers to engage students' interest.	I occasionally use narrative advance organizers to engage students' interest.	I seldom use narrative advance organizers to engage students' interest.
I consistently use narrative advance organizers to activate students' prior knowledge. My students can articulate how the narrative helps them to connect prior learning to the new learning.	I consistently use narrative advance organizers to activate students' prior knowledge.	I occasionally use narrative advance organizers to activate students' prior knowledge.	I seldom use narrative advance organizers to activate students' prior knowledge.
Use skimming as an advance organizer. <i>Skimming is the process of quickly looking over material to get a general impression before reading it fully. Done appropriately, it helps students create a picture of what the material addresses, and it helps organize the new information.</i>			
4	3	2	1
I consistently use skimming to help my students create a picture of what the upcoming material addresses. My students apply skimming techniques to different types of materials.	I consistently use skimming to help my students create a picture of what the upcoming material addresses.	I occasionally use skimming to help my students create a picture of what the upcoming material addresses.	I seldom use skimming to help my students create a picture of what the upcoming material addresses.

4	3	2	1
I consistently use skimming to help my students organize new information. My students are able to use skimming to identify the main points or ideas.	I consistently use skimming to help my students organize new information.	I occasionally use skimming to help my students organize new information.	I seldom use skimming to help my students organize new information.
Use graphic advance organizers. <i>Teachers provide students with graphic advance organizers in advance of the learning to introduce them to new material. To be effective, graphic advance organizers must clearly communicate what students are expected to learn.</i>			
4	3	2	1
I consistently use advance graphic organizers in advance of the learning to introduce new material. My students can articulate how the advance graphic organizer helps them to connect prior learning to the new learning.	I consistently use advance graphic organizers in advance of the learning to introduce new material.	I occasionally use advance graphic organizers in advance of the learning to introduce new material.	I seldom use advance graphic organizers in advance of the learning to introduce new material.
I consistently use advance graphic organizers to clearly communicate what students are expected to know, understand, and be able to do. My students can articulate what is expected of them.	I consistently use advance graphic organizers to clearly communicate what students are expected to know, understand, and be able to do.	I occasionally use advance graphic organizers to clearly communicate what students are expected to know, understand, and be able to do.	I seldom use advance graphic organizers to clearly communicate what students are expected to know, understand, and be able to do.
I consistently select the appropriate graphic organizer for the intended learning. I allow students to make choices about which graphic organizer they will use.	I consistently select the appropriate graphic organizer for the intended learning.	I occasionally select the appropriate graphic organizer for the intended learning.	I seldom select the appropriate graphic organizer for the intended learning.

Student Checklist - Advance Organizers

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
EXPOSITORY	I understand how expository advance organizers connect my prior knowledge to the new learning.				
	I understand how using an expository advance organizer frames my learning.				
NARRATIVE	I am able to create my own stories that connect to my new learning.				
	I can explain how stories help me connect prior learning to new learning.				
SKIMMING	I understand how to skim different types of materials.				
	I understand how to identify main ideas when I skim.				
GRAPHIC	I understand how advance graphic organizers help me to connect prior learning to new learning.				
	I understand how advance graphic organizers help me know what is expected of me.				
	I can select the correct advance graphic organizer for the material I am about to learn.				

Teacher Rubric - Nonlinguistic Representation

Creating graphic organizers. <i>Students combine words and phrases with symbols, arrows, and shapes to represent relationships in the knowledge being learned. Graphic organizers include representations for descriptive patterns, time-sequence patterns, process patterns, episode patterns, generalization patterns, and concept patterns.</i>			
4	3	2	1
I consistently use a variety of graphic organizers with my students. My students can select the appropriate graphic organizer to fit the learning situation.	I consistently use a variety of graphic organizers with my students.	I occasionally use a variety of graphic organizers with my students.	I seldom use a variety of graphic organizers with my students.
I consistently provide opportunities for students to transfer their learning from graphic organizers into a mental image. My students can describe the mental images they create based on the graphic organizers used.	I consistently provide opportunities for students to transfer their learning from graphic organizers into a mental image.	I occasionally provide opportunities for students to transfer their learning from graphic organizers into a mental image.	I seldom provide opportunities for students to transfer their learning from graphic organizers into a mental image.
Making physical models/manipulatives. <i>Students are involved in hands-on tasks to create concrete representations of the knowledge being learned.</i>			
4	3	2	1
I consistently use physical models and manipulatives to help students develop an understanding of abstract concepts. My students can create physical models and use manipulatives to show their understanding of ideas and concepts.	I consistently use physical models and manipulatives to help students develop an understanding of abstract concepts.	I occasionally use physical models and manipulatives to help students develop an understanding of abstract concepts.	I seldom use physical models and manipulatives to help students develop an understanding of abstract concepts.
I consistently provide opportunities for students to transfer their physical models into a mental image. My students can describe the mental images they create based on the physical models created.	I consistently provide opportunities for students to transfer their physical models into a mental image.	I occasionally provide opportunities for students to transfer their physical models into a mental image.	I seldom provide opportunities for students to transfer their physical models into a mental image.
Generating mental pictures. <i>Students visualize the knowledge being learned. Mental pictures incorporate senses, physical sensations, and emotions.</i>			
4	3	2	1
I consistently provide opportunities for students to develop mental images of the concepts and content they are learning. My students can create mental images that incorporate senses, physical sensations, and emotions.	I consistently provide opportunities for students to develop mental pictures of the concepts and content they are learning.	I occasionally provide opportunities for students to develop mental pictures of the concepts and content they are learning.	I seldom provide opportunities for students to develop mental pictures of the concepts and content they are learning.

Creating pictures, illustrations, and pictographs. <i>Students draw, paint, or use technology to create symbolic pictures that represent knowledge being learned.</i>			
4	3	2	1
I consistently provide opportunities for students to represent their learning through pictures and pictographs. My students can create pictures and pictographs and connect them to their learning.	I consistently provide opportunities for students to represent their learning through pictures and pictographs.	I occasionally provide opportunities for students to represent their learning through pictures and pictographs.	I seldom provide opportunities for students to represent their learning through pictures and pictographs.
I consistently provide opportunities for students to transfer their learning from pictures, illustrations, and pictographs into a mental image. My students can describe the mental images they create based on the pictures, illustrations, and pictographs used.	I consistently provide opportunities for students to transfer their learning from pictures, illustrations, and pictographs into a mental image.	I occasionally provide opportunities for students to transfer their learning from pictures, illustrations, and pictographs into a mental image.	I seldom provide opportunities for students to transfer their learning from pictures, illustrations, and pictographs into a mental image.
Engaging in kinesthetic activity. <i>Students engage in physical movement associated with specific knowledge to generate a mental image of content and skills being learned.</i>			
4	3	2	1
I consistently engage students in representing their learning through physical movement. My students can demonstrate their learning through movements.	I consistently engage students in representing their learning through physical movement.	I occasionally engage students in representing their learning through physical movement.	I seldom engage students in representing their learning through physical movement.
I consistently provide opportunities for students to transfer their kinesthetic activity into a mental image. My students can describe the mental images they create based on their kinesthetic movement.	I consistently provide opportunities for students to transfer their use of kinesthetic representations into a mental image.	I occasionally provide opportunities for students to transfer their kinesthetic activity into a mental image.	I seldom provide opportunities for students to transfer their kinesthetic activity into a mental image.

Student Checklist - Nonlinguistic Representations

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
GRAPHIC ORGANIZERS	I understand the purpose of using graphic organizers to organize my thinking and learning.				
	I can explain the knowledge and skills I am learning through the use of a graphic organizer.				
	I can select an appropriate graphic organizer to fit a learning situation.				
	I can describe how I use the information from graphic organizers to create mental images of my learning.				
PHYSICAL MODELS/MANIPULATIVES	I understand the purpose of using physical models and manipulatives to represent abstract concepts.				
	I can explain the knowledge and skills I am learning through the use of physical models and manipulatives.				
	I can use or create a variety of physical models and manipulatives to represent the knowledge being learned.				
	I can describe how I use the information from physical models and manipulatives to create mental images of my learning.				
MENTAL PICTURES	I understand the purpose of using mental pictures to represent my learning; incorporating senses, physical sensations, and emotions.				
	I can explain the knowledge and skills I am learning through the use of mental images.				

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
PICTURES AND PICTOGRAPHS	I understand the purpose of using pictures and pictographs to represent my learning.				
	I can explain the knowledge and skills I am learning through the use of pictures and pictographs.				
	I can use or create a variety of pictures and pictographs to represent the knowledge being learned.				
	I can describe how I use the information from pictures and pictographs to create mental images of my learning.				
KINESTHETIC ACTIVITY	I understand the purpose of using kinesthetic activities to represent my learning.				
	I can explain the knowledge and skills I am learning through the use of kinesthetic movement.				
	I can use or create a variety of kinesthetic representations to represent the knowledge being learned.				
	I can describe how I use the information from kinesthetic representations to create mental images of my learning.				

Teacher Rubric - Summarizing

Teach students rule-based summarizing. <i>The rule-based summarizing strategy helps to demystify the process of summarizing by providing explicit, concrete steps to follow. It provides guidance that helps students decide what information to keep and what to omit when summarizing information.</i>			
4	3	2	1
I consistently model rule-based summarizing for my students to insure my students are applying the rules correctly. My students are able to use rule-based summarizing independently.	I consistently model rule-based summarizing for my students to insure my students are applying the rules correctly.	I occasionally model rule-based summarizing for my students to insure my students are applying the rules correctly.	I seldom model rule-based summarizing for my students to insure my students are applying the rules correctly.
I consistently use the same wording for rule-based summarization as the other teachers in my building. My students see the consistency of rule-based summary throughout their classes.	I consistently use the same wording for rule-based summarization as the other teachers in my building.	I occasionally use the same wording for rule-based summarization as the other teachers in my building.	I seldom use the same wording for rule-based summarization as the other teachers in my building.
I consistently post the rules for rule-based summarizing in my classroom. My students independently reference the rules when they are summarizing.	I consistently post the rules for rule-based summarizing in my classroom.	I occasionally post the rules for rule-based summarizing in my classroom.	I seldom post the rules for rule-based summarizing in my classroom.
Use summary frames. <i>Using summary frames is one way that teachers can help students understand and use the structure of different kinds of text to summarize information.</i>			
4	3	2	1
I consistently use summary frames as a type of advance organizer to help my students set the stage for learning and summarizing. My students use provided summary frames to guide their thinking as they read, listen to, or watch instructional material.	I consistently use summary frames as a type of advance organizer to help my students set the stage for learning and summarizing.	I occasionally use summary frames as a type of advance organizer to help my students set the stage for learning and summarizing.	I seldom use summary frames as a type of advance organizer to help my students set the stage for learning and summarizing.
I consistently provide summary frames appropriate to the type of text, lecture, or video my students are working with. My students can identify which summary frame is best suited for the material they are reading, hearing, or watching.	I consistently provide summary frames appropriate to the type of text, lecture, or video my students are working with.	I occasionally provide summary frames appropriate to the type of text, lecture, or video my students are working with.	I seldom provide summary frames appropriate to the type of text, lecture, or video my students are working with.

Engage students in reciprocal teaching. *Reciprocal teaching is used primarily with expository text. The teacher models how to use the four comprehension strategies that constitute reciprocal teaching: summarizing, questioning, clarifying, and predicting and then gradually releases students to lead the process.*

4	3	2	1
I continually have students participate in reciprocal teaching as a means to summarize material. My students are comfortable in using reciprocal teaching from both the perspective of the learner and teacher.	I continually have students participate in reciprocal teaching as a means to summarize material.	I occasionally have students participate in reciprocal teaching as a means to summarize material.	I seldom have students participate in reciprocal teaching as a means to summarize material.
I consistently model reciprocal teaching for my students to insure they understand and demonstrate the roles. My students are able to use reciprocal teaching independently.	I consistently model reciprocal teaching for my students to insure they understand and demonstrate the roles.	I occasionally model reciprocal teaching for my students to insure my students are applying the rules correctly.	I seldom model reciprocal teaching for my students to insure my students are applying the rules correctly.

Student Checklist - Summarizing

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
RULE-BASED SUMMARY	My teacher shows me how to use rule-based summarization to help me summarize information in class.				
	I know each of the four rules for rule-based summarization and know what they mean.				
	Rule-based summarization helps me do a better job of summarizing.				
SUMMARY FRAMES	My teacher gives me a summary frame before I read or watch things she wants me to summarize.				
	My teacher helps me use summary frames to summarize material she gives us in class.				
	I know which summary frame is best for the information I need to summarize.				
RECIPROCAL TEACHING	I understand the four roles in reciprocal teaching.				
	I can lead my class in summarizing by taking on one of the roles in reciprocal teaching.				
	When students in my class lead us in reciprocal teaching it helps me better understand the material.				

Teacher Rubric - Note Taking

Give students teacher-prepared notes. <i>Teacher-prepared notes can be in the form of a template that the teacher prepares and distributes to students. They should give the student guidance as to what is important in the unit, chapter, or video.</i>			
4	3	2	1
I consistently provide teacher-prepared notes for my students that identify the key points they should focus on and take notes over. My students understand how to use teacher-prepared notes to guide their note taking.	I consistently provide teacher-prepared notes for my students that identify the key points they should focus on and take notes over.	I occasionally provide teacher-prepared notes for my students that identify the key points they should focus on and take notes over.	I seldom provide teacher-prepared notes for my students that identify the key points they should focus on and take notes over.
Teach students a variety of note-taking formats. <i>It is important to teach students a variety of modes for note taking, including formal and informal outlines, webbing, and combination notes. When students know a variety of formats, they can choose the format that works best for them for a particular project.</i>			
4	3	2	1
I consistently provide my students with guidance in using webbing and informal outlines. My students can create webs and informal outlines on their own.	I consistently provide my students with guidance in using webbing and informal outlines.	I occasionally provide my students with guidance in using webbing and informal outlines.	I seldom provide my students with guidance in using webbing and informal outlines.
I consistently have my students use combination notes when it is important for them to develop enduring understanding of the topic. My students can create combination notes on their own.	I consistently have my students use combination notes when it is important for them to develop enduring understanding of the topic.	I occasionally have my students use combination notes when it is important for them to develop enduring understanding of the topic.	I seldom have my students use combination notes when it is important for them to develop enduring understanding of the topic.
I consistently encourage my students to use the note taking format that works best for them. My students can explain why they chose the format they are using.	I consistently encourage my students to use the note taking format that works best for them.	I occasionally encourage my students to use the note taking format that works best for them.	I seldom encourage my students to use the note taking format that works best for them.
Provide opportunities for students to revise their notes and use them for review: <i>The practice of providing time for students to review and revise their notes underscores the point that notes are a work in progress and a valuable tool for learning.</i>			
4	3	2	1
I consistently provide opportunities for my students to revise their notes throughout a unit of instruction. My students understand how to make revisions based on new understanding of a topic.	I consistently provide opportunities for my students to revise their notes throughout a unit of instruction.	I occasionally provide opportunities for my students to revise their notes throughout a unit of instruction.	I seldom provide opportunities for my students to revise their notes throughout a unit of instruction.
I consistently encourage my students to use their notes to review for assessments. My students regularly use their notes as study guides.	I consistently encourage my students to use their notes to review for assessments.	I occasionally encourage my students to use their notes to review for assessments.	I seldom encourage my students to use their notes to review for assessments.

4	3	2	1
I consistently give my students opportunities to share and discuss their notes with peers. My students discuss and revise their notes with peers.	I consistently give my students opportunities to share and discuss their notes with peers.	I occasionally give my students opportunities to share and discuss their notes with peers.	I seldom give my students opportunities to share and discuss their notes with peers.

Student Checklist - Note Taking

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
TEACHER- PREPARED NOTES	My teacher provides me with notes before she begins a lesson or unit.				
	My teacher prepared notes to help me focus on what is important in the lesson.				
VARIETY OF NOTE TAKING STRATEGIES	I understand how to create webs as a form of note taking.				
	I understand how to create informal outlines as a form of note taking.				
	I understand how to create and use combination notes as a form of note taking.				
	I know which type of note taking format best helps me understand what we are learning.				
REVISING NOTES	I revise my notes during a lesson or unit as I learn new information.				
	It helps me when my teacher gives me time to discuss my notes with my peers.				

Teacher Rubric - Practice

Clearly identify and communicate the purpose of practice activities. <i>Practice must tightly align with learning objectives and provide students with opportunities to deepen their understanding or become faster and more proficient at a skill.</i>			
4	3	2	1
I consistently provide practice activities for my students that are aligned with the learning objectives they are to achieve. My students can articulate how what they are practicing is connected to the learning objective.	I consistently provide practice activities for my students that are aligned with the learning objectives they are to achieve.	I occasionally provide practice activities for my students that are aligned with the learning objectives they are to achieve.	I seldom provide practice activities for my students that are aligned with the learning objectives they are to achieve.
I consistently provide massed and distributed practice opportunities designed to deepen my students' understanding of a skill or process. My students show improvement over time as they practice.	I consistently provide massed and distributed practice opportunities designed to deepen my students' understanding of a skill or process.	I occasionally provide massed and distributed practice opportunities designed to deepen my students' understanding of a skill or process.	I seldom provide massed and distributed practice opportunities designed to deepen my students' understanding of a skill or process.
I consistently provide students with a way to track their speed and accuracy of a skill or process. My students can monitor their own progress as they move toward mastery.	I consistently provide students with a way to track their speed and accuracy of a skill or process.	I occasionally provide students with a way to track their speed and accuracy of a skill or process.	I seldom provide students with a way to track their speed and accuracy of a skill or process.
Design practice sessions that are short, focused, and distributed over time. <i>Short practice sessions encourage students to make efficient use of their practice time. Focused practice is designed to target specific aspects of more complex skills and processes.</i>			
4	3	2	1
I consistently design practice focused on specific aspects of more complex skills and processes. My students understand how practicing the specific aspects lead to mastery of the skills or processes for the desired learning objective.	I consistently design practice focused on specific aspects of more complex skills and processes.	I occasionally design practice focused on specific aspects of more complex skills and processes.	I seldom design practice focused on specific aspects of more complex skills and processes.
I consistently plan massed practice when I introduce a complex skill or process. My students understand the importance of frequent repetitions as they begin learning a skill or process.	I consistently plan time for massed practice when I introduce a complex skill or process.	I occasionally plan massed practice when I introduce a complex skill or process.	I seldom plan massed practice when I introduce a complex skill or process.
I consistently plan distributed practice as my students move toward mastery of a complex skill or process. My students understand the importance of distributed practice to move toward mastery of a skill or process.	I consistently plan distributed practice as my students move toward mastery of a complex skill or process.	I occasionally plan distributed practice as my students move toward mastery of a complex skill or process.	I seldom plan distributed practice as my students move toward mastery of a complex skill or process.

Provide feedback on practice sessions. *It is critical that students receive specific feedback during formative practice sessions to help them understand which aspect(s) of the skill or process they are not performing appropriately.*

4	3	2	1
I consistently provide specific feedback during formative practice sessions. My students understand how feedback helps them to improve their work.	I consistently provide specific feedback during formative practice sessions.	I occasionally provide specific feedback during formative practice sessions.	I seldom provide specific feedback during formative practice sessions.
I consistently collect evidence about my students' proficiency at using the skill or process. My students are able to track the speed and accuracy of their work over time.	I consistently collect evidence about my students' proficiency at using the skill or process.	I occasionally collect evidence about my students' proficiency at using the skill or process.	I seldom collect evidence about my students' proficiency at using the skill or process.

Student Checklist - Practice

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
PURPOSE	I understand how what we are practicing is connected to our learning objective.				
	I understand how practice helps me improve as I learn a skill or process.				
	I understand how to monitor how well I am learning a skill or process.				
MASSED AND DISTRIBUTED PRACTICE	I understand how the process is made up of individual skills.				
	I have enough time to learn a part of the process multiple times before moving on to the next step.				
	I am given numerous opportunities over time to build mastery of a skill or process.				
FEEDBACK	I use corrective feedback my teacher provides to me to improve my skills.				
	I can provide feedback to myself and my peers related to the skill or process we are learning.				

Teacher Rubric - Identifying Similarities and Differences

Teach students a variety of ways to identify similarities and differences. <i>Instruction should include providing students with steps in the process and modeling the process. Use a familiar context/content when modeling so students focus on that process and don't have to think about understanding the content in addition to the process. Provide multiple opportunities to practice with corrective feedback.</i>			
4	3	2	1
I consistently provide students with steps to identifying similarities and differences. My students know the steps to comparing, classifying, creating metaphors, and creating analogies.	I consistently provide students with steps to identifying similarities and differences.	I occasionally provide students with steps to identifying similarities and differences.	I seldom provide students with steps to identifying similarities and differences.
I consistently model and scaffold the strategies for identifying similarities and differences. My students demonstrate the steps and add to their skills over time.	I consistently model and scaffold the strategies for identifying similarities and differences.	I occasionally model and scaffold the strategies for identifying similarities and differences.	I seldom model and scaffold the strategies for identifying similarities and differences.
I consistently use a familiar context/content to teach and model the strategies for identifying similarities and differences. My students demonstrate a more complete understanding of the process.	I consistently use a familiar context/content to teach and model the strategies for identifying similarities and differences.	I occasionally use a familiar context/content to teach and model the strategies for identifying similarities and differences.	I seldom use a familiar context/content to teach and model the strategies for identifying similarities and differences.
I consistently provide multiple practice sessions accompanied by corrective feedback so students internalize the strategies for identifying similarities and differences. My students use the corrective feedback they receive to improve their use of the strategies.	I consistently provide multiple practice sessions accompanied by corrective feedback so students internalize the strategies for identifying similarities and differences.	I occasionally provide multiple practice sessions accompanied by corrective feedback so students internalize the strategies for identifying similarities and differences.	I seldom provide multiple practice sessions accompanied by corrective feedback so students internalize the strategies for identifying similarities and differences.
Guide students as they engage in the process of identifying similarities and differences. <i>Present students with a direct approach in identifying similarities and differences. Using a direct approach provides guidance and stimulates discussions about the similarities and differences and encourages students to ask questions about the comparisons. Teachers can also provide structured tasks by identifying items to be compared and characteristics on which to base the comparison and have students draw conclusions.</i>			
4	3	2	1
I consistently provide students with explicit guidance in identifying similarities and differences to deepen their understanding and enhance their use. My students understand the importance of teacher guidance as they learn and use the strategies for identifying similarities and differences.	I consistently provide students with explicit guidance in identifying similarities and differences to deepen their understanding and enhance their use.	I occasionally provide students with explicit guidance in identifying similarities and differences to deepen their understanding and enhance their use.	I seldom provide students with explicit guidance in identifying similarities and differences to deepen their understanding and enhance their use.

4	3	2	1
I consistently use a direct approach to guide students and stimulate discussions about identifying similarities and differences. My students can identify similarities and differences and ask questions about each of the strategies.	I consistently use a direct approach to guide students and stimulate discussions about identifying similarities and differences.	I occasionally use a direct approach to guide students and stimulate discussions about identifying similarities and differences.	I seldom use a direct approach to guide students and stimulate discussions about identifying similarities and differences.
I consistently provide structured tasks, identify the items to compare, and characteristics on which to base the comparison so students can draw conclusions. My students can use the structured tasks to identify similarities and differences and draw conclusions.	I consistently provide structured tasks, identify the items to compare, and characteristics on which to base the comparison so students can draw conclusions.	I occasionally provide structured tasks, identify the items to compare, and characteristics on which to base the comparison so students can draw conclusions.	I seldom provide structured tasks, identify the items to compare, and characteristics on which to base the comparison so students can draw conclusions.
<p>Provide supporting cues to help students identify similarities and differences. <i>Provide additional support to students by directing their attention to important features of the targeted knowledge by providing tools that help students reflect on what they are learning. Provide supportive cues to point out patterns in information, a set of guiding questions to help students understand a metaphor, or use everyday objects as analogs.</i></p>			
4	3	2	1
I consistently provide additional support through posters of important problem features, labeled diagrams, and prompts to help students identify similarities and differences. My students use the posters, labeled diagrams, and prompts as they identify similarities and differences.	I consistently provide additional support through posters of important problem features, labeled diagrams, and prompts to help students identify similarities and differences.	I occasionally provide additional support through posters of important problem features, labeled diagrams, and prompts to help students identify similarities and differences.	I seldom provide additional support through posters of important problem features, labeled diagrams, and prompts to help students identify similarities and differences.
I consistently provide supportive cues to point out patterns in information, a set of guiding questions to help students understand a metaphor, or use everyday objects as analogs. My students use the patterns, guiding questions, and everyday objects to assist them in creating metaphors and analogies.	I consistently provide supportive cues to point out patterns in information, a set of guiding questions to help students understand a metaphor, or use everyday objects as analogies.	I occasionally provide supportive cues to point out patterns in information, a set of guiding questions to help students understand a metaphor, or use everyday objects as analogs.	I seldom provide supportive cues to point out patterns in information, a set of guiding questions to help students understand a metaphor, or use everyday objects as analogs.

Student Checklist - Identifying Similarities and Differences

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
USE A VARIETY OF WAYS	I know the steps to comparing, classifying, creating metaphors and creating analogies.				
	I can learn a new process better when I learn it within a familiar context/content.				
	Corrective feedback from my teacher helps me to use the strategies associated with identifying similarities and differences.				
THE PROCESS OF IDENTIFYING SIMILARITIES AND DIFFERENCES	I use guidance from my teacher as I learn and use the strategies for identifying similarities and differences.				
	I can identify similarities and differences and ask questions about each of the strategies.				
	I can use the structured tasks to identify similarities and differences and draw conclusions.				
SUPPORTING CUES	I use graphic organizers and other tools to help me identify similarities and differences.				
	I can use the patterns, guiding questions and everyday objects to assist me in creating metaphors and analogies.				

Teacher Rubric - Generating and Testing Hypotheses

Engage students in a variety of structured tasks for generating and testing hypotheses. <i>A variety of tasks helps provide a context for students to generate and test hypotheses. These tasks include processes such as systems analysis, problem solving, experimental inquiry, and investigation.</i>			
4	3	2	1
I consistently engage students in a variety of structured tasks for systems analysis, problem solving, experimental inquiry, and investigation. My students can identify which strategy they are using for each structured task.	I consistently engage students in a variety of structured tasks for systems analysis, problem solving, experimental inquiry, and investigation.	I occasionally engage students in a variety of structured tasks for systems analysis, problem solving, experimental inquiry, and investigation.	I seldom engage students in a variety of structured tasks for systems analysis, problem solving, experimental inquiry, and investigation.
I consistently teach the steps in systems analysis, problem solving, experimental inquiry, and investigation to my students. My students can explain the steps for each strategy.	I consistently teach the steps in systems analysis, problem solving, experimental inquiry, and investigation to my students.	I occasionally teach the steps in systems analysis, problem solving, experimental inquiry, and investigation to my students.	I seldom teach the steps in systems analysis, problem solving, experimental inquiry, and investigation to my students.
I consistently model the strategies of systems analysis, problem solving, experimental inquiry, and investigation for my students. My students can independently follow the steps for generating and testing hypotheses.	I consistently model the strategies of systems analysis, problem solving, experimental inquiry, and investigation for my students.	I occasionally model the strategies of systems analysis, problem solving, experimental inquiry, and investigation for my students.	I seldom model the strategies of systems analysis, problem solving, experimental inquiry, and investigation for my students.
I consistently provide opportunities for my students to use inductive and deductive reasoning while generating and testing hypotheses. My students understand the difference between inductive and deductive reasoning.	I consistently provide opportunities for my students to use inductive and deductive reasoning while generating and testing hypotheses.	I occasionally provide opportunities for my students to use inductive and deductive reasoning while generating and testing hypotheses.	I seldom provide opportunities for my students to use inductive and deductive reasoning while generating and testing hypotheses.
When using inductive reasoning, I consistently monitor for and correct misconceptions. My students use my feedback to clarify their thinking.	When using inductive reasoning, I consistently monitor for and correct misconceptions.	When using inductive reasoning, I occasionally monitor for and correct misconceptions.	When using inductive reasoning, I seldom monitor for and correct misconceptions.
I consistently use a familiar context/content to teach and model the strategies for generating and testing hypotheses. My students demonstrate a more complete understanding of the process.	I consistently use a familiar context/content to teach and model the strategies for generating and testing hypotheses.	I occasionally use a familiar context/content to teach and model the strategies for generating and testing hypotheses.	I seldom use a familiar context/content to teach and model the strategies for generating and testing hypotheses.
I consistently provide appropriate graphic organizers for my students to aid them in organizing and interpreting their thinking. My students understand how to use the graphic organizers to guide their thinking.	I consistently provide appropriate graphic organizers for my students to aid them in organizing and interpreting their thinking.	I occasionally provide appropriate graphic organizers for my students to aid them in organizing and interpreting their thinking.	I seldom provide appropriate graphic organizers for my students to aid them in organizing and interpreting their thinking.

Ask students to explain their hypotheses and their conclusions. *Asking students to explain the principles from which they work, the hypotheses they generate from these principles, and why their hypotheses make sense helps students deepen their understanding of the principles they are applying.*

4	3	2	1
I consistently have my students explain their hypotheses, either orally or in writing. My students are able to articulate, either orally or in writing, the principles from which they are working.	I consistently have my students explain their hypotheses, either orally or in writing.	I occasionally have my students explain their hypotheses, either orally or in writing.	I seldom have my students explain their hypotheses, either orally or in writing.
I consistently have my students explain their conclusions or findings. My students are able to explain their findings and explain why they were correct or incorrect.	I consistently have my students explain their conclusions or findings.	I occasionally have my students explain their conclusions or findings.	I seldom have my students explain their conclusions or findings.
I consistently make connections between the activity in which my students are engaged and principles they are investigating. My students can explain not only what they are doing, but what they are learning.	I consistently make connections between the activity in which my students are engaged and principles they are investigating.	I occasionally make connections between the activity in which my students are engaged and principles they are investigating.	I seldom make connections between the activity in which my students are engaged and principles they are investigating.

Student Checklist - Generating and Testing Hypotheses

<i>Criteria Descriptions</i>		<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
VARIETY OF TASKS	I can identify which strategy I am using for each task or activity my teacher provides.				
	I know the steps for systems analysis, problem solving, experimental inquiry, and investigation.				
	When my teacher models generating and testing hypotheses it helps me better understand the strategy.				
	I use the feedback my teacher provides to correct errors in my thinking.				
	I use graphic organizers provided by my teacher to help me organize my thinking.				
EXPLAIN HYPOTHESES AND CONCLUSIONS	Talking through my hypothesis helps me to better understand what I am learning.				
	I am able to explain why my conclusion was right or wrong.				
	I can make the connection between what I am doing and what I am learning.				

Appendix G: Power Walkthrough Software End User License Agreement

Power Walkthrough® Software End User License Agreement

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Appendix H: Navigating through McREL's Power Walkthrough Website



Navigating through McREL's Power Walkthrough® Website

Tips for using these directions

- *Numbered items are steps*
- *Italicized items are information*
- *Arrows are displayed for clarification*
 - *Black arrows are steps* 
 - *Maroon arrows are optional or informational* 

Go to the Power Walkthrough home page
<https://mxweb.media-x.com/home/mcrel/>



3

- Type the username (all lower case).
- Type the password (case sensitive).
- Click Login.



4

Profile and Settings

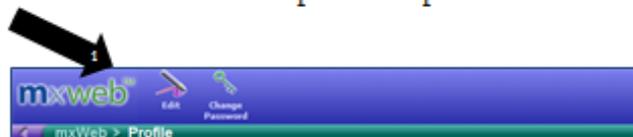
Click on the Profile icon to update profile details and/or to change the password.

It is recommended to change the password from McREL's default of 123456, to a unique password.



5

1. Click on the **Edit** icon to update the profile.



2. Update the profile.
3. Click the **Save** icon.

A screenshot of the 'Profile for demo.user' form in the mxweb application. The form is titled 'Profile for demo.user' and is divided into two sections: 'Personal Information' and 'Address Information'. The 'Personal Information' section includes fields for 'Salutation' (Dr.), 'First name' (Demo), 'Middle name', 'Last name' (User), 'Assignment/TIC', 'Gender' (Male/Female), and 'Email'. The 'Address Information' section includes fields for 'Street line 1', 'Street line 2', 'Street line 3', 'City', 'Province/state' (Colorado), 'Country' (United States), and 'Postal code/ZIP code'. A black arrow points to the 'Save' icon (a floppy disk) in the top right corner of the form. Another black arrow points to the 'First name' field.

6

Change Password

1. Click on the Change Password icon.



2. Type the current password in the “Old password” box.
3. Type the unique password in the “New password” and “Confirm password” boxes.
The new password must be a minimum of six characters in length.
4. Click Save.



After changing the password, change the password on the hand-held device.

7

1. Click mxWeb in the green tool bar.



2. Click the Settings icon to change personal setting.



8

1. Use the Time zone pull-down menu to assign the correct time zone.

To change the Spell Checker Dictionary and icon setting size, use the pull-down menu and radio button.

2. Click the Save & Exit icon.



1. Click on mxWeb in the green tool bar



2. Click the McREL Power Walkthrough icon.



1. Click on Set-Up.
2. Click on Templates.



This section is to customize, create, or copy an existing template. See the "PWT Template Directions" PDF for step by step directions.



1. Click on Power Walkthroughs in the green tool bar.



2. Click on Set-Up.
3. Click on Export Data.



12

Export walkthrough data to a .csv file.

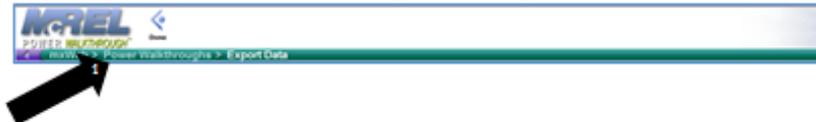
1. Select the template.
2. Select the school(s).
3. Select the start and end dates.
4. The default is to provide all of the information in the walkthroughs.
5. Click on the Export Data button.
6. Once the export is complete click on the Download data file (data.csv) link.



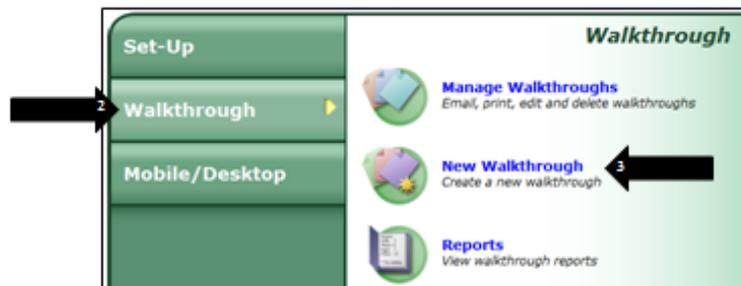
13

New Walkthrough

1. Click on Power Walkthroughs in the green tool bar.



2. Click on Walkthrough.
3. Click on New Walkthrough (Create a new walkthrough).



14

- Select the template by using the pull-down menu. Choose McREL Template 2012.

Skip the Category pull-down menu.

- Select the school.
- Select the teacher.
- Click Next.

General Information	
Walkthrough Name	Walkthrough 900
Select Category (optional)	<none>
Select Template	McREL Template 2012
Select *Board/School	Excellent Elementary School
Select Teacher	Kirkwood (Elem), Jill

Next

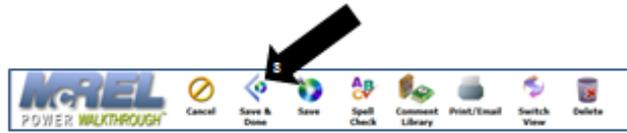
15

Complete the walkthrough by using pull-down menus, checkboxes, and open-ended boxes.

Walkthrough 900			
Category	Start Date	End Date	
<none>	Mon Feb 27 2012, 3:04 PM	<No dates set>	
Grade Level	Content Area	Teacher	
Kindergarten	Language Arts	Jill Kirkwood (Elem)	
Page 1			
1. <none> Segment of Class			
2. Creating the Environment			
<input type="checkbox"/> Setting Objectives		<input type="checkbox"/> Effort and Recognition	
<input type="checkbox"/> Providing Feedback			
3. <none> Primary Instructional Strategies (teacher-intended main strategy)			
3.3. Optional Observations			

16

8. Click the **Save & Done** icon.



The page will be directed to Walkthroughs (Manage walkthroughs).

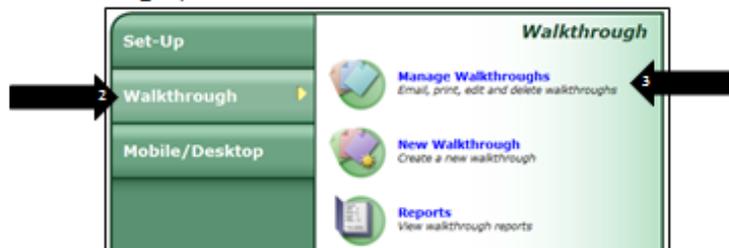
17

Manage Walkthroughs

1. Click on the McREL Power Walkthrough icon.



2. Click on Walkthrough.
3. Click on Walkthroughs (Email, print, edit and delete walkthroughs).



18

All of the walkthroughs that have been uploaded to the website will be available.

Uncheck the box next to "View my walkthroughs only" to view all of the other observer's walkthroughs.

Walkthrough Name	Template Name	Site Name	Walk	View	Edit	Delete
Walkthrough 001	10.2 BSEPod	Excellent Elementary School	None, Jan	View, D.		
Walkthrough 002	10.2 BSEPod	Excellent Elementary School	Kirkwood (Elem) , 3B	View, D.		
Walkthrough 003	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 004	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 005	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 006	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 007	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 008	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 009	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 010	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 011	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 012	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 013	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 014	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 015	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 016	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 017	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 018	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 019	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		
Walkthrough 020	10.2 BSEPod	Excellent High School	Waver (H.S.) , Fred	View, D.		

19

There are three icons next to every walkthrough.

X icon means delete. If a walkthrough is deleted from the website, it is permanently deleted.

Pencil icon means edit. A walkthrough may be edited on the website.

Printer icon means print, print as PDF, or email the walkthrough to a teacher.

			Kirkwood (Elem) , 3B on Oct 7-2011 10.2 BSEPod	Excellent Elementary School	Kirkwood (Elem) , 3B	User, D.	10/07/2011
			Walkthrough 001	Excellent Elementary School	Kirkwood (Elem) , 3B	User, D.	10/06/2011

When viewing a colleague's walkthrough, two of the icons change.

The **X** icon is grayed out. Only the owner of a walkthrough can delete the walkthrough.

The **pencil** icon changes to a magnifying glass. Only the owner of a walkthrough can edit the walkthrough.

			Kirkwood (Elem) , 3B on Feb 21-20 MOREL Template 2012	Excellent Elementary School	Kirkwood (Elem) , 3B	Maxfield, L.	02/21/2012
			Walkthrough 001	Excellent High School	Dover (H.S.) , Alice	User, D.	02/20/2012

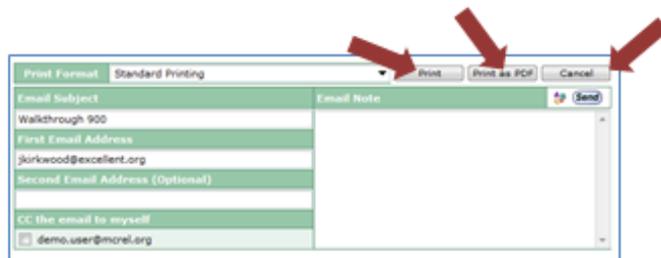
20

After clicking on the Printer icon, a new window will open.

Click on the Print button to print the walkthrough.

Click on the Print as PDF to create a PDF of the walkthrough.

Click on the Cancel button to close the window.

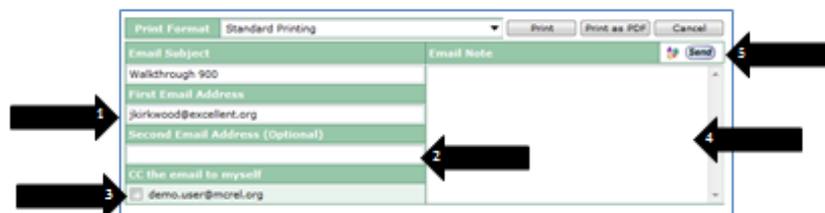


21

Directions to email the walkthrough to the teacher:

1. The teacher's email address will auto-fill in the "First Email Address" box.
2. Type an email address in the "Second Email Address (Optional)" box to cc another person.
3. Check the box next to "CC the email to myself" to receive a copy of the email note and walkthrough.
4. Type a note in the "Email Note" box.
5. Click the Send button.

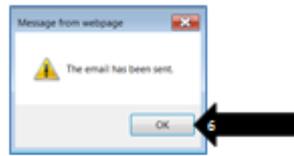
The recipient will receive the walkthrough in the body of the email and will also receive a PDF attachment to the email.



22

A message will pop up that says "The email has been sent."

6. Click OK.



The page will be directed back to Walkthroughs (Manage walkthroughs).

Refresh the page and a green checkmark will be in the Email column indicating an email was sent to the teacher.

Categories	Template	# Display	Show ID	Start Date	End Date	
All Categories	All Templates	100	Yes	Sun Aug 04 2013	Sat Oct 13 2012	
View my walkthrough only						
View my walkthrough only						
Walkthrough Name	Template Name	Site Name	Staff	Email	Observer	Date
Kirkwood (Elem), MI on Feb 27 09 NREL Template 2012	Excellent Elementary School	Kirkwood (Elem), MI	✓	User, D.		02/27/2012
Kirkwood (Elem), MI on Feb 27 09 NREL Template 2012	Excellent Elementary School	Kirkwood (Elem), MI	✓	User, D.		02/24/2012
Walkthrough MI	NREL Template 2012	Excellent Middle School	Cooper (M.S.), Karen	✓	User, D.	02/04/2012

23

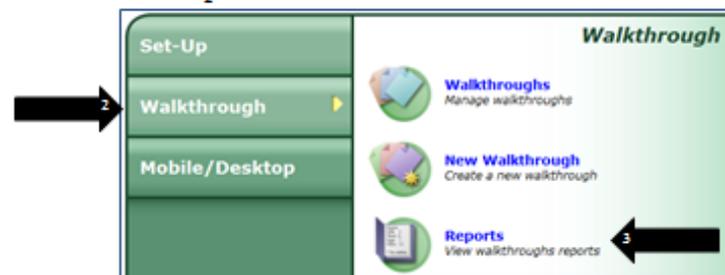
Reports

1. Click on Power Walkthroughs in the green tool bar.



2. Click on Walkthrough.

3. Click on Reports.



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Hover over the question mark for an explanation of the report.



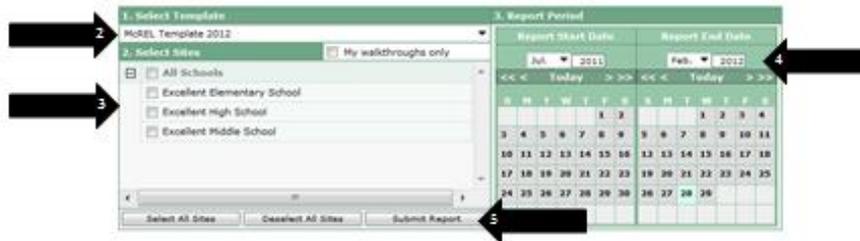
The following directions show an example report created using the "Overall Template Report."

1. Click on Overall Template Report.



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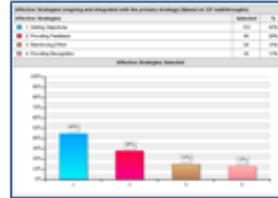
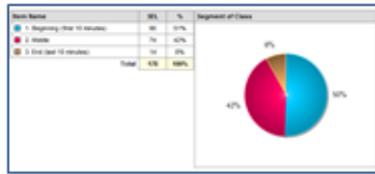
2. Select the template.
3. Select the school(s) by checking the box(es).
4. Select the start and end dates.
5. Click Submit Report.



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The report will generate in a new window.

In the Standard Report, drop-down elements will appear in a pie chart and checklists will appear in a bar graph.



Choose a different report type by using the pull-down menu.



Click on the Book icon to view comments associated with the walkthroughs.



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To email a report, click on the plus symbol in the top left corner to open the section.



1. Type an email subject.
2. Type an email address.
3. Type an email note.
4. Click Send.



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To view walkthroughs for a specific school and/or teacher.

1. Use the pull-down menu in Select Site to choose the school.
2. Use the pull-down menu in Select Staff to choose the specific teacher.

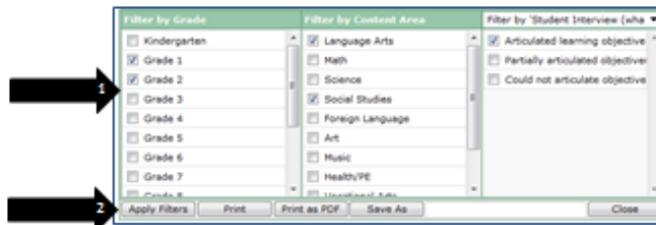


A new report will generate for the specific school and/or teacher.

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There are three filter options: Grade, Content Area, and Drop Down Element.

1. Click on the checkbox next to the items to be filtered.
2. Click Apply Filters



A new report will generate for the specific school and/or teacher.

30

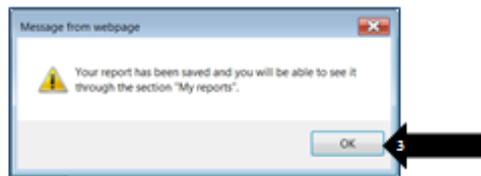
There is an option to save a report that has been generated.

1. Type the name in the box to the right of Save As.
2. Click Save As.



A message will pop up that says the report has been saved in the "My Reports" section.

3. Click OK.

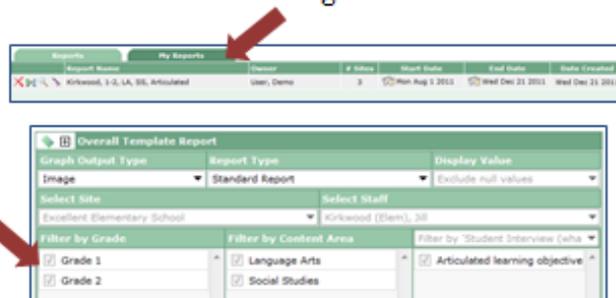


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1. Click on Reports in the green tool bar.



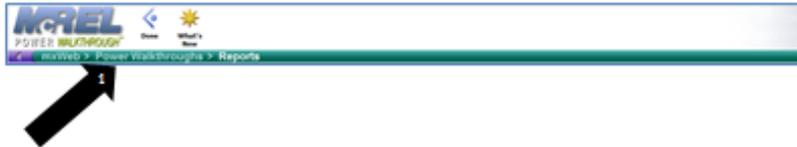
- Click on the "My Reports" tab.
- *The saved report is listed.*
- *Click on the magnifying glass to view the report. The options that were chosen are shown and cannot be changed.*



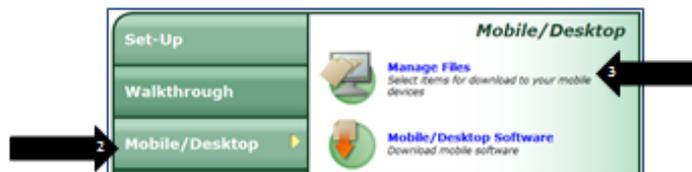
32

Mobile/Desktop

1. Click on Power Walkthroughs in the green tool bar.

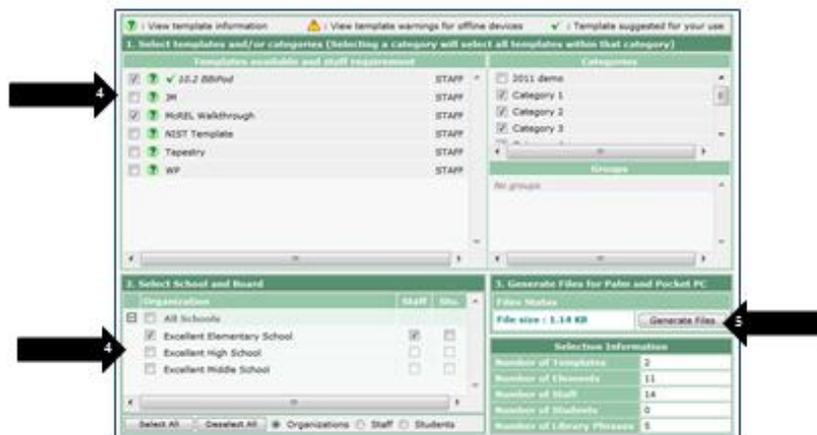


2. Click Mobile/Desktop.
3. Click Manage Files (Select items for download to your mobile devices).
This is needed for a Palm or Pocket PC device only.



33

4. Choose the template and schools to be loaded onto a Palm or Pocket PC.
5. Click Generate Files.
Follow the Palm and Pocket PC directions.



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1. Click on Power Walkthroughs in the green tool bar



2. Click Mobile/Desktop.
3. Click Mobile/Desktop Software (Download mobile software).



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This section is needed for Palm, Pocket PC, BlackBerry, or Laptop/Desktop devices.

4. Use the pull-down menu to choose the platform.
5. Click on Click Here to install.

Follow the specific hand-held device directions.



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Contact McREL

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Cheryl Mervich: cmervich@mcrel.org; 303.459.5098