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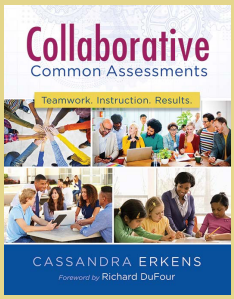

File: Assessment

Collaborative Common Assessments:
Teamwork. Instruction. Results

By Cassandra Erkens (Solution Tree Press, 2016)

S.O.S. (A Summary of the Summary)

The main ideas of the book are:

~ The collaborative common assessment process, in which teachers work in teams to create and analyze assessments, dramatically improves learning for students and teachers alike.
~ Collaborative common assessments are not "one more thing to do," but rather, a clear path to school improvement. CCAs increase a school's efficiency and ensure that teachers focus on student learning.

Why I chose this book:

The collaborative common assessment process is unique in its dramatic impact on the learning of students *and* teachers. Done well, it can lead schools to staggering gains in student achievement. However, it is complex, encompassing four distinct phases, each with its own demands and essential questions for teachers to answer. To help leaders navigate this complexity, this book offers concrete, practical advice drawn from real schools and a synthesis of research on assessment.

The Scoop (In this summary you will learn…)

✓ The four phases of the collaborative common assessment process

✓ How to organize and support effective collaborative teams

✓ How to build teachers' *assessment literacy*: their expertise in understanding, creating and analyzing assessments

✓ Four different ways to create common assessments

✓ The three key steps in analyzing students' results

✓ The three types of errors students make

✓ How to leverage assessment results to improve curriculum, instruction, and future assessments

✓ PD suggestions from The Main Idea for implementing the ideas in this book with your teachers

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Chapter 1 – A Preview of Collaborative Common Assessments

Why add collaborative common assessments to the many tests which are probably already in place in your school or district? The fact is, many schools are burdened with over-testing, but lack *quality* assessments that provide an accurate picture of student learning. Quality assessments maximize learning for teachers and students alike, creating powerful opportunities for professional development and driving dramatic improvements in student achievement.

What are collaborative common assessments? The key word is *collaborative*: these assessments are created, analyzed, and utilized by teachers working in teams. These assessments may assess learning as it progresses, or produce a summative measure of learning at the end of a unit of instruction. Teachers play the central role in the entire assessment process, from design to data analysis.

In a nutshell, teams of teachers first decide on the most important learning goals for their classes. Then, they decide on the kinds of assessments they will be using to assess the goals and write the assessments together. Next, they administer the assessments, and use the results to identify effective teaching strategies, help struggling students meet standards, and make program-wide improvements.

This process is more complex and time-consuming than purchasing an out-of-the-box test, but it is also much more effective. Collaborative common assessments bring about dramatic improvements in student achievement and professional practice.

The Collaborative Common Assessment Process

Before beginning a new unit of study, teachers collaborate on creating and using collaborative common assessments (CCAs) over four phases: *preparation*, *design*, *delivery,* and *data*. Upcoming chapters describe each phase, but below is an overview:

In the *preparation* phase, teacher teams establish norms for their work together and examine the standards for their shared grade level or subject. They develop a shared understanding of the standards, prioritize the most important ones, and set learning goals for students. Finally, teachers create an assessment map that outlines all the common assessments for the unit.

Next, in the *design* phase, teachers set learning goals, using the prioritized standards and student learning data to answer the question, *What do students need to know and be able to do in order to meet standards?* Then, before instruction begins, they collaboratively create the summative assessment, which tests students' mastery of all the learning goals in the unit. Teachers *must* create the summative assessment *together* and create the summative assessment *before* instruction begins.

The summative assessment sets an end goal for the entire unit, defining the skills and knowledge students will be attaining. Once it is written, formative assessments, curriculum, and instruction fall into place behind it. Those components also should be created before instruction begins; teachers, may, however, adjust them as the unit moves forward.

In the *delivery* phase, teachers deliver the instruction and assessments for the unit. There are several ways to organize assessments, including pre- and post-tests and frequent formative assessments. Next, in the *data* phase, teachers meet in teams to score the final (or summative) assessments and analyze the results.

In an optional additional step, *program improvement*, team members consider making program-wide changes to curriculum, instruction, or assessment, asking themselves, *How can we apply what we have learned from the data to our future plans?* Teachers also provide support to help struggling students meet unit standards and enrichment for students who have already mastered them. The chart below summarizes the five phases, specifying the relevant chapters and listing the work teachers will do for each phase.

Phase	*Teacher Team Work*	*Individual Classroom Work (if any)*
1: Preparation (Chapter 4)	• Look at previous learning data • Prioritize standards • Set learning goals	*Teachers do not begin teaching new unit until Phases 1 and 2 are complete.*
2: Design (Chapter 5)	• Decide on number of assessments and assessment dates • Design common summative and formative assessments • Align curriculum and instruction with learning goals	
3: Delivery (Chapter 6)	• Discuss ongoing assessments with team members • Analyze formative assessments • Plan supports to help struggling students and accelerate others	• Begin teaching unit • Administer classroom and common assessments • Use assessment results to modify instruction and support struggling students
4: Data and Improvements (Chapters 7 & 8)	• Score summative assessments together • Analyze summative assessments • Analyze student' errors • Identify student needs and successful instructional strategies • Decide on re-teaching strategies and enrichment activities • Make improvements to curriculum, assessment, instruction	• Speak to students to clarify questions about their assessment responses • Collect examples of student work for data analysis • Modify instruction to include successful strategies and other improvements based on data analysis • Re-teach students and/or provide enrichment

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Chapter 2 – Embedding Collaborative Common Assessments in a Balanced Assessment System

As the previous chapter suggests, assessment is integral to every part of the instructional process and should never be an afterthought. To get the dramatic student achievement and teacher development results that collaborative common assessments can bring, teacher teams must understand how CCAs fit into an integrated system of instruction and measurement. Collaborative common assessments are a blueprint for instruction (like architectural plans), specifying what students must learn and be able to do. Before they begin building the house – delivering instruction – teachers must first develop an understanding of CCAs and how they fit into the larger system of assessment. They will also need to develop their *assessment literacy*: an understanding of assessment design and analysis.

The System of Assessments

Although not all of the assessments we currently use are perfect, to maximize the benefit of collaborative common assessments, we must balance the entire *system of assessments* from formative to summative and from classroom-level to large-scale assessments. This means teachers must understand all levels of assessment and how they fit into place. This section briefly reviews the different kinds of assessments and explains how to integrate them with CCAs.

External Large-Scale Assessments: These end-of-year assessments are supposed to help with measurement and confirmation of results. When they are criterion-referenced, educators can use this data to monitor areas that need attention. Teachers should review the tests as part of the CCA process, determining *which standards* the tests assess and *how accurately* they assess them. Then, teachers can use that information to inform their decisions about which standards to prioritize: some of the priority standards should align with those emphasized on federal and state exams. If the test accurately measures students' skills and knowledge, teachers can use standardized test results to check the validity of the CCAs.

City and District Tests: City and district tests often include the same kinds of multiple-choice questions that appear on federal and state exams. If so, teachers can use them in the ways outlined above. Some innovative districts that use CCAs have teacher representatives come together to develop a test that reflects schools' priority standards. Those districts use the results of their tests to identify strengths and areas of improvement across schools and assess the accuracy of each individual school's CCAs.

Classroom Assessments: Last but not least, classroom assessments have been shown to be among the most effective assessments schools use. Assessing students frequently and in different ways, using multiple measures, allows teachers to provide students with accurate and useful feedback, which significantly impacts learning. As part of the CCA process, sharing the results of their classroom assessments helps teachers develop their professional knowledge and shape each team's instructional decisions.

Developing Assessment Literacy

As part of the CCA process, teachers align standards and assessments, integrate CCAs into a larger system, and collect and analyze data. To be effective in these complex tasks, teachers *must* develop *assessment literacy*: an understanding of the entire system of assessment at your school, as well as the principles of assessment design and data analysis. Leaders support this professional learning by organizing trainings, providing examples of high-quality tools and resources, and scheduling regular times for team meetings.

Actually creating CCAs during team meetings, *learning by doing*, is the primary way teachers will come to understand assessment. Leaders need to monitor their work and support their continued learning. For example, a principal might sit in on a team meeting, notice that teachers are having difficulty identifying patterns in student test results, and provide them with models and instruction in this strategy.

Chapter 3 – Working Together for a Common Purpose

Collaboration between teachers is at the heart of the collaborative common assessment process. However, there is a lot of flexibility about how to structure that collaboration. For example, teachers do *not* have to give the exact same common assessments; rather, the assessments must all share common learning goals, difficulty levels, and scoring criteria. This means there are a number of ways to organize collaborative teams, each of which is described below:

1) *Whole-school teams* to address schoolwide issues such as reading comprehension
2) *Grade-level* and *subject-area teams*, made up of teachers sharing a grade level or subject
3) *Cross-building teams* and *plus one additions* for district-wide initiatives and teachers of specialized subjects

Whole-School Teams

If a school is small, the principal may form a whole-school CCA team composed of all of the teachers. In the *preparation* phase, teachers will look for key skills that repeat across grades and subjects. Many of the skills addressed by the Common Core Standards are used across the content areas; for instance, summarizing, research, and problem solving are necessary for ELA, social studies, and science courses, and can be assessed in all of those courses.

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For example, most of the students at Cooper High School received low scores on state reading proficiency exams. Because all teachers can contribute to developing students' reading skills, the school decided that *all* the teachers should meet to address this issue. Teachers met as a whole-school team to analyze the test results and found that students needed help developing several key reading comprehension skills: identifying main ideas and using textual evidence. The teachers then decided to address and assess those skills across all classrooms. They agreed to give four common assessments – three formative and one summative – that would test the same reading skills in different content and grade levels. Each teacher created individual assessments for his or her class. For example, in social studies, students would identify the main idea in each Constitutional amendment while in English, students would identify the main idea in each paragraph of a literary essay. After giving the assessments, teachers graded the results together. This ensured they were being consistent in measuring students' reading skills. In a year, students' standardized scores exceeded the state average.

Subject-Area Teams
Subject-area teams, composed of teachers who share a subject area, assess a standard across multiple grade levels. For example, Common Core Standards for mathematics specify that students will need to solve problems using measurements in fourth and fifth grade. In fourth grade, those problems involve addition and subtraction. In fifth grade, the problems become more complex, involving multiplication and division. Teachers can work together to create common assessments that reflect different levels of complexity for a standard. They agree on how many questions they will write for each standard, write individual questions for their grade levels, and compare their questions to ensure a smooth progression of skills across grades.

Grade-Level Teams
Some skills, such as using evidence to build arguments, apply to many different content areas. Teams composed of teachers at the same grade level address those common skills using subject-specific texts and approaches. For example, teachers of different subjects, but the same grade, might work together to address ELA standards for claims, evidence, and conclusions since these standards are appropriate across different subject areas. The team may agree to use the same *total questions* on an assessment for each of the three areas, but their topics may differ. Here is a sample assessment blueprint for how this may look for the social studies teacher:

Topics Assessed	Developing Claims	Using Evidence	Critiquing Conclusions
Key players in the Revolution	3	4	3
Declaration of Independence	7	3	7
Causes and Consequences of the Revolution	4	5	4
TOTAL # OF QUESTIONS	***14***	***12***	***14***

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The topics (column on the left) would be different for other subject areas, but each teacher would include the same number of questions for each standard: 14 questions on developing claims, 12 on using evidence, and 14 on critiquing conclusions.

Across Buildings
Cross-building teams are useful for district-wide initiatives, such as the creation of a district-wide assessment. A district might invite department chairs from each high school to meet, compare learning goals and assessments, and design a test for use district-wide. If geographical distance is an issue, a district might host virtual meetings using Google Hangouts or similar programs.

It also may be useful for teachers of specialized subjects to meet their peers at other schools. For example, each middle school in Islo School District employs one band teacher. The band teachers throughout the district meet electronically, identify common standards, and design rubrics and assessments. Their collaborative work has improved students' performance throughout the district.

Plus One
In this model, a teacher of a specialized subject joins a team of grade-level or subject-area teachers to help students meet common leaning goals. For example, a P.E. teacher worked with a team of first-grade teachers to improve students' prediction skills, which are relevant to both reading and physical education. In reading classes, students learned how to use pictures to predict what happens next in a story. In gym class, students predicted what might happen if they set a goal to run further each day.

Special Circumstances
Teams should always include teachers of students receiving specialized services, such as English Language Learners and students with disabilities. This promotes an "all hands on deck" approach to meeting students' needs that includes those teachers who act as expert resources. In planning *inclusive* assessments, teams should learn and apply universal design principles, which specify clear instructions, comprehensible text, and other features that increase access for all learners. Secondly, teams should be prepared to make modifications to assessments. Often these modifications involve removing barriers to accurately assessing key skills; for example, an English Language Learner being tested on algebra may need support in understanding English-language directions. That support does not interfere with the assessment's accuracy in measuring the student's mathematics skills.

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Chapter 4 – Preparing the Foundation for Collaborative Common Assessments

Phase 1: Preparation	Phase 2: Design	Phase 3: Delivery	Phase 4: Data

To be successful with collaborative common assessments, teachers and leaders need to build a strong foundation. This chapter explains the *first phase* of the CCA process: what school teams must do *before* they design the actual common assessment itself.

1. Establishing Team Norms for Collaboration: Because CCAs require *collaboration*, to succeed, leaders and teachers must create a culture of trust within teams *first*. Creating norms helps to foster a sense of safety and mutual support. Rather than the typical team norms which look like professional courtesies (show up on time, turn off phones, etc.), teams need norms such as: (1) We will make decisions by consensus, *not* majority rule and (2) We will look at data to evaluate the effectiveness of instructional strategies, *not* individual teachers.

2. Prioritizing Standards: Because collaborative common assessments cannot possibly cover *all* standards, the first task of the team is to identify those priority standards that are most important for the students' success. This does not mean *ignoring* certain standards, rather, identifying standards that are the most significant. Teams can consider the following factors in choosing between standards:

1. *Endurance* – Does the standard support students' educational or life success beyond this class?
2. *Leverage* – Is the standard useful across different content areas?
3. *Readiness* – Does this standard prepare students for the next level of learning?
4. *Tests* – Will standards be assessed on federal or state exams, and if so, how?
5. *Students* – Looking at various assessment data, which standards are the most important to highlight given our students' needs?

3. Developing Shared Knowledge of the Priority Standards: Standards are often broad, and teachers may interpret them differently. Before even thinking about designing a common assessment, the team will need to come to a shared understanding of the priority standards. To do this, teams need to discuss those standards and break them into concrete *learning goals*. It is helpful for teams to break larger standards into two types of learning goals: (1) *content*-specific and (2) *general.* Below is an example of each:

Content-specific learning goal: Describe the economic effects of the Great Depression.
General learning goal: Use textual evidence to support an idea.

4. Examining School Data and Establishing SMART Goals: As many educators know, SMART goals are: Strategic and specific, Measureable, Attainable, Results oriented, and Time bound. SMART goals are used as the measure against which to monitor their progress and help the team focus their work. For example, if teachers see that 64% of the students passed the state test in math, they might set this SMART goal: *78% of all eighth-graders will score proficient on the state mathematics test by the end of the year.* However, this is too broad, so diving into the data, the team determines specific areas to target *and* how assessments will help:

SMART GOAL: *78% of all eighth-graders will score proficient on the state mathematics test by the end of the academic year.*		
Learning Goal 1 Analyzing and solving linear equations	Learning Goal 2 Problem solving involving measurement	Learning Goal 3 Data interpretation and analysis
In planning for assessments to monitor these target areas, the team will map out:	1. The *types* of assessments to monitor these three areas 2. The *timing* and *placement* of those assessments 3. The *proficiency levels* required of each assessment	

5. Creating Assessment Maps: After the team chooses priority standards, determines the learning goals, and creates SMART goals, they are ready to outline an *assessment map*. An assessment map is a shared plan for a unit that shows how each teacher will assess the learning goals. It helps to make sure everyone on the team is assessing the *same* learning goals at the *same* level of difficulty.

Below is an example of what an assessment map might look like at the elementary level. The checks indicate which learning goals each assessment will address, and the blue columns indicate the team's shared CCAs. Keep in mind that three of these assessments might be common across the whole team (the two formative assessments and the project, for example) while individual teachers would determine the rest of the assessments, as long as they commit to covering the learning goals indicated.

Common Core Standards, Reading Informational Texts

Learning goal 1: RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text.
Learning goal 2: Determine the main idea of a text.
Learning goal 3: RI.3.2 Recount the key details and explain how they support the main idea.
Learning goal 4: RI.3.3 Describe the relationship between historic events using language that pertains to time, sequence, and cause/effect.

Assessments to be used: Homework (H), Formative Assessments (FA), Projects (P), Final Assessments (FA)

	H1	H2	H3	FA1	H4	H5	FA2	H6	H7	Project	Final
Learning goal 1	√	√		√					√	√	√
Learning goal 2		√	√	√		√	√			√	√
Learning goal 3			√		√	√	√	√	√	√	√
Learning goal 4					√		√	√	√	√	√

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Teachers use assessment maps to guide their own classroom instruction. They can certainly conduct assessments more frequently than what is agreed upon in the assessment map, but the map represents the minimum number of assessments everyone agrees to conduct.

Chapter 5 – Designing Collaborative Common Assessments

Phase 1: Preparation	Phase 2: Design	Phase 3: Delivery	Phase 4: Data

Once the team lays the foundation by developing norms, prioritizing standards, outlining learning goals, and creating an assessment map for the unit, teachers are ready for the *second phase*: creating the common assessment.

The process of designing collaborative common assessments is a job-embedded professional learning opportunity that cannot and should not be missed. It is the most powerful way to improve teachers' assessment literacy – a necessary skill that many teachers currently lack. This improvement is seen not only in high-quality *common* assessments, but also in excellent *individual* classroom assessment practices. Through participating in the CCA process, teachers learn how to create well thought-out assessments.

The CCA Design Process

It is crucial that teachers design summative and formative CCAs *before* they begin instruction. Once teachers have agreed on what students should ultimately know and be able to do, the rest of the unit will fall into place. Then, when the unit begins, teachers can focus on instruction and helping students meet learning goals. For these reasons, teachers must write and reach consensus on every part of the CCAs before the unit begins. With that guideline in place, the CCA process includes a number of different options for different *ways to go about creating* common assessments, each with its own advantages and challenges.

1. Modify an existing assessment: In this approach, the team meets to review an existing assessment, question by question. Team members read each question together, identify the learning goal, and check whether it is at the right level for their students. For example, a team of mathematics teachers looked at last year's unit test and realized that several questions did not assess any of their learning goals for the unit, so they deleted those questions. When they looked at the remaining questions, the teachers realized the test included only one or two questions per goal -- not nearly enough to accurately determine students' proficiency. They then wrote additional questions for the learning goals.

2. Divide sections of the assessment among team members: In this "jigsaw" approach, each team member focuses on a different learning goal, writing questions and a scoring guide. Before they begin, team members:

a) Decide on how many questions they will write for each goal.
b) Agree on criteria for scoring and a scoring guide.

For example, a team of four teachers decided on three learning goals. Teachers A and B worked on goals 1 and 2, respectively. Goal 3 represented the "big idea" for the unit, and was extensive, so Teachers C and D both worked on it. Each member wrote five questions for his or her goal, as well as a scoring guide. Teachers came back together to review the questions, making sure they aligned with learning goals and were at the same difficulty level.

3. Write the assessment together: This approach involves all the teachers in a team coming together to write the entire assessment. The process requires an initial investment of dedicated time, but often pays off in increased teacher and student learning. For example, a team of reading teachers met to write questions for a learning goal related to text-based inferences. They selected the reading passage for the assessment and then each teacher wrote five inference questions. After they finished, the teachers sorted the questions into three piles: "easy," "medium," and "hard":

- The easy questions would be used to introduce the concept of inference and scaffold learning for struggling readers.
- The medium-level questions went into the summative assessment.
- The most rigorous questions became extra-credit and challenge assignments for students who mastered the learning goal.

The process of creating and sorting the questions was so powerful that teachers decided to give their students the same opportunity. In class, students worked in small groups to write and sort their own inference questions. Teachers found that this activity increased students' understanding of inference.

4. Write individual assessments and review them together: "Common" does not necessarily mean that teachers are giving the exact same assessments. It does mean that they are assessing the same goals, at the same level of difficulty, using the same criteria for scoring responses. In this approach, teachers agree on common learning goals, assessment types, and numbers of questions, and then individually write their own assessments. They come back together to review and approve all of the assessments. For example, a team of algebra teachers felt that individual assessments would increase fairness and cut down on the possibility of cheating, so they decided to write individual summative assessments. Before beginning, they agreed on criteria for reviewing the assessments, as well as the number of questions per learning goal the assessments would include.

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Different Types of Assessment *Questions*

There are three different types of assessment questions teachers can include in their common assessments. With *selected-response* questions, students choose from a set of answers, such as multiple-choice or matching questions. *Constructed response* questions are more open-ended and provide a prompt for the student to write out or construct their answer. These are usually scored with rubrics. A *performance assessment* requires students to perform in front of an audience or produce a product. These also require some type of criteria to assess student proficiency. No single method is best; instead, it is important to choose the approach that fits best with each learning goal. When designing assessments, keep in mind that traditional selected-response questions are frequently used because they are easy to score, but this does not mean this is the most appropriate approach.

Question Type	Assesses	Benefits	Drawbacks
Selected Response: Multiple-choice, labeling, fill-in-the-blanks, etc.	*Basic* knowledge and skills: Sentence-level comprehension, recall, computation, etc.	Easy to score	• Cheating and guessing can skew results • Cannot measure most higher-order skills
Constructed Response: Short-answer questions, long-answer questions	*Basic* knowledge and skills *Higher-order skills*: analyzing, inferring, using evidence, etc.	Students' results very useful in planning instruction and interventions	• Time consuming • Potential for bias: teachers should make sure they are scoring the same way across classes
Performance Assessment A product or a performance for an audience	*Higher-order skills*: analyzing, inferring, using evidence, etc.	• Students' results very useful in planning instruction and interventions • Audience response can provide immediate feedback	• Time consuming • Potential for bias: teachers should make sure they are scoring the same way across classes

Chapter 6 – Delivering Formative and Summative Assessments

Phase 1: Preparation	Phase 2: Design	Phase 3: Delivery	Phase 4: Data

This chapter describes the *delivery phase* of the common assessments: how common assessments will be employed throughout a single unit. There are different ways to organize common formative and summative assessments: some schools schedule a single common formative assessment at the beginning of the unit, others include many common formatives, and still others plan an extended summative assessment process. There is no one best formula, such as, *every summative assessment should be preceded by three common formative assessments.* Below are several options for how teams can use common assessments within a unit of instruction.

Options for Organizing Common Assessments within a Unit

1. Common Formative Pretests

Teachers often misuse pretests by only using them to compare pre- and post-test results. This wastes instructional time and ends up discouraging students. Instead, teachers can make better use of pre-tests in several ways. These tests should be short, with a few strategic questions, rather than cover the whole unit and mirror the summative assessment. They should focus on conceptual understanding instead of questions related to specific content knowledge that has yet to be taught. (See the dinosaur example below.) Pretests should serve to pique students' interest, not destroy hope. Most importantly, these assessments should be used formatively to inform how teachers shape the instructional pathway. After giving the common pretest, teachers should meet immediately to examine results and modify the unit plan to address misconceptions and gaps in knowledge.

For example, a team of seventh-grade science teachers launched a unit on dinosaurs with a short *conceptual* quiz, with questions such as, "Did anything exist before dinosaurs?" and "Did the Earth look the same back then as it does today?" rather than asking questions related to specific *content* knowledge that has yet to be taught (such as, "How many different kinds of dinosaurs can you name?") (p.95) Then team members met to look at results and identify common misconceptions about dinosaurs. They then developed lessons to address those misconceptions, as well as differentiated learning opportunities for those who already understood the unit's key ideas.

2. Frequent Formatives

In this approach, teachers agree to a certain number of common formative assessments throughout the unit. This does *not* mean these need to be cumbersome assessments that disrupt instruction. In fact, shorter checkpoints can be even more useful because the team can respond more rapidly. For example, instead of quizzes, teachers might use a daily warm up (do now) or exit slip to determine student mastery of the material. Then teachers must analyze and respond to the results quickly. This can occur in a regularly scheduled meeting or in what is called a *flash meeting*–an unplanned and brief meeting in which teachers know what they are looking for, have a set protocol to sort the results by common errors, and then make quick instructional decisions based on these results. For example, all teachers might bring index cards with the answer to one question on an exit slip to a team meeting. Then teachers could swap index cards, and in very little time determine that 86% of the students mastered the concept, 14% still need help, *and* students made three kinds of errors.

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For example, at one school, teachers on the Algebra I team wanted to improve achievement and engage students more in their learning. They decided to use exit slips as formative assessments, and have students use a tracking sheet to record their results as a way to self-monitor their progress. The team met each Friday and sorted the exit slips into piles based on types of student errors. Teachers identified the errors in each pile and planned instructional strategies to address them. Sometimes teachers removed the students' names and returned exit tickets to the students to sort into piles based on types of errors, name those errors, and determine how to fix those errors. Teachers observed a significant increase in student performance and in their ability to help struggling students.

3. Interventions at the End of the Unit
Some teams are not able to collaborate throughout the unit on common formative assessments. In this case, the team might decide to collaborate just at the end of the unit. They provide a common assessment toward the end of the unit and then spend some time reteaching, coaching or providing enrichments based on the results of this assessment. They could dedicate a few hours, a day, or several days to this intervention process. After this intervention, students will be better prepared for the final summative assessment. In order for this to happen, teams must build in time for interventions when designing their units.

For example, a team of second-grade teachers realized that their students would need additional time to master the reading skill of making inferences. After assessing the students, they set learning goals for making inferences and then translated those goals into student-friendly rubrics. They isolated common student errors and created a set of mini-lessons, coaching questions, and classroom-level differentiations to prepare students for the final summative assessment in three days.

4. Action Research
The final way some schools have used common formative assessments is as an action research tool to target a particular group of struggling students and use the assessment results to support them. For example, if each teacher in a team realized that she or he had students struggling with reading, this might be a subgroup to target for common formative assessments and assistance. The team would set aside a certain amount of time each day for instruction and formative assessments that the students would score and track. The goal is for this to be a motivating and informative way to enlist students as researchers of their own progress. The teacher team designs a common formative assessment for the end of each week, and the teachers come together to monitor the results and plan instructional adjustments accordingly for the upcoming week.

For example, a fifth-grade teacher team noticed that test scores in mathematics had declined for the African-American male students in their classes. They decided to use action research to address this achievement gap. To do this, teachers:

- Identified five of their most struggling African-American male mathematics students
- Met with the students and asked them to participate as scientists solving a complex problem
- Collaborated to design a six-question survey to get feedback from the students on how well teachers' various instructional strategies were working for them
- Met as a team to sort and classify survey results to look for any patterns

Teachers discovered that the students needed more discussion of math concepts before practicing them individually, so they started small-group discussions in math class. They also created formative assessments – class-wide exit slips – to track the impact of this strategy. The student-researchers tracked the impact of this new strategy on their learning, and found it had a significant effect.

Chapter 7 – Collaboratively Examining Data

Phase 1: Preparation	Phase 2: Design	Phase 3: Delivery	Phase 4: Data

Many schools today ask teachers to meet in teams to look at data, but what actually happens in those meetings? If the teams are mainly sorting students into intervention groups and assigning them to specialists, then there is little chance that teachers will learn anything in these meetings. Instead, after giving collaborative common assessments, teachers need to conduct more *effective* data analysis meetings. When done well, this data analysis helps improve both teacher practice *and* student learning.

Steps for Analyzing and Discussing Assessment Results
Assessment involves looking at information about learning and figuring out next steps with colleagues and students. There are three key steps in the data-analysis phase: assessment scoring, numerical analysis of the results, and deeper analysis informed by student work.

Step 1. Scoring CCA Results in Teams
For the sake of fairness, teacher teams need to work toward creating consistent scoring practices across the team: an "A" on a common assessment in one class should not be a "C" in a different one. To reach consensus on scoring criteria, teachers must score the assessments together. The collaborative scoring process ensures fairness across classes, increases scoring accuracy, and helps teachers more accurately identify students' learning needs.

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The collaborative scoring process begins immediately after students take an assessment. Teachers assemble random, un-scored samples of students' responses and bring them to team meetings. There are a number of ways to collect samples, including:

- Teachers bring three to five randomly selected student assessments per class
- Teams look at the same short section of *all* the students' assessments (e.g., questions 2-5 only)

In the team meeting, each teacher will have a sample of student work from a different classroom, a set of scoring criteria and guidelines, and sticky notes or another tool to record scores. A teacher scores an assessment, conceals her score (e.g., by folding it), and passes the assessment to the next teacher. The process continues until all the teachers have scored all the assessments.

Then, teachers reveal all the scores and sort the assessments. First, they create piles of assessments that all received the same scores. For example, all tests that received a 3 from every teacher go into one pile. However, if a test received some 3s and some 2s, it goes into a "mixed" pile." Teachers go through each assessment in the "mixed" pile, examining criteria and asking questions until they have reached consensus on a proper score for each assessment. Unpacking criteria together promotes powerful professional learning.

Step 2. Analyzing Numerical Data

After team scoring, teachers return to their classrooms, score the remaining assessments, and chart their results to prepare for the next step: team analysis of numerical data. In this step, teachers put aside their individual egos, and look at charted data results (see the two tables below as examples), and ask challenging, constructive questions:

1. *As a team:* Which targets from the assessment require more attention?
2. *As an individual teacher:* Which area was my lowest and how can I improve in that area?
3. *As a team or individual:* Which students did not master which targets and why?

Each teacher creates a chart that displays his or her students' results with individual learning goals. The chart below shows students' results for the learning goals: Find Information, Organize Information, and Assess Evidence.

Classroom 101: Results of Reading Quiz					
Student	*Find Information*	*Organize Information*	*Assess Evidence*	*Correct Answers*	*Score*
A	5	6	2	13	*72%*
B	4	4	1	9	*50%*
C	6	6	3	15	*83%*
Total Questions	***6***	***6***	***6***	***18***	***-***
Average Score	**83%**	**88%**	**33%**	**12**	**69%**

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If this chart did not include learning goals, and only summarized students' average scores, the teacher would miss important information about individual students' learning. For example, although student C received a relatively high average score of 83%, the student did *not* demonstrate proficiency on the goal "Assess Evidence." Student C needs additional instruction to meet that goal.

After analyzing individual results, teachers compare data across their classes, copying class results into a summary chart like this:

Team Results: Reading Quiz			
Classrooms	*Find Information*	*Organize Information*	*Assess Evidence*
101	83%	88%	33%
102	65%	70%	80%
103	90%	83%	50%
Team Averages	*59%*	*80%*	*54%*

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A chart of all team members' results allows teachers to identify successful instructional strategies and areas of growth for the team and for each class. For example, classroom 102 had low averages for the first two goals, but the highest average score for "Assessing Evidence," which was the greatest area of challenge for the team as a whole. It will be helpful for the teacher of 102 to share the strategies he used to teach students how to assess evidence, and to ask teammates how they taught the first two goals. Teachers also begin to strategize about interventions. For example, if a small but significant number of students struggled with the same goal across all team members' classes, teachers might temporarily place those students in an intervention group for additional instruction.

Step 3. Analyzing Additional Information

Numbers cannot tell the whole story of what learners know and need to learn. That is why teachers dig for additional information, examining student work and talking to students about their assessment responses. The key question in this step is: *Is the wrong answer the result of a simple mistake, a misconception, or a reasoning error?* The answer helps teachers decide next steps.

A student can make a *mistake* on a question – misunderstanding a word or skipping key information – while still being proficient in the learning goal the question assesses. If students frequently make mistakes, it helps to guide them through error analysis of their own and others' work, teach strategies enabling them to avoid making errors, and provide them with additional opportunities to practice.

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In contrast, *misconceptions* -- misunderstandings of important concepts -- require instructional interventions, as do *reasoning errors* such as oversimplifications and contradictions.

In the next meeting, teachers figure out the *types of errors* their students made for each learning goal, organizing their results like this:

Error Analysis Tool						
	Learning Goal 1:		*Learning Goal 2:*		*Learning Goal 3:*	
List the students who struggled with the goals:						
List the types of errors students made (mistake or misconception) and instructional fixes for each error:	Error:	Instructional Fix:	Error:	Instructional Fix:	Error:	Instructional Fix:
	Error:	Instructional Fix:	Error:	Instructional Fix:	Error:	Instructional Fix:

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Sometimes, students' assessment responses alone are not enough for teachers to determine the type of error made. In this case:

- *Ask students to describe their thinking as they answered the questions with which they struggled*. If their thinking signals an understanding of the learning goal, the missed answer was probably a simple mistake.
- *Give students an opportunity to re-answer a missed question*. If they are unable to get it right on the second try, the problem may be a misconception or reasoning error.
- *Look at students' other work related to the learning goal*. Have they met the goal in their classroom work?

Students, as well as teachers, should take part in error analysis, to help them understand key concepts and address their own mistakes. A teacher might present an anonymous piece of student work to the class, asking, *What was done well? What was the error?* and *How can we fix the error?* Alternatively, teachers might have students sort anonymous test responses into piles, based on the different kinds of errors they represent.

Whatever kind of help students need, a short reflection form, providing space for them to monitor their own progress with learning goals, will help them better understand their own learning. An excerpt from a sample form is below. The student and teacher can work together, during an individual meeting, to identify the types of errors in the third column.

Student Reflection on Errors from an Assessment				
Question #	*Learning Goal*	*Type of error*	*What will you do?*	GOAL SETTING
1.	Explain Purpose	Mistake or misconception?	☐ I will learn more about this target ☐ I am all done – I have mastered this target	*Use data from the left side of this chart to answer these questions:* 1) Which learning goals have I already met? 2) Which learning goals will I continue to work on? 3) How will I learn more or practice more with targets I still need to meet?
2.	Assess Evidence	Mistake or misconception?	☐ I will learn more about this target ☐ I am all done – I have mastered this target	
3. Etc.	Assess Evidence	Mistake or misconception?	☐ I will learn more about this target ☐ I am all done – I have mastered this target	

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Chapter 8 – Using Data for Program and Instructional Improvements

How can we improve teaching and learning at our school? Answering that question is the fundamental purpose of the CCA process. After analyzing assessment data, teachers are ready to identify and implement strategies to support student learning.

Improving the Overall Instructional Program

Teacher teams begin Phase 5 by examining assessment results to identify potential improvements to curriculum, instruction, and future assessments. Leaders may be wary of giving teacher teams the power to make large-scale changes; however, the CCA process provides teachers with the multilayered information and collaborative practices that inform quality decision-making.

First, teacher teams examine the curriculum, asking, *How well did readings and other resources prepare students for the assessment?* Teachers may find that the textbook vocabulary does not match the vocabulary on the assessment; or that some information needs to be re-organized. For example, over two units, a team of social studies teachers tried two different organizing principles: teaching by era and teaching by theme. They found that a thematic approach led to improved results and decided to use that approach in the future.

Next, teams examine instruction. The collaborative team environment provides the ideal setting for teachers to improve their mastery of instruction. According to research, it is this understanding of processes that distinguishes master teachers. In one example, teachers on a team were using different intervention strategies for the same learning goal. They wanted to see which strategies worked best, so they tracked and compared students' results on the re-assessments. After they identified the two most successful strategies, the teachers who had used those strategies described their practices in detail, so that everyone on the team would be able to use the strategies in future interventions.

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Finally, teams turn to the common assessments. First, teachers check for design flaws in questions or scoring tools. If they find a design flaw, they remove that question or section from students' scores. For example, one math team found that the directions for a question did not specify that it could have more than one correct answer. After a spirited debate, teachers agreed that their assessments should not include tricks and surprises. Conversations like this one help teachers continue to improve their assessment literacy.

Improving Learning for Individual Students

After examining the ways in which they can improve the overall learning program, teachers turn their focus to helping individual students: supporting some in meeting the learning goals and providing challenging work for others who have already met them.

To help struggling students meet learning goals, teachers identify obstacles to their learning, strategize about how best to address the issues, implement potential solutions, and re-assess students on the goals. The process may be familiar to teachers who have previously implemented Responses to Intervention, and should include the following program components:

1. *Shared responsibility for students*: In their teams, teachers pool their knowledge and skills to help *all* students meet learning goals. Team members brainstorm and collaborate on designing common, differentiated interventions for all the students they share.

2. *Motivating and useful feedback*: Teachers meet individually with students who are struggling to collaborate, and sometimes productively struggle, to diagnose errors and decide upon next steps. Teachers also solicit *students' feedback* on the helpfulness of instructional strategies. Although it may be uncomfortable to hear, that feedback is tremendously useful in informing decisions about interventions, curriculum and instruction. Some teams may even solicit student feedback via focus groups or panel discussions.

3. *Focused interventions*: Students receive interventions calibrated to specific learning goals and error types. There are three main types of interventions: re-teaching, coaching, and additional practice:
   - *Re-teaching*: Teaching students a concept they missed the first time around, using a new approach
   - *Coaching*: Helping students who *already understand a concept* recognize and address errors they make in applying it
   - *Practice*: Applying an understood concept in order to gain fluency and learn to avoid error

4. *Focused and flexible intervention groups*: Like the interventions themselves, students' group assignments are based on specific learning goals and error types. Once they have met the learning goal, students rejoin their classes. If the same students are receiving interventions week after week, then there is most likely a problem with the system of interventions, and teachers should investigate.

5. *High-interest, engaging, and appropriately challenging learning experiences*: Since the purpose of interventions is to help students meet learning goals, intervention activities should be as cognitively demanding as the activities in the larger class. The activities should be highly engaging, drawing on a variety of strategies and approaches: mini-lessons and think-alouds, visual and multimedia learning experiences, group projects and games.

An expert teacher should lead interventions; often, the teacher who had the most success teaching a particular learning goal leads the differentiated intervention group, composed of students from all team members' classes, for that goal.

6. *Rigorous re-assessment*: The reassessment must be at the same difficulty level as the first assessment although all the questions will be different. After students take the assessment, teachers score the responses together, diagnose errors, and plan next steps.

The key question at this stage is often: *Should we move forward, or continue interventions?* Unfortunately, there are no hard-and-fast rules. However, it is helpful to consider whether the missed learning goals can go into the next unit of instruction, so that students who are still struggling receive additional teaching and practice.

Providing Enrichment Opportunities

Enrichment extends and refines students' understanding of a learning goal. Like an intervention, an enrichment activity must engage and challenge students, not merely provide additional work. It also must be short, focused on a specific learning goal, and give all students a chance to participate.

For example, during a mathematics unit on problem solving with measurements, the enrichment project was a recipe for no-bake cookies. To complete the recipe, students needed to multiply fractional measurements, which represented a higher level of proficiency than that required to meet standards. The project was highly motivating for students, who earned higher rates of proficiency than they ever had before. The enrichment project raised the level of *every student's* learning.

Modern economic realities demand that teachers help all students meet high learning goals, preparing them for complex and demanding jobs or post-secondary options. Teachers cannot meet these demands alone; they *must* collaborate in order to succeed. The CCA process provides a pathway to high levels of learning for students and teachers alike, catalyzing dramatic improvements in curriculum, instruction, assessment and achievement. Collaboration is not always easy, but teachers who commit to the process are committing to students and their hopes for the future.

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THE MAIN IDEA's PD ideas for Collaborative Common Assessments

Below, you will find sample PD activities for each of the phases of the Collaborative Common Assessment (CCA) process.

Phase 1: Preparation for Creating Collaborative Common Assessments

A. *Prioritized Standards*: To create CCAs, have teachers identify the most important standards for unit of learning. Have teachers meet, review all relevant standards, and select 2-3 priority standards for the next unit. Teachers should identify the standards that have both *endurance* (support students' future learning) and *leverage* (useful across the content areas.) Once they have selected their standards, have teacher teams present their prioritized standards and describe their selection processes to one another.

B. *From Standards to Student-Friendly Learning Goals*: Next, teachers need to outline learning goals, or objectives, to define exactly what students should know and be able to do at the end of a unit of learning. Standards are usually too broad, so have teachers design learning goals. Learning goals must be clear and understandable so that students and teachers alike can use them to monitor progress. After teachers have teachers developed learning goals based on their prioritized standards (Chapter 4), have them:

1) Share the goals with students in their classes, asking students to rewrite the goals in their own words.
2) Review students' responses in a team meeting, assess whether the learning goals are sufficiently clear, and rewrite as needed.

For example, the eighth Common Core Anchor Standard for Writing states that students must "Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism." A sixth-grade learning goal for the standard might be "I can identify reliable resources and use them to find information."

C. *Mapping Assessments*: As part of the CCA process, have each teacher create a map outlining all the assessments for the unit. Teachers all give the same CCAs, but classroom assessments are at individual teacher discretion, as long as they are covering the learning goals. The map helps ensure everyone on the team is assessing the *same* learning goals at the *same* level of difficulty. Below is a simplified version of an assessment map from Chapter 5. Collaborative common assessments are in the blue column, individual classroom assessments are in the other columns, and checks indicate which learning goals each assessment addresses. Have teachers review the example and the summary of Chapter 5, and then work in teams to create their own assessment maps.

Common Core Standards, Reading Informational Texts

Learning goal 1: RI.3.2 Recount the key details and explain how they support the main idea.
Learning goal 2: RI.3.3 Describe relationships between historic events using the idea of cause and effect.

	H (homework) 1	*H2*	*H3*	*CCA1*	*H4*	*H5*	*CCA2*	*H6*	*H7*	*Project*	*CCA3*
Learning goal 1	√	√	√	√	√	√	√	√	√	√	√
Learning goal 2						√		√	√	√	√

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Phase 2: Design of the Collaborative Common Assessments

Have teachers read the summary of Chapter 5 or the actual chapter, then begin to work in teams to *design* CCAs following the assessment map they created above. Discuss the CCA design criteria in the rubric below before they begin. When teams have drafted their CCAs, have them assess one another's drafts: for example, the 7th grade team reviews the 8th grade team's assessments.

Design Criteria	*Yes*	*No*	*Suggested Changes (if any)*
A. Questions and scoring aligned to learning goals			
B. Five or more questions for each learning goal			
C. A range of question types, including multiple-choice and open-response questions			

Phase 3: Delivery of Collaborative Common Assessments

To help teams decide among the different approaches to organizing CCAs, have teacher teams assemble lists of pros and cons for each approach below, and then choose one. (For additional details, teachers can refer to Chapter 6 in the summary or book.)

1. Common Formative Pretests: Pre-tests assess students' current levels of conceptual understanding and pique their interest in the unit. Sample questions might be "How many different kinds of birds can you name?" or "What existed before dinosaurs?"

2. Frequent Formatives: Teachers use quizzes and classroom work (do-nows, exit slips, etc.) to assess student learning.

3. Interventions at the End of the Unit: Teachers give a common assessment toward the end of the unit and then spend some time re-teaching, coaching, or providing enrichments based on the results of this assessment. Students then take a final assessment.

4. Action Research: Common formative assessments can be a tool for action research on a particular group of students, such as struggling readers. A team of teachers sets aside a certain amount of time each day for targeted instruction and formative assessment, and teachers meet weekly to monitor results and adjust instruction.

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Phase 4: Analysis of Assessment Data

A. Collaborative Scoring: For the first step of the data phase, have teachers collaboratively score samples of student work and reach consensus on all of the scores. This process helps ensure fairness in scoring and promotes teachers' professional learning. To collaboratively score, have teachers bring several randomly selected student responses to CCAs, a scoring rubric and/or answer sheet, and sticky notes to a team meeting. First, each teacher scores an assessment, conceals her score (e.g., by folding it), and passes the assessment to the next teacher. This continues until all the teachers have scored all the assessments. Next, they sort the responses on which they all agreed and disagreed into two piles. They discuss and come to consensus on the scores for the student work about which they initially disagreed. Examples of useful questions include: "What criteria were you using to score this question?" and "Can you tell me more about how you understand this part of the rubric?" After teacher teams complete their discussions, lead a general discussion about the process: "How did it feel to have these conversations?" "What did you learn?" "What was useful about the process, and how might you improve it?"

B. *Error Analysis:* Next, have teachers conduct an error analysis so they can provide targeted support to students. To do this, teachers will need to be able to identify which of three issues caused an incorrect answer: A wrong answer may result from a *simple mistake* (e.g., skipping a word), a *misconception* (misunderstanding an idea), or a *reasoning error* (being illogical, oversimplifying, etc.).

Have a discussion to help teachers understand the differences between simple mistakes, misunderstandings, and reasoning errors. Then have them conduct error analysis of student work, using a chart like the one excerpted below.

Sample Error Analysis Chart

	Students who made errors	Types of errors	Instructional fixes
Learning Goal 1: **Summarize the main idea**	Jose Samuel	*Simple mistake*: missed word	Coaching in techniques for focusing on words; additional practice
	Kendra	*Misunderstanding*: main ideas	Additional instruction in understanding main ideas using new teaching strategy: visual images
	Naomi Melissa	*Reasoning error*: oversimplification	Compare oversimplifications to correct answers; practice identifying and avoiding oversimplifications

Additional Step: Instructional Improvements and Differentiations

Differentiations offer a key way to improve the instructional program in response to student learning data. Below are two activities to help teachers plan and deliver effective differentiations.

A. Interventions: To prepare to implement the instructional fixes they identified in Phase 4, teachers should ask questions about the *specifics* of implementation for each fix. For example, for the instructional fix, "Coaching in techniques focusing on words," teachers might ask, "What are some useful techniques?" Encourage them to ask about whatever they need to know in order to implement the intervention.

Next, team members should find or determine answers to the questions. Some of the questions will be immediately answer-able; others may require additional research by team members. Below is an example of a chart teachers might use in this activity:

Instructional fixes	Implementation Questions	Answers or Next Steps
Coaching in techniques for focusing on words; additional practice	1) What are some useful techniques? 2) What should we use for practice?	1) Ms. Harris will research techniques 2) Create targeted handouts for next unit
Additional instruction in understanding main ideas using new teaching strategy: visual images	1) Should we create a small intervention group of students from all our classes? 2) Which member of our team has had the most success with this strategy?	1) Yes 2) Mr. Jackson – he will lead the intervention group.

B. Enrichments: After teacher teams draft enrichment plans, have the teams present the plans to one another. Have colleagues answer the following questions about enrichments on notecards:

1) Does the project increase the *cognitive demand* of the learning goal? (e.g., Does it add complexity or an additional level of rigor to the learning goal? For example, if the learning goal is to identify the main idea in a grade-level text, the enrichment goal might be to identify the main idea in a text above the student's grade level.)

2) Is the project likely to *motivate* students? (Depending on their ages, students may be motivated by opportunities to work with friends, connections to interests, or other elements.)

If the answer to either question is "No," colleagues should also write a suggestion for increasing cognitive demand or motivating students on the notecards. At the end of the presentations, have teams collect the cards addressing their enrichment plans and use them to improve the plans.

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