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A Highway to Aligned Assessments

In This Chapter You Will Learn:

- The standards and assessment components of a quality CFA.
- How formative progress checks, data analysis, and instruction intersect.
- How you can construct, in progressive steps, the CFA 2.0 “highway” of aligned assessments.

DESTINATION: MAXIMUM IMPACT

Sometimes we begin a journey in education without being completely clear as to why we are doing so. The primary goal of this book is to help educators maximize their positive impact on student learning. The pages that follow will focus on describing and illustrating a powerful means for achieving that goal—effectively designed common formative assessments, often referred to simply as CFAs. Why CFAs? If assessment results enable teacher teams to make valid and reliable inferences regarding their students’ current learning status, they will then be able to adjust instruction accordingly and see for themselves the positive impact of those instructional adjustments.

So how do you increase the likelihood that educators will be able to accurately infer what students know and can do with regard to the learning intentions in current focus? By ensuring that each assessment question meets all of the established criteria for quality (presented in Chapter 9). If
the assessment does not meet all of these criteria, educators will be unable to interpret student understanding confidently.

Our conclusions about what students know and can do are only as good as the evidence we collect, and that evidence is only as good as its source—the assessments themselves. If the assessment questions are faulty, then the inferences are bound to be incorrect. Working through the CFA 2.0 process together, teacher teams create the caliber of assessments that make valid and reliable inferences possible.

To reach the desired destination of maximum impact on student learning, we need to concentrate on building and traversing a “highway” that can take us there. But first, we want to see what that highway is going to look like when finished.

**SEEING THE ENTIRE HIGHWAY**

Do you consider yourself a “big picture” person? Do you like to see the whole before looking at the individual parts? In my many years of leading educators and leaders through the initial design of a common formative assessment, the answer to that two-part question for the vast majority of participants is yes. It’s about making connections first, and seeing how all of the parts fit together to form one meaningful whole, before investing time, thought, and energy into any one part or step.

Busy educators and leaders rightly want to know up front, “What is this all about, and where are we headed?” Because the CFA 2.0 process contains many moving parts, it is helpful to first see a blueprint of where all those parts fit into the completed design and how those parts must intentionally work together to produce the desired outcome—a quality set of aligned assessments specific to a unit of study.

To illustrate the construction of the CFA highway, the following sections will introduce each sequence of steps in progressive installments, building by chapter’s end to a big-picture view of the completed highway.

**CFA 2.0 DESIGN FUNDAMENTALS**

Let’s start with the basics, each of which will be fully described in later chapters. The CFA 2.0 design fundamentals focus on explicit standards and related assessments for an individual unit of study. A unit of study is a “series of specific lessons, learning experiences, and related assessments based on designated Priority Standards and related supporting standards for an (instructional) focus that may last anywhere from two to six weeks”
(Ainsworth, 2010, p. 324). The duration of a unit of study depends on the number and rigor of the targeted standards for that unit and the length of time educators estimate it will require for students to learn them.

The fundamental standards components within a unit of study are these:

- Priority Standards (grade- or course-specific state, provincial, and Common Core standards to emphasize the most)
- “Unwrapped” Priority Standards concepts, skills, and identified levels of cognitive rigor
- Big Ideas and Essential Questions

The two main assessment components within the unit of study are these:

- Unit post-assessment
- Unit pre-assessment

Figure 1.1 shows a visual representation of these standards and assessment components, arranged in a clockwise direction (starting at the top with Priority Standards) to indicate the design sequence.
Grade- and course-level teams of educators meet together to “unwrap” selected Priority Standards for a unit of study. Next they create a graphic organizer that includes the “unwrapped” concepts, skills, and levels of cognitive rigor. Then they write Big Ideas and Essential Questions. When these elements are complete, they design the post-CFA followed by an aligned pre-CFA, so they will have an apples-to-apples comparison of student learning from the beginning to the end of the unit.

The post-CFA is a multiple-format assessment directly aligned to the “unwrapped” Priority Standards as shown in Figure 1.2. Note that authentic performance tasks are not part of the on-demand CFA due to the time it takes students to complete them. However, they play a key role in preparing students for success on the post-CFA. Authentic Classroom performance tasks are defined and summarized in Chapter 3.

**CFA 2.0—DESIGN FUNDAMENTALS PLUS**

The CFA 2.0 process incorporates new standards elements into this basic design framework. These new elements are

- Unit learning intentions—the specific learning outcomes students are to achieve by the end of the unit

![Figure 1.2 A Four-Part Assessment Aligned to Priority Standards](image-url)
• Student success criteria—performance descriptors that spell out how students will show they have achieved the learning intentions

In the CFA 2.0 process, teacher teams combine their “unwrapped” Priority Standards, targeted vocabulary, Big Ideas, and Essential Questions into unit learning intentions and student success criteria (described and illustrated in Chapter 6). They complete this new step immediately after determining their Essential Questions and before designing their post-CFA, as shown in Figure 1.3.

The post-CFA remains a multiple-format assessment but is now directly aligned to the comprehensive list of unit learning intentions and student success criteria, as shown in Figure 1.4.

ANALYZING THE ASSESSMENT RESULTS

After the teachers administer the pre-CFA, they meet to analyze the results, set goals for student improvement, and identify instructional strategies to assist them in achieving these goals. They touch base with one another periodically during the unit to evaluate the effectiveness of their targeted instructional strategies. They meet again as a team at the end of the unit to repeat the data analysis process using the post-CFA results.
This type of collaboration takes place in what are now widely known as professional learning communities or PLCs. These can include the entire faculty in the broadest sense and/or the smaller, grade- and course-level teacher teams. In the common formative assessment context, educators are part of grade- or course-level professional learning teams that design and implement CFAs and then conduct the follow-up analysis of student results.

**CHANGING THE TRADITIONAL INSTRUCTION-ASSESSMENT CYCLE**

The collaborative work by teams of educators meeting to create a CFA and process the student results is a significant departure from the way things were done in the not-too-distant past.

As shown in Figure 1.5, teachers would pretest (but not always). Then they would teach-teach-teach-teach-teach. At the end of several weeks of instruction, they would posttest, assign grades, and repeat the same process with the next instructional unit or body of academic content. Often there was little, if any, real analysis of student work done with either the formative (pretest) or summative (posttest) results, particularly if the tests had not been deliberately aligned, one to the other.
When PLCs began forming with the express purpose of collaboratively looking at student work and planning subsequent instruction, data analysis was introduced into the instruction-assessment model, as shown in Figure 1.6.

The emphasis now became more about using the pre- and post-assessment data to determine with more accuracy what students knew going into the unit, analyzing the data to set an improvement goal for all students, selecting instructional strategies to achieve it, and then determining what students had learned by the end of the unit.

At this time, creating common formative assessments as a team was still a new professional practice for most educators, so analyzing student assessment data to interpret student learning during PLC meetings was usually limited to the pre- and post-CFA results only. The infrequency of meetings was not necessarily because educators didn’t feel they were useful. Teams were simply having trouble finding ways to schedule common planning time. However, enterprising teams with the support of their administrators began scheduling a short meeting around the middle of the unit to determine if their targeted instructional strategies were having the kind of impact they expected, or if those strategies needed to be adjusted or replaced altogether.
Throughout the unit, teachers were on their own to teach and check for student understanding, as represented by the “teach, monitor, adjust” steps shown in Figure 1.6. During a lesson, they would ask students for a “thumbs up, thumbs down” response as a quick way to check for understanding. Occasionally they might insert a quiz (“pop” or prepared) that they later graded. Older students would turn in “exit slips” at the end of class that teachers read through to informally assess student understanding. Teachers regularly collected homework and daily class work that they checked and/or graded. They would utilize these and other means to determine which students were doing fine and which ones were struggling. Individual professional judgment, experience, and gut instincts were usually the determining factors as to whether or not students were meeting the standards and understanding essential concepts and skills.

**PRE-PLAN YOUR “CHECKS FOR UNDERSTANDING”**

All teachers—including myself—have used these perfectly legitimate formative assessment methods to gather evidence of student learning and make inference-based instructional decisions. They are a regular part of the ordinary routine of daily classroom instruction.

However, the problem with this smorgasbord approach to formative assessment is that very often those checks for understanding are not deliberately planned. This can lead to incorrect conclusions about what students know and do not know. When teachers rely mainly on their moment-to-moment assumptions to gauge student understanding, sometimes those assumptions are right and sometimes they are wrong.

With regard to team-created CFAs, a loosely structured approach to administering informal checks for understanding during the unit of study can often lead to widely varying student results on the post-CFA. Students in classrooms who receive the benefit of *pre-planned* checks for understanding, followed by instructional adjustments to close their learning gaps, will be much better prepared for the end-of-unit assessment than those students in classrooms who do not receive this benefit.

**QUICK PROGRESS CHECKS TO ASSESS UNIT LEARNING PROGRESSIONS**

In the CFA 2.0 process, pre-planned formative assessments that take place during the unit are called *quick progress checks*. These are immediate, non-graded assessments that are intentionally aligned to the end-of-unit
post-assessment and serve as stepping-stones to student success on the post-CFA. Their purpose is to provide in-the-moment feedback so educators can make timely adjustments in their instruction and students can adjust their learning strategies. Quick progress checks do not happen randomly; they are intentionally planned to coincide with the unit learning progressions.

Learning progressions are the sequential building blocks of instruction necessary for students to understand the larger learning intentions of the unit. They provide the instructional pathway students need to traverse in order to arrive at the learning destination. It may be helpful to think of learning progressions as the daily “chunks” of instruction that incrementally build student understanding over time toward a more complex learning outcome.

The use of predetermined learning progressions and quick progress checks are relatively new practices for most educators, so for now just think of them as the specific instructional steps students need to take from the starting point to the ending point during a unit of study, with assessment checkpoints along the way.

Figure 1.7 shows the important additions of learning progressions and quick progress checks to the CFA 2.0 design fundamentals. The teacher team plans their learning progressions and quick progress checks after they

**Figure 1.7** New Design Steps to Improve the Highway
design their post-CFA and pre-CFA. This enables them to “work backwards” to create the instruction-assessment pathway leading to the end-of-unit assessment.

The learning progressions necessary for students to understand a learning intention can be numbered to indicate their instructional sequence. Figure 1.8 shows the sequenced building blocks of learning progressions (labeled LP 1, LP 2, LP 3, LP 4) leading to a unit learning intention. The arrows indicate where the corresponding quick progress checks of student understanding occur. These take place immediately after one or more lessons related to a specific learning progression. Note that the number of learning progressions within a unit of study is not limited to four, a number used here for illustration only.

Quick progress checks are essential to knowing where students currently are relative to the unit learning intentions. Individual teachers often create these from day to day or week to week, depending on where they are instructionally within the unit so that the progress checks match their own pace of instruction.

However, as educators have become more experienced in creating CFAs and meeting regularly to process student feedback together, they are making it a priority to collaboratively plan and create their quick progress checks in advance. Teachers find that doing this step together ensures greater consistency of assessment experiences for all students—even if team members use those quick progress checks at slightly different times during the unit of study than their team colleagues do.

**TEACH-ASSESS-INTERPRET-ADJUST**

When a unit of study is underway, effective instruction naturally precedes assessment. Well-designed quick progress checks—based on the particular

*Figure 1.8 How Learning Progressions and Quick Progress Checks Work Together*

*Learning Progression.*
learning progressions in focus—enable educators to accurately interpret student understanding and determine instructional next steps. Adjustments to instruction can then take place immediately.

As represented in Figure 1.9, teach-assess-interpret-adjust is the quartet of inseparable practices that, keeping with the highway metaphor, transport students down the main road to the post-CFA destination.

Using predetermined, collaboratively planned, quick progress checks to adjust instruction demonstrates a dramatic shift in professional practice. This type of approach moves educators away from the traditional instruction-assessment cycle in which teaching continues on as originally planned from the beginning of the unit to the end with little or no modification. Inserting assessment-driven, inference-based instructional corrections into the cycle may well prove to be the “missing link” to improving student learning.

STUDENT USE OF CFA FEEDBACK

So far in this sequential progression of the CFA 2.0 design blueprint, the emphasis has been on what teachers do. Understandably, teachers need to carry out these design steps first. Yet where does student use of CFA feedback come in? When feedback is shared with students, they can be shown how to use it to self-regulate their learning. When teachers are ready to shift the process to include their students, the use of pre-CFA, post-CFA, and quick progress checks expands to include student participation, as indicated within the Student Involvement steps on pages 18–20 (in bold).
Teacher Actions:

1. Educators begin by analyzing the pre-CFA results to correctly identify student learning strengths and areas of need. Because the unit pre-assessment is intentionally aligned to the post-assessment and the targeted learning intentions for the unit, educators can analyze the pre-CFA results to interpret student learning strengths and areas of need and adjust instruction earlier and more decisively.

2. Team members then set improvement goals for all students in the grade or course based on specific pre-assessment results and desired post-assessment gains. After that they select specific instructional strategies to help students achieve these goals.

Student Involvement:

3. The bar graph shows how students can set specific targets for their learning. For example, Matthew records his pre-assessment results by shading in the corresponding number of items he responded to correctly—two. He then sets a personal goal to score at least eight items correctly on the post-assessment and shades in the corresponding number in the “goal” column. When Matthew receives his post-assessment results at the end of the unit, he shades in his actual number of correct answers in the post-CFA results column.

Note: The number 10 in the graph is used for simplicity of illustration only. It is not a recommendation of how many assessment questions to include on either the pre- or post-CFA. The purpose of the graph is to enable students to record their pre-CFA results, set an achievement goal for their post-CFA, record their actual post-CFA results, and see visible evidence of their improvement in learning.

<table>
<thead>
<tr>
<th>Pre-/Post-Assessment Results</th>
</tr>
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<tbody>
<tr>
<td>10</td>
</tr>
<tr>
<td>Matthew</td>
</tr>
</tbody>
</table>
4. With teacher guidance, students create a personal SMART goal (Specific-Measurable-Ambitious-Relevant-Timely) with regard to the learning intentions and success criteria for the unit. This goal indicates the quantifiable achievement they want to demonstrate on the end-of-unit post-CFA.

**Student’s SMART Goal for Unit**

"My learning goal for this unit on adding and subtracting fractions with unlike denominators is to achieve a score of 80 percent or higher on the post-CFA. I only got two problems right on the pre-CFA, so I have a lot of learning to do in this unit."

**Teacher Actions:**

5. After instruction of each predetermined learning progression, the teachers administer a quick progress check based on that progression.

**Student Involvement:**

6. Students receive feedback results from the quick progress check and ask clarifying questions to understand what changes or adjustments in their learning approach they need to make in order to close their understanding gaps.

7. Students receive new instruction and guidance from the teacher and apply the information received to continue and/or revise their learning strategies.

Comment: When teachers use the feedback from quick progress checks to inform next-steps instruction, students are able to correct any misconceptions while they are learning. Teachers don’t have to wait until the end-of-unit assessment or even the middle of the unit to see the impact their instruction is having or to discover that students didn’t learn as much as expected.

8. At the midpoint of the unit, students complete a short self-reflection to determine whether they think they are on track to achieve the unit learning intentions and success criteria as measured by the post-CFA. Students also clarify what they think they need next in terms
of instructional support from the teacher(s). They review their self-reflection responses with their teacher.

**Teacher Actions:**

9. Steps 5–7 repeat throughout the remainder of the unit.

10. At the end of the unit, the teachers administer and score the post-CFA and evaluate the results.

Comment: The post-CFA is a cumulative assessment representing all of the unit learning intentions and student success criteria in focus over a period of several weeks. Because all of the quick progress checks are intentionally aligned to the post-CFA, students have been receiving incremental feedback and adjusting their learning strategies throughout the unit. Thus they are far more prepared to achieve success on the post-CFA because they have been practicing for success all along the way. This enables the teachers’ instructional impact and degree of effectiveness to be reliably measured by a body of valid assessment evidence they have gathered during the entire unit of study.

**Student Involvement:**

11. Students receive their post-assessment results along with their returned pre- and post-assessment results graph and personal SMART goal that they completed at the start of the unit. They shade in their post-assessment results column to correspond with the number of questions they answered correctly and determine if they did or did not reach their learning goal.

12. Finally, students complete the post-unit self-reflection, noting where they did well, what strategies they feel are working best for them, where they need to go next in their learning, and what plan they have to improve while they are on the “Bridge” (described in the next section).

Comment: Involving students in self-reflection encourages them to “think about their thinking.” This metacognitive strategy ranks 14th on the list of practices that influence student learning, producing an overall effect size of 0.69 (Hattie, 2012, p. 251). This research finding certainly makes self-reflection a practice worth incorporating on a regular basis.
Student’s End-of-Unit Self-Reflection

“My learning goal for this unit was to achieve a score of 80 percent or higher on the post-CFA. I scored 80 percent on the post-CFA, so I did reach my learning goal! “I think I did really well on learning how to add and subtract fractions with unlike denominators. It was hard for me to understand at first, but using the manipulatives helped me to make sense of how two or three different denominators can all be changed to equivalent forms. It took me longer to learn that the values of the numerators have to change too. “I still am kinda slow at converting the numerators correctly whenever there are three fractions I’m adding together. And then to change the large improper fraction to a mixed number is tricky, especially when the fraction part of the mixed number has to be reduced to lowest terms. “When I’m on the Bridge, I need to practice what I just wrote about so it’s easier for me to convert multiple fractions with unlike denominators to like denominators and then correctly complete the rest of the steps.”

Now, if only this thoughtful and systematic approach could guarantee that every student would demonstrate competency on every post-CFA in every unit of study throughout the entire school year! So what about those students who do not meet their learning goal and still need further instruction specific to their learning needs, along with a chance to try again for assessment success? The answer to this can be found on the Bridge.

THE “BRIDGE” BETWEEN UNITS

When educators begin implementing a unit of study within their year-long curriculum, they often feel frustration and indecision if and when their students do not demonstrate proficiency on the post-CFA. Should they proceed to the next unit of study even though some of their students are not ready to do so? If they delay moving ahead in order to close the learning gaps in their students’ understanding through reteaching and reassessing, how will they keep up with the curriculum’s preset pacing schedule?

When educators keep moving ahead rather than slowing down to ensure that students master certain aspects of the curriculum, they often
do so out of concern they will be unable to complete all of the curricular units before the end of the school year. Any educator confronted with the mounting accountability pressures of today can certainly relate to this feeling of unease. The question lingers: “Will my students have covered enough of the standards in time to be academically prepared for the cognitive demands of the large-scale annual assessments?” Often what happens in response to such uncertainty is a sacrifice of student learning in favor of keeping on pace.

These issues present very real pressures educators continually face when student learning does not happen “right on time.” One powerful way to ensure that needed remediation and reassessment can take place for students who need it is to deliberately schedule the inclusion of a Bridge between each of the units of study. This Bridge, also known by many educators and leaders as the “buffer” (Ainsworth, 2010, p. 30), can last anywhere from two to five class periods within a week of school. The Bridge provides educators with scheduled breathing room between units of study. Its purpose is to give teachers and students additional time to regroup in order to close student learning gaps. During this time, those students who need additional instruction (reteaching, remediation) receive it in a different way than it was initially taught during the unit. They then have the opportunity to be reassessed and show improvement (i.e., achieve the success criteria).

The Bridge also serves those students who demonstrate proficiency or better on the post-CFA. During this time, they have an opportunity to extend their knowledge and further refine their skills by taking part in enrichment learning, engaging in activities that enlarge their understanding of the unit’s learning intentions.

One main reason educators have validated and endorsed the idea of scheduling this Bridge between units is its usefulness to all students. Often educators understandably devote the bulk of their efforts to assisting struggling learners, but it is at the expense of giving sufficient time and attention to advanced students. The purpose of the Bridge is to help educators equalize that distribution of time and attention. It is just as much about meeting the learning needs of high-performing students as it is about assisting those students who sometimes just need a do-over to succeed. Chapter 11 describes how to effectively plan for the Bridge.

THE COMPLETE HIGHWAY

To recap, the successive construction stages of our CFA 2.0 highway began with the fundamental standards and assessment components (Figures 1.1–1.4).
Next we included the initial data analysis components (Figures 1.5–1.6). Then we added in the learning progressions and quick progress checks (Figures 1.7–1.8), followed by the teach-assess-interpret-adjust quartet of practices (Figure 1.9).

The entire CFA 2.0 process—with arrows indicating the construction sequence—culminates in a completed highway to intentionally aligned standards, instruction, assessments, and data analysis, as shown in Figure 1.10. Appearing on both sides of the figure is the Bridge between units that occurs between all curricular units of study throughout the school year. The dark boxes in the figure represent the “highway improvements” made to the original CFA process. These improvements are now essential segments of the CFA 2.0 highway.

**BEYOND THE HIGHWAY**

For obvious reasons, educators cannot control the composition of assessments they did not create—particularly the external, high-stakes accountability tests that states, provinces, and national assessment consortia administer to millions of students each year. What educators can control, however, is the close alignment between assessments they themselves create for every unit of study: the post-CFA, the pre-CFA, and the quick progress checks that follow learning progressions. But must the aligned assessment highway end where the large-scale assessments begin? Can we build a connecting road between the two?

At the risk of mixing the metaphors, the challenge of being able to extend the highway into the realm of standardized achievement tests is like comparing apples to oranges. Whereas internally created CFAs are specifically designed to gauge student understanding of unit-specific Priority Standards, externally created standardized achievement tests can only sample all of the standards students are to learn within an entire school year. There are simply too many grade- and course-specific standards in tested content areas to make feasible a full inclusion of related questions. This fact underscores the need for Priority Standards—a carefully selected subset of the entire list of standards at each grade level (described and illustrated in Chapter 4) that includes those particular standards most likely to be assessed on standardized achievement tests.

Another challenge to this extension of alignment is the mismatch between internal assessments that are designed to reveal instructional impact on student learning, and external assessments that are designed to provide a summative report of student attainment of grade- or
Figure 1.10 How Teacher Teams Intentionally Align Standards, Instruction, Assessment, and Data Analysis

*Learning Progression.
Almost all of today’s educational accountability tests are instructionally insensitive, incapable of detecting the difference between effective and ineffective instruction... When an instructionally insensitive test is used as an accountability test, the bulk of learning benefits from classroom formative assessment simply won’t show up in the test results. (p. 123)

However, Siobhan Leahy and Dylan Wiliam (as cited in Hattie, 2012) report high correlations between educators who regularly use formative assessments and improved student performance as measured on large-scale external assessments:

When formative assessment practices are integrated into the minute-to-minute and day-by-day classroom activities of teachers, substantial increases in student achievement—of the order of a 70 to 80 percent increase in the speed of learning—are possible, even when outcomes are measured with externally mandated standardized tests. (p. 128)

To connect internal and external assessments, educators should craft their CFA questions to align with the format, vocabulary, and rigor of standardized assessment questions. Doing so will help prepare their students to respond to external test questions that might otherwise appear in new or unfamiliar formats.

CONSTRUCTING THE HIGHWAY IN SEGMENTS

The purpose of this chapter was to provide you with a panoramic vision of the completed CFA 2.0 highway (most educators like seeing the big picture first, remember?). However, if this full preview was a bit too much to take in all at once, don’t worry. Each component of the completed highway will be covered in detail in subsequent chapters. Beginning in Chapter 3, you will see a flow chart of the ten-step CFA 2.0 design process. This same flow chart appears in each succeeding chapter with the current step (or steps) highlighted as a reminder of where it fits into the overall design process.

SUCCESS CRITERIA

At the start of this chapter, three learning intentions set the stage for the content to follow. Those same learning intentions now reappear here as...
success criteria. The content is the same, but the statements now begin with an action verb that asks you to demonstrate that you were successful in attaining those intentions.

**Success Criteria:**

- Describe the standards and assessment components of a quality CFA.
- Summarize the connections between quick progress checks, data analysis, and instruction.
- Explain how to construct, in progressive steps, the CFA highway of aligned assessments. (It is perfectly okay to treat this as an “open-book” question and refer back to the content of the chapter.)

To synthesize what you’ve learned from this chapter, take a few moments to write your responses to these success criteria. If you’d prefer an alternative (and faster) way of responding, evaluate your understanding of each of the success criteria on a scale of one to five, with five representing, “I totally get it and could teach it to others.” If you are reading this book as part of a professional study group, share your thoughts and ideas with colleagues.

When finished debriefing this chapter, you’re ready to see how your current assessment literacy fares within the context of the CFA 2.0 framework.