Common Formative Assessments

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In the current context of K-12 education, “data rich and information poor” is often an issue that perplexes our educators (Slotnik & Orland, 2010). Questions arise as to what data can guide our school practice and how to make sure test data are really assessing what students are learning. Under such circumstances, common formative assessments has become one important strategy in linking assessment to instruction through data use to improve student outcomes (Hattie, 2009).

What is Common Formative Assessments (CFAs)?

Before unpacking the term Common Formative Assessments, we need to first define what formative assessment is. Although the research literature on formative assessment has yet solidified an agreed-upon definition of formative assessments (Dunn & Mulvenon, 2009), it is important to delineate the difference between formative and summative assessments by their distinctive purposes and uses. Formative assessments are primarily used to monitor student learning and provide ongoing feedback to educators to adjust instruction, and yet the goal of summative assessment is to evaluate student learning at the end of an instructional period by comparing it against learning standards and preset benchmarks (Carnegie Mellon University, 2021). Such a focus on on-going evidence and feedback to improve learning and instruction is reflected in one widely adopted definition of formative assessment from the Council of Chief State School Officers (CCSO), where formative assessment is considered as “a planned, ongoing process used by all students and teachers during learning and teaching to elicit and use evidence of student learning to improve student understanding of intended disciplinary learning outcomes and support students to become self-directed learners” (CCSO, 2018, p.4). To bring it to the organization level, formative assessments with collaborations among educators become the common formative assessments.

Common formative assessments are assessments for learning that are collaboratively designed, administered, scored, and analyzed by educators (Ainsworth, 2009). They are intentionally created to gauge student understanding of the Power Standards—the essential learning standards reflect students’ mastery of knowledge at each grade level. The length of CFAs tends to be kept short to ensure the possibility of quick scoring collaborative or individually (Ainsworth, 2009). After identifying Power Standards, educators should use various strategies to unwrap these standards in order to develop CFAs, and consequently, form grade-level or department data teams to collect, analyze, and reflect on the results of CFAs to guide instructional practices.

Compared to summative assessments such as the year-end state accountability assessments, CFAs are shorter assessments for learning aligned to their district and state assessments administered periodically throughout the school year. As such, the combination of large-scale summative assessments of student learning and smaller in-school formative assessments for learning, educators can create a more comprehensive representation of student progress (Stiggins, Arter, Chappuis, & Chappuis, 2004).

Why do we need Common Formative Assessments?

Overall, common formative assessments provide accurate data and results to guide curriculum development, re-teaching, student-level intervention, and professional development (Fullan, Hill, and Crevola, 2006, Hattie, 2009). The true value of formative assessment lies in its ability to help educators monitor student progress in a timely fashion, which allows them to modify instruction accordingly (Ainsworth, 2009). Similarly, both Black and William (1998) and Hattie (2009) have drawn from their review and meta-analyses of many research studies related to formative assessments to conclude that formative assessments did improve learning, and gains in student achievement were “amongst the largest ever reported” (Black & William, 1998).

Some key benefits of CFAs outlined in the research literature include:

- It develops teachers' knowledge of grade-level content (Ainsworth & Viegut, 2006), and increases teachers' depth of knowledge about learning the standards (Frey & Fisher, 2009).
- It provides teachers with practical applications for linking assessment with instruction (Fisher, 2005). Teachers who are developing the CFAs tend to focus more on the instructional implications of the data, such as identifying students in need of intervention (Fisher, 2005).
- It provides students with multiple-measure assessments including both closed responses and constructed responses, which gives students opportunities to demonstrate their understanding in various ways (Ainsworth, 2009).
- It promotes data use in guiding teachers and school administrators in their decision-making process, which makes it an authentic professional development (Joyce & Showers, 2002).

What are the best practices of utilizing CFAs in the K-12 instructional practices?

The research literature has identified some best practices for incorporating CFAs in K-12 schools' instructional and leadership practices.

- Teachers can identify Power Standards that can be used as an important backdrop for assessing curricular and teaching practices (Ainsworth & Viegut, 2006).
- Subsequently, teachers engage in "backward planning" (Wiggins & McTighe, 1998) that design instruction and curriculum with the guidance from the learning goals and standards (Ainsworth & Viegut, 2006). This process is also considered as the "unwrapping" of the power standards (Ainsworth, 2009), which often involves using graphic organizers to represent the different levels of the Bloom's taxonomy, i.e. recall—level 1, understand — level 2, apply —level 3, interpret — level 4, synthesize — level 5, and create — level 6 (Anderson & Krathwohl, 2001).
- Next, teachers develop, administer, and analyze formative assessments in a collaborative manner (Ainsworth & Viegut, 2006). Both selected responses (Multiple choice, True/False, matching, and fill-in items) and constructed responses are part of the CFAs (Ainsworth, 2009). In a study about the impact of CFAs on teachers' practices in an urban elementary school (Frey & Fisher, 2009), the teachers organized CFAs into a six-week cycle that occurs in three parts: pacing; common assessment development; and item analysis and implications.
    - Teachers develop pacing guides based on a backward design in which teachers plan curriculum and instruction based on the learning goals and Power Standards they are looking for (Wiggins & McTighe, 1998)
    - Teachers designed standards-aligned CFA, and administered them to every student at each grade level (Frey & Fisher, 2009). Typically, theirs CFA have 10-12 questions and a writing task, which are similar to the range of types of assessment items students will see on the state assessment as well as some more authentic tasks such as writing. Specifically, test items can be from teacher-created test item banks or modification to the released items from previous state assessments (Ainsworth, 2009).
    - In the stage of item analysis and implications, teachers discuss the results of the CFAs and specifically pay attention to the items on which students do well and items on which students have failed to show mastery (Frey & Fisher, 2009). This way, CFAs help teachers plan future instruction and focused intervention strategies. In a similar fashion, Ainsworth and Viegut (2006) recommend that teachers engage in monthly data discussions focusing on common formative assessments, which will help foster a healthy and productive professional learning community at the school level.
- In addition, school administrators should develop practices and leadership structures that are necessary to enable such teacher collaboration to happen (Ainsworth & Viegut, 2006). Some school systems have already had a quarterly assessments in targeted content areas at each grade level, which serve as

benchmark tests for tracking student progress across the district. If such benchmark tests can be designed and aligned with the format and rigor of state assessments, this would be an easy transition into common formative assessments for a school (Ainsworth, 2009). Such benchmark tests would have predictive values of student performance on the state assessments and educators would have time to make instructional adjustments during the school year for improving student outcomes.

Overall, the development and implementation of CFA should be part of a model of integrated instruction and assessment that centers on teacher collaboration alongside with formative assessments (Ainsworth & Viegut, 2006).

Potential limitations of CFAs

There are a few of the potential limitations of CFAs identified in the body of literature on formative assessments. Dunn and Mulvenon (2009) are concerned that the measurement of the positive effects of formative assessments might be methodologically flawed, as few studies have examined the true impact of formative assessments on student learning rigorously. From their meta-analysis, Dunn and Mulvenon (2009) argue that we should use the dichotomy between formative and summative evaluation as opposed to assessments to separate the nature of the assessments from the purpose and use of them, and to develop more rigorous research designs for evaluating the impact of formative assessments on student outcomes.

Furthermore, the design of CFAs emphasizes on the repeated measurements that align with Power Standards in pre- and post-assessment formats to ensure its predictive power on summative assessments (Ainsworth, 2009). However, such an explicit focus on power standards might make teachers teach to the test. Furthermore, students' mastery of the non-power standards becomes less important, which might affect the comprehensiveness of instruction.

Additionally, unless commercially produced assessments can be administered in short cycles and be used to adjust instruction in a timely fashion, they might not necessarily be considered as the best tool for CFAs (Ainsworth, 2009).

Therefore, when districts adopt CFAs, they should take into account some of the aforementioned issues, and try to offset these limitations by having careful planning and rollout of the CFAs.

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