

## Memorandum

From: Jason E. Glass, Superintendent & Chief Learner  
To: HB 14-1202 Task Force  
Re: Formative Assessment & a Flyover of Assessment in Eagle County  
Date: 9.15.2014

### Purpose

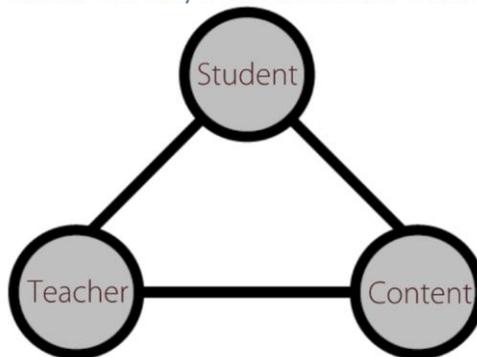
The purpose of this memorandum is to briefly orient the members of the HB14-1202 Task Force to the large-scale theory of change, an instructionally focused approach to assessment, and some of the formative measures employed in Eagle County Schools. For clarity, this memo will focus on measures whose chief purpose is for improving instruction, as opposed to measures whose chief purpose is accountability.

### The Instructional Core

Eagle County Schools uses an “international benchmarking” approach to school improvement. That is, practices are drawn from comparative studies of high performing education systems, both within the United States and abroad. In addition, the organization focuses on practices which have the support of a peer-reviewed body of evidence.

As such, the “in-school” theory of change rests on three major and interrelated tenets which feature prominently in every high-performing educational system. Liz City and Richard Elmore (2009) capture these three elements in their discussions of the “instructional core,” or the *relationship* between the teacher and student in the presence of content.

Elmore & City's "Instructional Core"

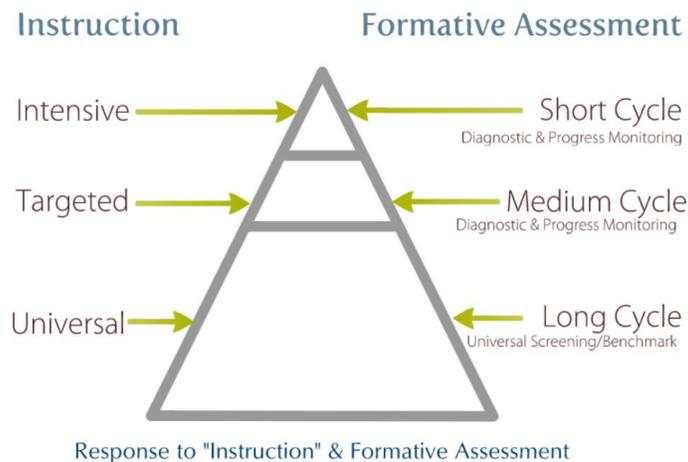


Important to City and Elmore’s framework, there is an emphasis on the relationship between the three components. One element cannot change without impacting the other two. For example, we cannot effectively raise the quality or “rigor” of the content (or standards) without also adapting the instructional approach of the teacher and the engagement level of the student.

### Assessment through the Lens of Instruction

Formative measurement is an essential part of bringing the instructional core to life. For the teacher to effectively reach and engage every student in learning, that teacher must understand the level of current content performance or knowledge of their students. The teacher must deliver high quality instruction and then determine if that instruction had the desired impact on students (i.e. improved content knowledge or skills). Almost invariably, some students will require additional supports or a differentiated approach to reach the content or skill standard. So, the teacher must apply some intervention, customized to the student, and then check again to see if that intervention had the effect of raising the student to the performance standard.

The “response to intervention” or “response to instruction” (RtI) model provides a useful framework for understanding this process.



Well designed and employed formative assessments are ‘part and parcel’ to the RtI process. All students should receive a universal screen or benchmark assessment as part of the general education curriculum. As there may be some time (days, weeks, or months) between the administrations of these assessments, they can be referred to as long cycle.

These long cycle results will reveal some students who struggle to meet the standard in the general education environment, who should then receive some intervention customized to that student’s needs. Determining the appropriate intervention often requires the use of a diagnostic test to determine the precise area where the student is struggling (ex. phonics vs. phonemic awareness). Then, once an intervention is applied, the determination as to if the intervention is working should be made through a progress monitoring assessment. As the time between these assessments is less than at the universal level, they are sometimes called medium cycle assessments and may be administered every few learning sessions or weeks (or longer, as the team of practitioners determine).

Even after a targeted intervention, some students will require an intensive support. These students will receive diagnostic and progress monitoring even more frequently – perhaps multiple times over the course of the lesson as the teacher iterates to determine what is the barrier to learning and if it is being mitigated through supports or other interventions.

The RtI approach is based on the principles of a “high reliability system” (see Eck et al., 2011), meaning generally that as the probability of failure increases then supports/interventions and monitoring also increases. The goal is to determine which students are struggling and why as quickly as possible and to intervene so that the student meets the performance standard.

Notably, formative assessments may be more standardized and formal or they may be individualized and informal. A powerful mode of formative assessment is a teacher walking through a room as students work, asking questions and checking for understanding. Alternatively, formative assessment may involve sophisticated and computer-based standardized measures. Variations in formative assessments may stem from variations in the elements of the instructional core (different teachers, different students, and different content) or from constraints related to things like time and technology. This entire process may happen in a very structured and mechanical way, or it may happen much more naturally and intuitively. What is most important is that it is, in fact, happening.

It should also be noted that the formative assessment process is not exclusive to the teacher. Perhaps the most powerful mode of formative assessment is for the student to self-monitor and assess their own progress.

## **Evidence and Formative Assessments**

The body of both comparative and peer-reviewed scientific evidence for the effectiveness of formative assessment is (in my professional opinion) strong.

Black and William (1998), in a meta-analysis, found that student achievement gains associated with formative instructional practices were “among the largest ever reported for educational interventions.”

Similarly, Hattie (2011), also in a meta-analysis of over 50,000 studies, identified strategies related to formative assessment and RtI among the largest effect sizes calculated.

From a comparative system perspective, formative assessment and responsive teaching form the instructional basis of practically every high performing education system. Finland, a system perhaps more averse to summative accountability testing than any other in the world, uses formative assessment extensively. In Schwartz & Mehta’s chapter on Finland in Tucker’s comparative study *Surpassing Shanghai*, it is noted that “While the Finns do not assess for accountability purposes, they do an enormous amount of diagnostic or formative assessment at the classroom level.”

Notably, when a Finnish principal was asked (in Schwartz & Mehta) how well she knew students were performing, she answered that there was so much formative assessment data at her disposal it was impossible *not* to know.

## **Formative Assessments in Eagle County Schools**

Eagle County Schools relies on a number of formative measures to guide instruction. Choice over the appropriate use of these formative measures is left to the building practitioners, including the building principal, teacher leaders, and classroom teachers.

Depending on grade/developmental level, student characteristics, staff preferences, content area, or specific purpose – the following is an incomplete list of formative assessments used in Eagle County.

- Early Childhood & Elementary
  - GOLD Assessment
  - mCLASS (DIBELS Next/IDEL)
  - AIMS Web
  - Core Knowledge Language Arts
  - Engage New York, Literacy & Math (Achieve)
  - District Formative Measures (ECS Teacher Developed)
  - Classroom grades (standards based)
- Middle School
  - mCLASS (DIBELS Next/IDEL)
  - Renaissance STAR
  - NWEA MAPS
  - Engage New York, Literacy & Math (Achieve)
  - District Formative Measures (ECS Teacher Developed)
  - Classroom grades
- High School
  - NWEA MAPS
  - District Formative Measures (ECS Teacher Developed)
  - Classroom grades

## **Conclusion**

Eagle County Schools is, admittedly, not yet a globally high performing system. But, we are in our first year of building an instructionally focused assessment system patterned after global high performers. As such, formative assessment is central part of that effort.

## **References**

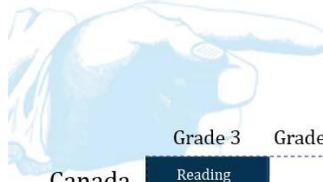
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## When Do Top Performing Countries Test Students?

	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grades 11/12/13
<b>Canada (Ontario)</b>	Reading writing and math			Reading writing and math			Math	Secondary Literacy Exam	
<b>China (Shanghai)</b>				Primary school graduation exam; Lower secondary entrance exam			Lower secondary graduation exam (6 subjects); Upper secondary entrance exam		Upper secondary graduation exam (10 subjects); University entrance exam
<b>Estonia</b>				Exams in Estonian, math and one additional subject.					Estonian, math, foreign language. School exam with research paper or project.
<b>Finland</b>									Matriculation exams set by individual universities for applicants.
<b>Hong Kong</b>									HK Diploma of Secondary Education Exam (6 subjects)
<b>Japan</b>				Diagnostic exam in math and Japanese			Diagnostic exam in math and Japanese. Entrance exam for upper secondary.		National Achievement Test in civics, geography, history, Japanese lit, foreign language science and math.
<b>Korea</b>				Diagnostic exam in math and Korean			Lower secondary exit exam		College Scholastic Ability Test
<b>Poland</b>				Competence test in reading, writing, reasoning, use of information and application of knowledge.			Lower secondary graduation exam in humanities, science and social science. Used for admission to upper secondary.		Matura exam, used for admission to university. Vocational exams for vocational schools.
<b>Singapore</b>				Primary school leaving exam in English, Chinese, math and science. Partially determines entrance to secondary.			N or O level exams (6-8 subjects)		A level exams (4 subjects) for university entrance or technical school exams.
<b>Taiwan</b>					Three local exams per year in Chinese, math and science.	Three local exams per year in Chinese, math and science.	Three local exams per year in Chinese, math and science. Upper secondary school admission test (5 subjects)		Joint University Entrance Exam (3 subjects)
<b>United States</b>	Reading and math	Reading and math	Reading and math and science once in Grades 3-5	Reading and math	Reading and math	Reading and math and science once in Grades 6-8			Reading and math in Grade 11, science once in Grades 10-12

*Info-graphic from the National Center on Education & the Economy*