

Getting to the Core of Learning

K12 Education White Paper



Before the Core

The controversy over standards-based education reform is not new. Ever since the early 1990s, when the U.S. Senate voted 99 to 1 against a set of national history standards supported and funded by the federal government under President George H.W. Bush, the idea of federal intrusion into the public education system has become a rallying cry for opponents of common standards.

In the 1990s, the “Standards & Accountability Movement” began in the U.S. as states began writing standards outlining; (a) what students were expected to know and to be able to do at each grade level, and (b) implementing assessment designed to measure whether students were meeting the standards. In 1996, as part of this education reform movement, the nation’s governors and corporate leaders founded Achieve, Inc. as a bipartisan organization to raise academic standards and graduation requirements, improve assessments, and strengthen accountability in all 50 states.

By the early 2000s, each state had developed its own set of standards as to measure the outcomes of students in grades 3-12. However, this also led to each state having their own definition of the level of proficiency. A lack of nation-wide standardization in this area caused many problems for students entering college. For example, a student educated in Texas may struggle significantly in a college biology course, whereas a student from Massachusetts, attending the same college, would most likely excel.

A 2004 report, titled *Ready or Not: Creating a High School Diploma That Counts*, found that both employers and colleges are demanding more of high school graduates than in the past. According to Achieve, Inc., “current high school exit expectations fall well short of employer and college demands.” The report explained that the major problem currently facing the American school system is that high school graduates are not provided with the skills and knowledge they need in order to succeed in college and careers. “While students and their parents may still believe that the diploma reflects adequate preparation for the intellectual demands of adult life, in reality it falls far short of this common-sense goal.” The report said that the diploma itself lost its value because graduates could not compete successfully beyond high school, and that the solution to this problem is a common set of rigorous standards.

A Common Cure?

For some, Common Core State standards seemed to come from nowhere, and appeared to be a sneaky attack on states’ rights to control local education. But for those involved in writing the standards, it was nothing less of an exhaustive and collaborative years-long effort aimed at raising the achievement levels of students across the country.

The Common Core Standards were developed in 2009 by state leaders, including governors and state commissioners of education through their involvement in the National Governors Association for Best

Practices and the Council of Chief State School Officers. The initial motivation for the development of the Common Core State standards was part of the American Diploma Project (ADP).

Their main goal was to ensure that all students, regardless of where they live, are graduating from high school prepared for college, career, and life. The standards were crafted based on the best state standards already in existence, the experience of teachers, content experts, states, and leading thinkers, while also incorporating feedback from the public.

The committee announced on June 1, 2009, that the initiative's purpose would be to "provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to help them.

In order to prepare American students for success in the global job market, the Common Core standards were created to be equal to those of several highly-performing nations. The committee also stated in their June, 2009 statement, "The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers, which should place American students in a position in which they can compete in a global economy."

As of 2011, America was the sole free-market, "Organization for Economic Cooperation and Development" country where the current generation was less well educated than the previous. This meant that our education system was lacking; a new approach was needed in order to compete globally.

It has become abundantly evident that for today's students to survive in their future workplace, they must have a strong background in math, science, and technology. Today's workforce competes on a global scale, and American students are generally falling behind international students. There is a growing fear that when the American job market is placed in the hands of today's students, America will not be able to remain a dominant world power against its global competitors.

Those who believe in the possibilities of Common Core argue that introducing a set of nationalized standards is the first step toward creating accountability for teachers from all over the country. They say that those who are worried about the negative effects of Common Core will be okay in the long run, and that we should focus on those who will benefit the most, such as students in impoverished neighborhoods.

According to the National Center for Education Statistics, around twenty percent of incoming freshmen need remedial courses in English or mathematics. Tech firms in Silicon Valley also say that there is a shortage of American students with notable talents in science, thus forcing these companies to search for new employees in other countries. Supporters of Common Core believe that the US education system is long-overdue for an overhaul. They believe that the standards will help students develop what are called "21st century skills", such as how to problem solve and think critically.

Non-Common Instruction

Educators agree that it is necessary for American children to catch up with the rest of the world. However, many of them argue that this plan is a rigid, one-size-fits-all approach, drafted without educator input, that ignores how teachers teach and children learn. When students are forced to adapt to a homogenized model, they may quickly become discouraged and begin to dislike school and knowledge.

A student who meets the standards in English/ Language Arts, as required by Common Core, is expected to have certain qualities. These qualities include, but are not limited to, demonstrating independence in comprehending and evaluating complex texts, constructing arguments effectively, understanding an author's message while being able to question it, using evidence when interpreting texts, and efficiently using technology and digital media to accomplish these tasks. It must be noted that these are not the exact standards set by the Common Core.

English/Language arts standards also require certain critical content for all students, including classic myths and stories from around the world, historical American documents, American literature, and Shakespeare. The Common Core has the students read literature and stories, as well as texts that may assist in providing background knowledge for subjects such as science and social studies. This plays an important role in developing critical-thinking, problem solving, and analytical skills necessary for college, the workforce, and life.

There are certain key shifts in English/Language Arts education that Common Core calls for. These shifts include regular practice with complex texts and their academic language, as well as reading, writing, and speaking grounded in evidence from texts both literary and informational, and building knowledge through content-rich nonfiction. The core standards believe that practice in these skills should span the school day throughout grades K-12, as necessary aspects of every subject.

For years, studies have shown that mathematics education in the United States must become substantially more focused and coherent to achieve success in mathematics that rivals other high-performing countries. The math standards intend to provide clarity and specificity to a normally confusing topic, and aim to remove the use of broad general statements. They stress conceptual understanding of key ideas, and also return to organizing principles, such as place values and the laws of arithmetic.

Key shifts of the Common Core math standards allow for a greater focus on fewer topics, coherence through linking topics and thinking across grades, and a rigorous pursuit of conceptual understanding, procedural skills and fluency, and application with equal intensity.

While these changes require a more rigorous pursuit of knowledge and understanding of a topic, they are built on existing education standards. Essentially they are aiming to make students learn material on a deeper

level, which hopefully leads to better retention of information.

In response to those who argue that the Common Core standards lead to a “teaches to the test” mindset, Common Core supporters argue that if the standards are taught appropriately, then students will not have to make extra preparations to succeed on standardized tests.

The challenge of providing instructional practices that deliver accurate measurement and accountability, as well as making grading and evaluation more meaningful, is difficult for every classroom teacher. All of the expectations that are placed upon classroom teachers, and their accountability for student performance, would appear to require a teacher to have super powers.

Those who oppose the Common Core argue that the standards put too much pressure on teachers to cover all of the required material, so that their students may move on to the next grade level, and that this makes education more rigorous, and removes the ability for play time or creative expression.

However, those who are for the Common Core Standards state that this is not the case, since educators are given the freedom to implement Common Core Standards into their classroom however they choose. There is flexibility in how the teacher presents the information and content. What matters is that students reach certain benchmarks at different stages of their education, ensuring they have a full understanding of a topic before moving on to another subject.

Now, with the implementation of Common Core standards, teachers are not alone in the necessity to “leap tall buildings in a single bound”. Students have an obligation to engage with complex informational texts and apply literacy skills across disciplines. In math, they will grapple with challenging problems that connect mathematical understanding and procedural skill.

These additional demands set new teaching challenges. Literacy no longer falls solely under the purview of English/language arts teachers. Science teachers and social studies teachers will need to connect the Common Core standards with their content. This means that student assignments must be content rich and literacy saturated. In math, teachers must not only assess students’ ability to do a math procedure but also recognize their depth of understanding and respond with appropriate instruction. Furthermore, the simplest of tasks, such as recording student’s grades, will now require more analytical processes than traditional educational practices.

A Core Shift

As previously stated, the intent of the standards is to define expectations for what students should know and be able to do at the end of each grade. The means of assessing students and the data that result from those assessments are up to the discretion of the educational institutions and are separate and unique from the Common Core.

Standardized Grading

With the implementation of the Common Core Standards, one not-so-obvious change is its influence on how teachers grade student work. Within states that have adopted the Common Core State Standards, one grading practice that has been refueled and is gaining popularity is standards-based grading, which involves measuring students' proficiency on well-defined course objectives.

Standards-based grading, sometimes called proficiency grading, is a method for teachers to measure how students are doing in meeting the learning goals for their grade as determined by their state's standards. Learning goals, sometimes called learning standards or objectives, are the academic skills your child should know or be able to do for his grade level by the end of the school year. Traditional A-F letter grades are often abandoned because the criteria is not clearly defined, or the concept of "C = average" is not relevant to absolute standards. Instead, most schools adopt a rubric scale from 1 to 4, or letters to represent Meeting standards, Exceeding standards, or Below standards.

Standards-based report cards give a grade for each learning goal, so students receive multiple grades in each subject area. In 5th grade math, for example, you will see the subject broken into numerous categories, such as operations/algebraic thinking and fractions. Under each category, you will see a list of math skills your child should be able to complete, as well as a grade showing how your child is doing.

By contrast, traditional grading combines various elements and averages the semester's work into a percentage that correlates with a letter grade. Test scores, quizzes, completed homework, classroom participation, coming to school on time, are extra credit are all factored into the grade, which gives more weight to effort than standards-based grading. Despite the disadvantages of traditional grading, it is the system most familiar to most parents, who express discomfort with the new standards rubrics, so some schools attempt to mix a hybrid grading system.

Teachers have used standards-based grading almost as long as U.S. schools have been forced to conform to centrally determined standards — about 20 years. A report by the ASCD stated, "The practice, in which teachers give students not the familiar A-F letter grades or 0-100 percentile grades — but numbers or letters like 1 through 4 or S, M, P — has ticked upwards since 46 states adopted the Common Core national standards in 2010."

Prior to the adoption of Common Core, standards-based report cards were more commonly used at the elementary level, but now middle schools and high schools are rapidly adopting them, too. "I've seen [standards-based grading] be on a natural trajectory over the last seven, eight, maybe 10 years." she said. "But now Common Core is going to help focus us because we have a common metric by which to measure kids ... I would anticipate a resurgence of interest because we're going to look at competency over point-grabbing, so to speak." said Tammy Heflebower, vice president of the Marzano Research Laboratory, a nationally-known

organization promoting standards-based instruction. Robert Marzano, the founder of the Marzano Research Laboratory, had stated many times in public speeches and in his book, *Transforming Classroom Grading*, “grades are so imprecise that they are almost meaningless. If the goal of today’s educational system is to determine when (and if) students have met course standards, should we not be keeping achievement records that match the standards we are expected to teach instead of records that are labeled test, homework, book report, class work, quiz, project, presentation or class participation?”

Learning Analytics

A recent report published by the Alliance for Excellent Education finds that the effective use of student data can improve teaching and learning by empowering educators to personalize instruction and increase student achievement for all students, especially those in the highest-need schools.

The report, *Capacity Enablers and Barriers for Learning Analytics: Implications for Policy and Practice*, focuses on “learning analytics,” which is defined as data collection and analysis for the purposes of understanding and optimizing student learning and classroom teaching to meet the requirements of Common Core. It includes student data collected through the administrative process as well as during the teaching, and learning experience permits educators to respond to data in the form of adapting instructional content, intervening with at-risk students, and providing feedback to students on what they have learned.

Teachers have always had to analyze data about how their students are learning, but data analytics tailored to student needs offers the promise of supporting and automating much of that work, enabling them to spend less effort administering and more effort teaching. The capability to visualize the Common Core outcomes in more meaningful ways will make teachers better able to perform the data analysis needed to provide personalized learning to students.

Learning analytics can help the education institution with Common Core by tracking:

- When students are ready to proceed to the next topic
- When students are falling behind in a course
- When a student is at risk of not completing a course
- What grade a student is most likely to receive without intervention
- What the best next course of action is for a given student
- When a student should be referred to a counselor for help

Solutions that Support the Core

To support the shift to Common Core, Jupiter Ed offers Jupiter iO, an all-in-one solution for improving student academic achievement and helping K-12 education successfully implement the Common Core Standards.

With Jupiter iO, teachers can align tests and assignments to specific standards-based objectives, so report cards are calculated automatically. Common Core Standards are pre-loaded within the Jupiter iO grade book and LMS systems for the teacher's ease of use. With the ability to create activities, lesson plans and curriculum mapping, teachers can easily view how many assessments they have for each objective within a grading period.

Jupiter iO's Learning Analytics feature helps teachers and administrators turn data into decisions. Since learning analytics is included in the Jupiter iO all-in-one solution, schools can test students online and analyze the results instantly, without any data entry or importing.

For standards-based reporting, each test may have sub-scores for learning objectives or different subjects. The reports automatically analyze each sub-score and the overall total. Jupiter iO analyzes pre-tests, post-tests, control groups, and the distribution of data by standard, to show with scientific certainty if the differences are statistically significant. If test scores go up 2%, is that significant, or just a random variance? Jupiter runs a statistical T-test, based on the number of students and standard deviation, so you can scientifically prove whether or not your school is actually improving.

Jupiter iO gives educators the tools necessary to make informed decisions and to support student success in a results-driven environment. Jupiter iO solution supports Common Core with:

- Adaptive testing, tracking and reporting. With progress as the focus of each individual student, class or defined group, Jupiter iO generates summaries, class goal reports and progress reports over multiple grading periods.
- Early alerts, intervention and collaboration. Track student performance by integrating data collected from a variety of sources, including the gradebook, student information system and a learning management system. This data enables educators to assess student achievement, identify at-risk students, initiate early interventions and support collaborative learning.
- Analytics for efficiency and effectiveness. Analytics can be used to assess and improve school initiatives, including drop-out prevention, resource management and instructional planning.

Jupiter Ed is here to help the 43 states and 5 territories that have adopted the Common Core standards by providing the tools necessary to make informed decisions and to support student success in a results-driven environment.