Reframing
Catalina Foothills School District's System for Learning in the 21st Century

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Catalina Foothills Unified School District #16
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Executive Summary

In the Catalina Foothills School District (CFSD), we are determined to never lose sight of our core purpose to prepare our students well for a 21st century life that is increasingly complex and global. Academic subjects such as reading, writing, science, math, world languages, social studies, and the arts remain the foundation of a comprehensive education and are more important than ever. However, we must also develop students who have the ability to think critically, apply knowledge at high levels, and use technology to access, evaluate, and communicate information. Both rigorous academic standards and 21st century skills are a bridge to authentic, intellectually challenging work by students in a world that holds unprecedented opportunities for education, personal growth, and fulfillment as well as global communication, resource scarcity, conflict, and problem solving.

CFSD is a "teaching for learning" enterprise. We are committed to aligning district practices to support high-quality instruction. There are many influences on learning, but teachers are among the most powerful.

Dr. Paul Brock, University of Sydney, Australia wrote about the kind of teachers that he wanted for his children.

> *I want all future teachers of Sophie and Millie to abide by three fundamental principles that I believe should underpin teaching and learning in every public school.*
>
> *First, to nurture and challenge my daughters' intellectual and imaginative capacities way out to horizons unsullied by self-fulfilling minimalist expectations. Don't patronize them with lowest-common-denominator blancmange masquerading as knowledge and learning; nor crush their love for learning through boring pedagogy. Don't bludgeon them with mindless 'busy work' and limit the exploration of the world of evolving knowledge merely to the tyranny of repetitively churned-out recycled worksheets. Ensure that there is legitimate progression of learning from one day, week, month, term and year to the next.*
>
> *Second, to care for Sophie and Millie with humanity and sensitivity, as developing human beings worthy of being taught with genuine respect, enlightened discipline and imaginative flair.*
>
> *And third, please strive to maximize their potential for later schooling, post-school education, training and employment and for the quality of life itself so that they can contribute to and enjoy the fruits of living with an Australian society that is fair, just, tolerant, honorable, knowledgeable, prosperous and happy.* (as cited in Hattie, 2012, p. viii-ix)

We believe that Brock's expectations of teaching for his daughters are similar to those of most parents. All students deserve these educational experiences in their public school. In CFSD we aspire to the same teaching and learning for our students.

It takes years of sustained commitment to become a high-performing district. There is no *single* action that leads a school or district to success (Fullan, 2005, 2010). It requires the coordinated efforts of skilled practitioners and supportive community members. We believe that based on multiple measures of performance, CFSD is a successful system of schools. Based on a long-established culture of continuous improvement, we also know that there is always significant growth potential to improve learning outcomes.

District improvement is receiving attention from researchers as a support for school improvement (Shannon & Bylsma, 2007). School improvement requires a district-wide approach to improve student learning across schools (Marzano & Waters, 2009). In a meta-analysis of research studies, Marzano and Waters (2009) found a positive correlation between district-level leadership and student achievement. Governing boards play an important leadership role in school and district improvement. In this document, "district" includes the school board and its essential responsibility for school and district policies and procedures.

Early improvement efforts that focused on the individual school as the unit of change often resulted in excellent schools with increased student learning results. These schools were "islands of excellence" and served as proof that schools could improve results for students, often in the face of challenging circumstances (Shannon & Bylsma, p. 12). However, scaling-up improvement to reach all students cannot occur solely school-by-school (Elmore, 2004). The need to improve student learning has led to more attention to the larger system of the school district (Marzano & Waters, 2009, Waters & Marzano, 2006).

To systemically improve, the district must be clear about its mission and strategic priorities, and aim all improvements toward this focus. An overall strategy of improvement must be centered on the continuous examination of the gap between the explicit goals for improvement versus current reality; said another way, a feedback and adjustment system that is ongoing, timely, and robust enough to enable professional staff and students to change course, as needed, to achieve the desired results. All aspects of the system must be taken into account. Changing one part of the system does not facilitate systemic change. Implementing parts without regard to the system as a whole can be referred to as implementing random acts of improvement as opposed to focused acts of improvement (Bernhardt, 2000, p. 100) (Figure 1).

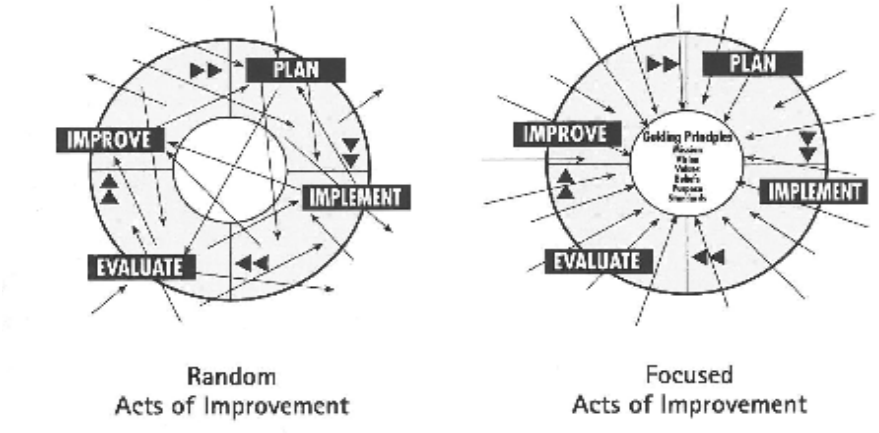

Figure 1. Random acts of improvement as opposed to focused acts of improvement

Utilizing educational research, professional literature, and CFSD performance data, we prepared this report to provide a better understanding of successful school districts and their characteristics and actions. Researchers have found that high-performing schools have a number of characteristics in common (Edmonds, 1979; Hattie, 2009, 2012; Lezotte, 1991; Marzano, 2003: Marzano, Waters, & McNulty, 2005). Taken in the aggregate, this research base provides clear guidance as to actions districts and schools can take to dramatically increase their effectiveness.

The information and resources in this document will assist the CFSD Governing Board, other leadership teams, and staff members as they continue to do the difficult work of improving schools and increasing student learning results. Eleven characteristics (or research themes) of high-performing schools were revealed in our analysis of the research, professional literature, and performance data. They are clustered into four broad categories:

- Support for District-wide Systemic Improvement
  - Policy and Program Coherence
  - Strategic Allocation of Resources
- Quality Teaching and Learning
  - High Expectations and Accountability
  - Coherent and Aligned Curricula Focused on Student Learning
  - Focused Professional Learning
  - Frequent Monitoring of Teaching and Learning
- Effective Leadership
  - Shared Focus on Student Learning
  - Dynamic and Distributed Leadership
  - Sustained Improvement Efforts
- Positive and Supportive Learning Environment
  - A Culture of Cooperation and Collaboration
  - High Levels of Family and Community Engagement

Each of the eleven characteristics is briefly defined below, organized by its research category. Following the definitions, essential questions are posed to help the district reflect on planning and implementation efforts for each of the research themes. The body of this document provides further discussion on each characteristic with illustrative examples from the research and CFSD's performance relative to this research. The chart on page ix includes descriptors that summarize the eleven characteristics of high-performing districts.

SUPPORT FOR DISTRICT-WIDE SYSTEMIC IMPROVEMENT

District-wide improvement focused on excellence and equity of educational outcomes for all students depends on a strategic plan that identifies the core purpose and priority goals of the organization. There is a systems view of learning that increases the likelihood of reaching strategic goals. Support across the system means that programs, practices, and resources are consistently and tightly connected to a clearly shared focus on student learning.

Policy and Program Coherence

Policies, practices, and programs are aligned to priorities identified in the strategic plan that is based on research and performance data. Coherence of actions aligned to priorities is monitored across the system. Local policy is analyzed and interpreted within the context of state and federal policy.

Strategic Allocation of Resources

Both human and financial resources are focused on the district's highest strategic priorities. Resources are provided, allocated, and reallocated toward improvement of student learning. The district's strategic plan drives decision-making across the system including budget development and its personnel recruitment, hiring, and retention practices.

Essential Questions

- Can we be confident that our district's strategic plan reflects the educational interests of our community?
- Do our strategic improvement goals align to the mission of the district?
- Are all functions of the school system aligned and focused on the mission of the district?
- Do we operate as efficiently as possible so that resources are allocated and reallocated to our primary focus on learning?
- Which measures of performance give us the information that we need to determine that we make a distinctive impact relative to our resources?

QUALITY TEACHING AND LEARNING

Promoting learning and the achievement of students is the main goal of schools. High quality teaching is the greatest in-school influence on student engagement and learning. The focus on all students learning to high standards requires quality teaching and learning. Thus, effective schools need to have high expectations and accountability for the adults in the system. District leadership coordinates curriculum and assessment and ensures alignment with state and district standards. Ongoing and focused professional learning is provided to prepare teachers to meet high expectations for their performance. Monitoring teaching and learning requires paying attention to both student learning results and teaching effectiveness.

High Expectations and Accountability

High expectations and accountability are essential and evident in all aspects of high-performing districts. They communicate what is important and what is to be accomplished. Our primary role is to increase student learning. Holding all professional staff accountable for student learning as well as expecting excellence, monitoring performance, and providing feedback on performance is central to support student learning. Hiring quality personnel who meet or exceed expectations will continue to be a focus in recruitment and hiring practices.

Coherent and Aligned Curricula Focused on Student Learning

Curriculum and instruction are aligned to challenging, well-defined standards for success in postsecondary education and careers. There is a centralized and coordinated approach to curriculum design, which is adopted district-wide. Instructional and assessment practices are grounded in evidence-based research. Educators understand the role of classroom, district, and state assessments, what the assessments measure, and how student work is evaluated.

Focused Professional Learning

High-performing schools and districts place a high priority on ensuring that school professionals are part of a community that is committed to learning. Professional learning improves classroom practice by empowering teachers to make changes in their everyday instruction so that students continue to achieve higher levels of proficiency. As the needs of students and teachers continually change, the need to provide ongoing, job embedded professional development that is focused on explicit classroom instruction is recognized. This promotes continual, lifelong learning among all professionals.

Frequent Monitoring of Teaching and Learning

The district pays close attention to classroom practices and provides guidance and oversight for improving teaching and learning. A common vision and understanding of high quality, research-based instruction is developed and communicated. Instruction, curriculum, and changes in instructional practice are monitored. The district uses data as evidence to monitor results and for making instructional and resource decisions.

Essential Questions

- Do our expectations reflect our beliefs about student learning?
- Do our hiring practices support our expectations and accountability?
- How is our teacher evaluation system tied to high expectations and accountability?
- How does the district achieve curriculum coherence and alignment?
- What assumptions about learning guide our curriculum, instruction, and assessment practices?
- What is the purpose of assessment?
- Are we adequately preparing learners for life in the 21st century?
- How do teacher turnover and retention affect our need for professional learning?
- Does our professional learning reflect our strategic priorities?
- What is the district vision for quality instruction?
- How do we know that our instruction reflects evidence- and research-based practices?
- What interventions and extensions are developed and implemented to improve learning for all groups of students?
- How do student achievement results influence change in school conditions and strategies for improving learning?

EFFECTIVE LEADERSHIP

Leadership across the system is united in purpose and focused on student learning with recognition that effective governing, administrative, and instructional leadership are necessary to implement change. Effective leaders share a clear focus on high standards for learning for all students and expect that all district staff, programs, and operations contribute to student learning. Effective leaders stay the course in their commitment to long-term educational improvement.

Shared Focus on Student Learning

There is a shared focus on high standards for student learning. The governing board, district and school leaders, and all other staff share the mission, beliefs and values, and have clear goals for improvement. The expectation is that all district staff, programs, and operations contribute to student learning.

Dynamic and Distributed Leadership

There is action-oriented leadership throughout the system directed toward improved student learning. It is assumed that leadership will be distributed throughout the district to capitalize on the professional talent pool, including teachers who have primary responsibility for instruction.

Sustained Improvement Efforts

There is a commitment to long-term improvement. Staffs are unified around the mission and stay the course to accomplish it. Decisions are data-driven with a mindset that continuous improvement is necessary.

Essential Questions

- To what extent are we developing leadership across the system to ensure a culture of school improvement that positively influences student learning?
- Are we gathering, and acting on, the right information about principals' effectiveness as leaders of learning?
- Is the governing board's strategic leadership, including its policies, setting a clear expectation of organizational performance outcomes that lead to improved student achievement?
- Do we know if the CFSD administrative and instructional leadership assessment programs are stimulating improved performance?
- What processes are in place at the school and district level to ensure that data are used systematically to improve schools and student achievement?

POSITIVE AND SUPPORTIVE LEARNING ENVIRONMENT

There is strong teamwork among teachers across all grades and with other staff. Collaborative and cooperative relationships reflect the needs and strengths of the district, schools, and community stakeholders. A safe, disciplined learning environment supports teaching and learning. Positive, caring, and supportive relationships are established between professional staff and students. Mistakes and errors are welcomed and viewed as opportunities for learning. Student learning is enhanced when schools, families, and the community share goals, demonstrate mutual respect and trust, and join in partnerships to benefit students.

A Culture of Cooperation and Collaboration

School culture is integral to school improvement. High-performing districts build a culture of commitment, collegiality, mutual respect, and stability. Professional norms include peer support, collaboration, trust, shared responsibility, and continuous learning for the adults in the system. Educators in high-performing schools strive to create positive school climates and healthy school cultures that support all students, while holding students to positive high expectations.

High Levels of Family and Community Engagement

The education of children is a community-based collaborative endeavor. The district and its schools believe that family involvement is a key factor for improved student achievement. School, family, and community partnerships are based on mutual commitment, responsibility and respect.

Essential Questions

- What evidence do we have that our learning environment welcomes mistakes and errors as opportunities for learning?
- Are clear and fair rules and policies in place to support a safe, equitable, and healthy learning environment?
- How does the district build trust, mutual respect, and a sense of shared responsibility for desired results in the system?
- Do our families believe that their involvement in CFSD schools creates a meaningful partnership between home and school for the benefit of their children's education?
- Are we optimizing the opportunities for collaboration with businesses, social service agencies, and institutions of higher learning to increase student learning?
- Have we done all that we can do to inform CFSD citizens about the benefits of their local override and bond election tax dollars to help our students achieve their academic and personal best?

Characteristics of High-Performing School Districts: Themes from Research*

Support for District-wide Systemic Improvement

Policy and Program Coherence

- Design and implement a strategic plan that guarantees excellence and equity based on research and performance data
- Review and revise policies, practices, and programs as needed for alignment to priorities to ensure coherence across the system
- Monitor coherence of actions to the district's priorities
- Analyze and interpret state and federal policy with local policy

Strategic Allocation of Resources

- Focus resources on achieving the district's strategic priorities
- Provide, allocate, reallocate, and find the resources directed toward the improvement of student learning

Quality Teaching and Learning

High Expectations and Accountability

- Hold professional staff accountable for student learning
- Expect excellence, monitor performance, and provide feedback
- Hire personnel who share the same high expectations

Coherent and Aligned Curricula Focused on Student Learning

- Centralize and coordinate curriculum design processes and decisions
- Align curriculum with standards, instruction, and assessment
- Focus on rigorous academic content and 21st century skills for college and career success
- Use a comprehensive and balanced 21st century assessment system to determine evidence of student engagement and learning

Focused Professional Learning

- Provide high quality, ongoing professional development focused on classroom instruction
- Include coaching and other support for instructional improvement
- Support continuous, job-embedded professional development based on teaching and learning needs

Frequent Monitoring of Teaching and Learning

- Develop a common vision and language of quality instruction
- Provide guidance and oversight on the use of research-based strategies to improve teaching and learning
- Implement practices and programs with fidelity
- Monitor curriculum, instruction, and changes in practice based on evidence of student learning results

Positive and Supportive Learning Environment

A Culture of Cooperation and Collaboration

- Create a safe, disciplined learning environment
- Build a culture of mutual respect, collaboration, and shared responsibility
- Foster positive, caring, and supportive relationships with students
- Establish a climate of trust and acceptance that welcomes mistakes and errors as opportunities for learning

High Levels of Family and Community Engagement

- Connect family involvement strategies to academic goals
- Provide options for parent involvement that accommodate their interests and schedules
- Create formal and informal community partnerships

A 21st Century Learning Community

Effective Leadership

Shared Focus on Student Learning

- Focus on high standards for learning for all students
- Share district mission, beliefs & values, and have clear goals for improvement
- Develop staff in the effective use of data for continuous improvement
- Expect all district staff, programs, and operations to contribute to student learning

Dynamic and Distributed Leadership

- Exhibit leadership that is united in purpose, highly visible in schools, and focused on instruction
- Encompass governing board, district leaders, principals, teacher leaders, and others
- Provide action-oriented leadership directed toward improvement of learning for all students

Sustained Improvement Efforts

- Commit to long-term educational improvement
- Use data for decision-making for all functions at all levels of the organization
- Persevere, persist, and stay the course
- Unify staff around the importance of the mission and how to accomplish it

CFSD; 2/12/14 - *Adapted from Shannon & Bylsma (2007). *The Nine Characteristics of High-Performing Schools: A research-based resource for schools and districts to assist with improving student learning*. (2nd Ed.). Olympia, WA: OSPI.

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SECTION 1:

DISTRICT-WIDE SYSTEMIC IMPROVEMENT

Support for District-wide Systemic Improvement

There is mutual purpose, and everyone understands his/her role in achieving the mission within the context of a shared vision. A focus on learning permeates the organization. Policy and program coherence exists across the system aligned to the strategic plan. Resources, both human and financial, are focused on the district's strategic priorities. Performance is measured, and those data are used to monitor results, create equity, achieve accountability, and stimulate continuous improvement.

A great organization is one that delivers superior performance and makes a distinctive impact over a long period of time. For a business, financial returns are a perfectly legitimate measure of performance. For a social sector organization, however, performance must be assessed relative to mission, not financial returns. In the social sectors, the critical question is not "How much money do we make per dollars of invested capital?" but "How effectively do we deliver on our mission and make a distinctive impact relative to our resources?"

Jim Collins, 2005

Essential Questions

- Can we be confident that our district's strategic plan reflects the educational interests of our community?
- Do our strategic improvement goals align to the mission of the district?
- Are all functions of the school system aligned and focused on the mission of the district?
- Do we operate as efficiently as possible so that resources are allocated and reallocated to our primary focus on learning?
- Which measures of performance give us the information that we need to determine that we make a distinctive impact relative to our resources?

Introduction

Identifying the core purpose of an organization is a critical component of effective school systems. Members of successful organizations know what they're working toward. Strategic planning heightens attention to mission. Collins (2001) refers to focus as the Hedgehog Concept, which he defines as "a single organizing idea, a basic principle or concept that unifies and guides everything" (p. 91).

Effective systems with strong program coherence – programs and practices consistently and tightly connected with the focus – are more likely to impact student achievement positively than fragmented uncoordinated systems (Newmann, Smith, Allensworth, & Byrk, 2001).

Policy and Program Coherence

When there is a clear and shared focus, it provides direction to all functions of the organization. "Every organization, whether it deliberately creates them or not," according to Peter Senge, Director of the Center for Organizational Learning at the MIT Sloan School of Management, "is governed according to some explicit principles." These principles are guiding concepts or ideas that define what the organization stands for and what its community desires to create. The ideas evolve from prolonged conversation and reflection and continue to evolve through the implementation of new programs and strategies. "These guiding ideas represent much more than formal vision and mission statements; they are shared visions that shape and reshape the organization in fundamental ways and are intimately tied to the organization's identity and core purpose" (Senge, 2000, p. 312).

We view all functions of our school district from a system's perspective. "Systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static snapshots" (Senge, 2006, p. 68).

CFSD Learning System: Learning in the 21st Century

Figure 2 is a graphic depiction of the model of the Catalina Foothills School District (CFSD) learning system. It portrays the interrelated components of our dynamic learning organization. The components ensure that students routinely encounter well-prepared teachers who are working collaboratively with a thoughtful high-quality curriculum, supported by appropriate resources and assessments. The components of the system help students, teachers, leaders, and the system as a whole continue to learn and improve.

"Learning" means expanding our ability to produce the results we want. There is always a gap between desired results and current reality. Continuous improvement work within the system is intended to narrow that gap and move us closer to what we aspire. A systems view of learning is premised on the assumption that processes and structures are planned, aligned, and implemented systematically and systemically to increase the likelihood of reaching targeted strategic goals.

"The key to seeing reality systemically is seeing circles of influence rather than straight lines" (Senge, 2006, p. 75) identifying the influences that will promote greater capacity in the system, and eliminating or redesigning elements that are not advancing the strategic goals. Systemic strategies work to the degree that they change not only the visible elements of the system, but also the beliefs, attitudes, and expectations of the people who work in the system and their daily practice.

Inherent to any system are elements that impact or cause change to other parts of the system. Prior knowledge, assessment of and feedback about learning, and engagement are elements that have the potential to either positively or negatively impact the rate of learning and the accumulation of 21st century knowledge and skills in CFSD's system for learning. Engagement is generally understood to be the primary mechanism for enabling motivational processes. Because highly motivated and engaged learners are more likely to become self-directed, action-oriented learners, our systematic attention to creating the conditions (e.g., choice, control, challenge,

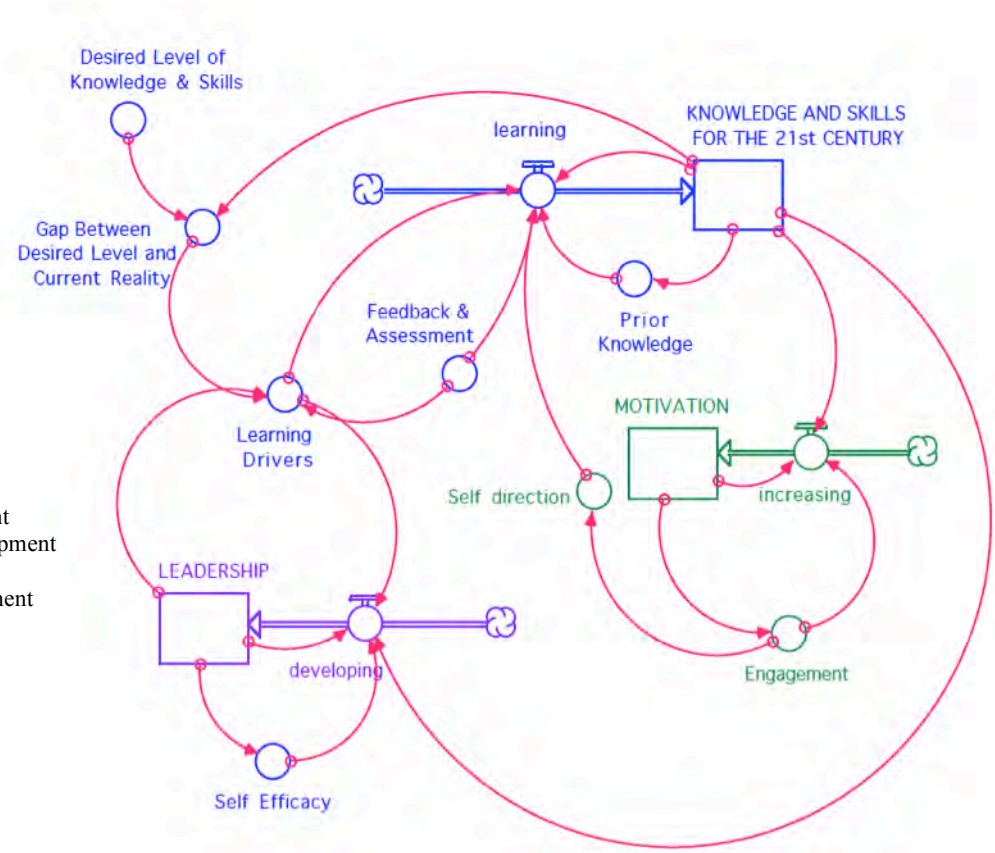
collaborative tasks) that promote engagement is an important and necessary function of the system. "Without motivation, there is no *push* to learn; without engagement, there is no *way* to learn (Toshalis & Nakkula, 2012, p. 33). There are other elements or "drivers" in the system that also impact learning in the organization: shared responsibility, continuous improvement, systems thinking, prioritized goals and plans, challenging and relevant content, capacity building/skill development, teamwork/synergy, family and community engagement. Taken collectively or individually, these drivers are key levers for developing leadership and improving learning.

"Systemic structure is concerned with the key interrelationships that influence behavior over time. These are not interrelationships between people, but among key variables" (Senge, 2006, p. 44). We can affect change in elements by studying the patterns of behavior (systemic structures). These are factors that interact and when studied, "these structures reveal the points of greatest leverage: the places where the least amount of effort provides the greatest influence for change" (Senge, 2000, p. 82).

The CFSD systemic structure influences our decision-making across the district. As we study the interrelationships of key variables in our system in combination with accomplishments to-date, we are able to identify changes to the system that will help us make further progress and actualize our mission of 21st century learning.

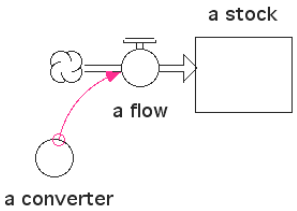
LEARNING IN THE 21ST CENTURY

Catalina Foothills School District



Organizational Learning Drivers:

- Shared Responsibility
- Continuous Improvement
- Systems Thinking
- Prioritized Goals & Plans
- Challenging & Relevant Content
- Capacity Building/Skill Development
- Teamwork/Synergy
- Family & Community Engagement



A stock represents an accumulation.

A flow represents the rate at which the stock changes over time. There are inflows and outflows (i.e., rates at which accumulations increase and decrease).

A converter is a change element within the system – something that causes change within the element it points to (connected by the arrow).

Figure 2. Catalina Foothills School District's system for learning

Our mission influences all of our strategic planning and subsequent improvement work. We want to graduate self-directed lifelong learners who are well equipped for what comes next (and beyond) in their 21st century life as responsible citizens in a global society.

What comes next for most of our students after high school graduation is continuing education in the short-term. Hopefully the long-term brings a satisfying, productive personal existence through which they contribute positively as citizens of the larger community. Basically, our mission is about helping our students succeed in college, career, and life.

The CFSD strategic planning process contributes significantly to the district's ability to meet reasonable and appropriate goals and establish a culture of continuous improvement. Through a strategic planning process, we intentionally define goals for improvement that drive our professional work during a specific time frame, typically 3-5 years. Because it is impossible to do everything that needs attention simultaneously, a strategic plan sets out the organizational actions that are of the highest priority.

The CFSD strategic plan provides clarity about the district's purpose. Over the past fifteen years, CFSD's strategic plans have progressed to a heightened explicit focus on student learning and building our professional capacity to move students to higher achievement levels. We are committed to both excellence and equity in educational program quality at all schools within the system. That is why we dedicate significant resources to developing K-12 curricula for all subject areas that integrate 21st century skills, assessing students' learning progress, and using learning data to adjust our instructional practices to improve student performance.

Individual CFSD schools create improvement plans within the context of the district's strategic plan. It is the expectation that the school analyzes its relevant learning data, identifies gaps between "what is" and "what should be," and follows the Decision-making for Results process to establish specific goals for improvement of student achievement.

We have now "worked" three strategic plans spanning fifteen years. Today we are in the third full year of a three-and-a-half year strategic plan (*CFSD Strategic Plan 2011-2013*) that builds on the accomplishments of the previous five-year plan (2005-2009) that segued from another five-year plan (1997-2003).

The accomplishments of the current strategic plan position us for the next strategic planning effort that will soon be underway with an emphasis on moving our system to the next level in the areas of curriculum, including 21st century skill-building, technology, instruction, and assessment. We continue to be focused on preparing students well for a 21st century life beyond high school that is increasingly global and complex, using technology to enhance learning, improving teaching, and fine-tuning assessment to measure and track student progress and achievement.

CFSD Strategic Plan 2011-2013

Mission

The mission of Catalina Foothills School District is to guarantee that each student achieves academic and personal excellence, becomes a lifelong learner and is a responsible citizen of the world, by engaging all students in meaningful programs which meet the highest educational and ethical standards within a caring, collaborative learning community.

Goals – What we want to accomplish over time

- All students will develop expertise in each of the CFSD 21st century skills.
- All students will be highly engaged in their own learning.
- All district schools will reach maximum enrollment capacity.

Objectives – What we want to accomplish in the next 2-3 years

- Develop students that are self-directed critical thinkers who produce quality work.
- Increase the level of engagement of all students.
- Grow student enrollment across the K-12 system.

Strategies – How we will achieve our objectives

1. Increase instructional and assessment opportunities that stimulate student self-direction and critical thinking.
    - Focus professional development on practices that develop students as critical thinkers who are self-directed, productive learners.
    - Use assessments that measure critical thinking in all curricular contexts.
2. Increase the authenticity of student academic work.
    - Focus professional development on classroom structures that engage students so they can make real-world connections and understand their learning's relevance to their lives beyond CFSD.
3. Create an outreach plan that highlights CFSD programs and student achievement to market the district as an excellent K-12 educational option for students.

Accomplishments – What we achieved

- Measured critical thinking and self-direction across subject areas.
- Designed common assessments (grade- and course-level) that included critical thinking, communication, and problem solving.
- Fine-tuned the K-8 standards-based report cards.

- Implemented the College and Work Readiness Assessment (CWRA) of freshmen and seniors.
- Built professional capacity to design K-12 performance-based authentic assessments modeled after the CWRA.
- Redesigned the teacher and principal evaluation systems with emphases on evidence-based instructional and leadership practices that produced high student achievement.
- Focused professional learning on these instructional and leadership practices.
- Surveyed community (students, staff, parents) twice regarding our vision for 21st century learning including development of the seven CFSD 21st century skills, implementation of structures and practices that support 21st Century learning, and student engagement.
- Enhanced technology support for learning – all students, all teachers, and all classrooms.
- Created an outreach plan that marketed CFSD, resulting in a sustained K-12 enrollment at or near 5,000 students.
- Realized a forty-nine percent (49%) increase in non-resident student enrollment.
- Achieved a ninety-five percent (95%) student retention rate during the three school years of 2011-2012, 2012-2013, and 2013-2014 (i.e., 5% mobility rate).

Translating 21st Century Learning into Action

The *Dimensions21* survey administered to teachers and administrators in 2010 and again in 2013 provides us with insights into the elements required to translate 21st century learning into action. Metiri Group, the survey author, developed metrics that gauge a district's progress in establishing 21st century systems of learning. The survey results give us important information about our progress toward institutionalizing seven dimensions – vision, systems thinking, 21st century skills, learning environment, teacher proficiency, infrastructure, and accountability. Table 1 provides the indicators and key questions for each dimension.

Table 1

Dimensions21 Survey Indicators and Key Questions for Each Dimension

Dimensions	*Indicators and Key Questions*
1. Vision	*A Forward-Thinking Vision for All Learners:* Is there a 21st century vision that defines what it means to be educated in a knowledge-based, global society? *A Sound Base in the Learning Sciences:* Does the vision represent current research findings from the cognitive, social, and neurosciences? *Communication and Commitment*: Have stakeholder groups had a voice in shaping the vision? Has the district communicated with them about the vision? Are they generally supportive of and committed to the vision?
2. Systems Thinking	*Leadership:* Are the school and/or district leaders leading a high-performance education system that enables each student the fullest

	opportunity to achieve the vision? *Curricula, Instruction, and Assessment:* Do the district learning standards integrate academic content with 21st century skills? Are curricula, instruction, and assessments aligned? *Professional Development:* Do the school and district provide comprehensive professional growth opportunities for administrators, teachers, and other staff, which build their capacity to advance the vision? *Culture of Learning and Innovation:* Does the school or district encourage and support school change that advances 21st century learning, and innovative, educationally sound uses of technology? *Policies Supportive of the Vision:* Are there policies that formally establish 21st century learning and effective technology use as a required design element in all strategic planning, school improvement, budgeting, human resources, and accountability systems?
3. 21st Century Skills	*Knowledge Age Literacies:* Are students acquiring and excelling at the skills needed to be "literate" in the Knowledge Age? *Inventive Thinking:* Are students thinking critically and creatively as they successfully solve problems using high tech tools? *Community Interaction:* Are students acquiring such skills? *Generating Quality Results*: Are students learning to plan, manage, and achieve high quality, impactful results? *Authenticity and Engagement:* Are students being assigned rich, authentic work that engages them and involves construction of knowledge through disciplined inquiry, resulting in products that have value beyond the classroom?
4. Learning Environments	*Alignment with 21st Century Vision:* Do the district content, instruction, and assessment align to 21st century learning and academic content standards? *Informed Practice:* Are educators establishing learning environments that are structured as respectful classroom communities where students can work creatively and productively, places that motivate, interest, and scaffold students to think critically? *Culture of Innovation, Engagement, and Collaboration:* Are professional learning teams working together to design and facilitate collaborative 21st century learning activities with students? Are activities evidence-based? Are students producing high-quality work that is valued by peers, parents, and community? *Resources Aligned to 21st Century Learning:* Do students have access to a wide variety of multimodal resources? Are these sources accessible inside and outside the school environment? *Digital Tools – Range of Use:* Do students have the opportunity to use a range of technologies (e.g., productivity tools, visualization tools, research

	and communication tools, etc.) to support 21st century learning and academic achievement? *Assessment for Learning:* Is assessment systematically used to inform practice? Do students set learning goals based on standards? Are they actively engaged in monitoring their own progress toward those goals? *Local and Global Connections:* Are there formal, technology-based structures that engage stakeholders and learners in meaningful exchanges, interactions, and partnerships at the local and global levels?
5. Teacher Proficiency	*Knowledge and Facility with 21st Century Skills:* Are teachers familiar with the concept of 21st Century skills and with the research underpinnings and practical applications of these skills? *Building 21st Century Skills:* Do teachers have a variety of strategies for building these skills? *Designing Rigorous Authentic Curricula:* Are teachers skilled in designing rich curricula that integrate content, 21st century skills, and technology, which provides a digital age learning context? *Differentiated Instructional Strategies:* Are teachers skilled in engaging all students in learning through a variety of teaching and organizational strategies that are tailored to the needs of individual students? *Informed Use of Data and Research:* Are teachers skilled at accessing, organizing, and acting upon available data to make important decisions about students and learning? *Assessment for Learning:* Do teachers have a deep understanding of the central role of assessment in the learning process and leverage technology resources to assess core content and 21st century skills? *Professional Practice and Productivity:* Are teachers skilled in the use of technology to support their own professional practices and do they depend on technology to maximize productivity?
6. Infrastructure	*Range of Technology Tools:* Are a wide range of technology tools, software, and environments available to support all aspects of teaching and learning? *Robust Infrastructure:* Are the network and technical infrastructure of the school sufficient to provide seamless access to all in the school community? *Longitudinal Data System:* Are systems in place to provide all educators in the system with seamless access to the data that they need to support their professional decision making? *Technical Support:* Is there adequate technical support to provide timely assistance to all users within the system? *Technology-Ready Facilities:* Is the school building well suited to 21st century teaching and learning?

	Digital Learning Environments: Where appropriate, is digital and virtual access to learning opportunities available to all in the school community? *Administrative Processes and Operations:* Is technology leveraged to ensure well-informed and efficient administration at all levels of the school and district? *Service Orientation:* Are all staff with responsibilities for infrastructure, technology deployment, and technical support oriented toward providing high-quality service? Do they acknowledge the primacy of the educational goals of the schools?
7. Accountability	*Accountability System Aligned to Vision:* Has the accountability system been redesigned to ensure that the vision is achieved within a prescribed timeframe? Have policies been rewritten to ensure that planning, resource allocation, time investment, curriculum redesign, professional development, and other elements of the system are orchestrated to advance the vision? *Clarity, Transparency, and Consequences:* Do educators, students, parents, and community members understand what the vision is, why it is important, and what it means to their respective roles in schools? Do they understand what the vision will look like if achieved, the assessments used to monitor progress toward the vision, and the consequences associated with failure to achieve incremental milestones toward the vision? *Comprehensive, Prioritized Funding:* Have the schools and district analyzed the full cost of implementing the vision over time and have they committed sufficient funds in the short and long term in order to achieve the vision within established timeframes? *Decision Making Informed by Data and Research:* Is the data analysis, in combination with research, appropriately informed, and does it contribute to the continuous improvement of the system? *Results:* Are the district and schools making progress toward their goals?

Each dimension is calibrated on an 8-point scale (Figure 3).

Figure 3. Dimension21 scale for each dimension

Comparing the survey scores from 2010 to 2013, we made progress (Figure 4 below), but over time we want to move into the systemic level of implementation for each dimension.

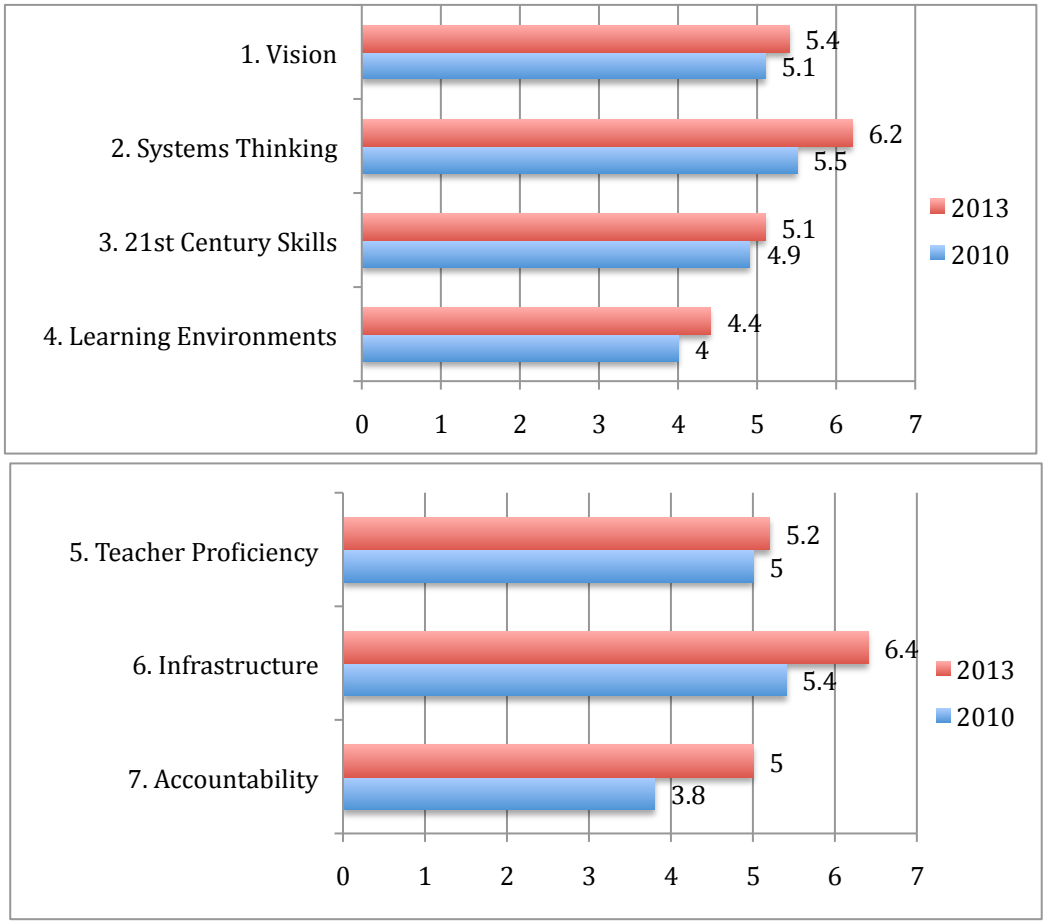


Figure 4. Dimensions21 2010 and 2013 survey results for each dimension

When rating their familiarity with 21st century skills, fifty-nine percent (59%) of parent respondents to the 2013 survey reported that they were either extremely familiar or fairly familiar with the skills. Thirty-three percent (33%) were a bit familiar. The good news is that a high percentage of parents know something about our commitment to develop these skills in their students, but we want more parents to have a deeper knowledge of the skills.

A large majority of parent respondents in both survey years of 2010 and 2013 reported that the CFSD 21st century skills were important. The percentages shown in Table 2 below represent a combined total of parental responses that the skill was "very important" and "of critical importance."

Table 2

21st Century Skills

21st Century Skill	**2013**	**2010**
Teamwork	92%	89%
Self-direction	97%	97%
Leadership	91%	91%
Critical/Creative Thinking	96%	98%
Systems Thinking	90%	88%
Communication	98%	94%
Cultural Competence	74%	74%

We have identified the distinguishing traits and qualities of 21st century learners for each of the 21st century skills. (Refer to this report's section on Coherent and Aligned Curriculum Focused on Student Learning, p. 29) In addition to translation of the skills into specific characteristics, we want to continue our efforts to communicate the ways in which these skills are important in a real world context. It appears that cultural competence is the skill that needs our most concerted effort to share information with parents about its value in a global environment and why world language acquisition is important to students' job prospects in the future. It's impossible to know if the term "cultural competence" conjured up a connection to world language learning in the minds of parent respondents since this 21st century skill was not defined in the survey questions.

Eighty-three percent (83%) of parent respondents to the 2013 survey reported that their student's school was taking specific action to build 21st century skills. More than seventy percent (70%) of parents responded that teamwork, self-direction, critical and creative thinking, and communication were the skills that their student's school was actively developing.

Eight-three percent (83%) of parent respondents believed that their school was preparing their child to deal with issues and problems that she or he would face in the future. Also, ninety-one percent (91%) believed that their child was being well prepared to continue his/her education.

Strategic Allocation of Resources

We focus our resources across all departments on achieving the district's strategic priorities. For example, the annual budget is heavily influenced by the desired results outlined in the strategic plan. We allocate, and reallocate, dollars to support our improvement plans. Another example is the deployment of human resources. We recruit, hire, and retain staff who share our commitment to 21st century learning and who show the greatest promise to contribute positively to the achievement of our mission. We support their professional development throughout their careers in CFSD. (Refer to this report's section on Focused Professional Learning, p. 97.)

Although we have significant local control over how our resources are allocated, we must also analyze and interpret state and federal policy with our local policy. We are always mindful of what state laws and regulations as well as federal policy influence our resource allocation.

Whenever possible, we respond to those external legal, regulatory, and policy contexts with our own local effort to define our own destiny on behalf of our community's interests. Elmore (2004) argues that external accountability measures impede local school improvement efforts:

> At the heart…is the idea that improvement is a developmental process, not an act of compliance with policy. Schools "get better" by engaging collectively in the acquisition of new knowledge and skills, not by figuring out what policymakers want and doing it. The development of human knowledge and skills – both individually and collectives – is not a simple, linear trajectory, as models of external accountability would seem to suggest. Development is often a ragged, uneven process characterized by significant gains in knowledge, skill, and performance, followed by fallow periods in which people confront the limits of their existing knowledge and try to discover the next set of problems that will lead to the next level of increase in performance. Accountability measures that penalize schools for failing to improve at a constant, and arbitrary, rate simply wind up making it harder for them to sustain and build on their accomplishments. (p. 227-228)

Conclusion

A strategic planning process is key to determining focuses for district wide systemic improvement. It is a planning tool to help the system tend to excellence and equity of educational outcomes. Planning enables the community to determine its priorities for educational achievement. The strategic plan focuses the system on the highest priority goals that will improve the learning outcomes produced by students. In order to expand our capacity to get the results we want, we need to pay attention to the systemic structures or the interrelationships of elements of the system in order to leverage change over time to improve student learning.

Understandings

- The CFSD Governing Board is the strategic unit of the district, legally empowered with the responsibility to establish the direction of the school system and hold the staff accountable for desired results.
- Years of sustained commitment to improvement are required to attain high student performance.
- Effective schools and districts plan systemically in order to create educational policies, programs, and practices that produce both excellence and equity.
- A strategic plan is a tool for reviewing and revising policies, programs, and practices to determine improvement goals whose achievement will bring greater coherence to the system.
- Identifying leverage points within systemic structures where change will have the greatest influence on student learning is key to meaningful improvement.

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SECTION 2:

QUALITY TEACHING AND LEARNING

High Expectations and Accountability

Teachers and staff believe that all students can learn and meet high standards. While recognizing that some students must overcome significant barriers, these obstacles are not seen as insurmountable. Students are offered an ambitious and rigorous course of study.

Essential Questions:

- Do our expectations reflect our beliefs about student learning?
- Do our hiring practices support our expectations and accountability?
- How is our teacher evaluation system tied to high expectations and accountability?

Increasing student learning and holding all professionals accountable for learning requires that students believe in their ability to learn and reach high academic standards and are supported by teachers with those same beliefs. To have the conviction that all students can achieve in school, professional staff must perceive them all as having sufficient ability to do so and have confidence in their capacity to meet students where they are performing and move them incrementally toward meeting those standards (Saphier, 2008; Hattie 2012; Dweck, 2006).

In CFSD, teachers set standards of performance they believe to be rigorous, important and appropriate; find out where the students are in relation to those standards; and adapt instruction to accommodate students' differences in readiness levels, learning and processing styles, and motivation. Teachers invest in discovering ways to build confidence in students and in teaching them how to invest their effort effectively.

The seminal work of John Hattie has been a focus of professional development and Data Teams in CFSD. In his book, *Visible Learning for Teachers: Maximizing Impact on Learning* (2012), he presents eight "mind frames" or ways of thinking that taken together, must underpin actions and decisions in schools and systems. He contends that teachers and leaders who develop these ways of thinking are more likely to have major impacts on student learning. The mind frames include:

Mind Frame 1: Teachers/leaders believe that their fundamental task is to evaluate the effect of their teaching on students' learning and achievement.

Mind Frame 2: Teachers/leaders believe that success and failure in student learning are about what they, as teachers or leaders, did or did not do...We are change agents!

Mind Frame 3: Teachers/leaders want to talk more about the learning than the teaching.

Mind Frame 4: Teachers/leaders see assessment as feedback about their impact.

Mind Frame 5: Teachers/leaders engage in dialogue not monologue.

Mind Frame 6: Teachers/leaders enjoy the challenge and never retreat to "doing their best."

Mind Frame 7: Teachers/leaders believe that it is their role to develop positive relationships in classroom/staffrooms.

Mind Frame 8: Teachers/leaders inform all about the language of learning.

These mind frames assist teachers in seeing learning through the eyes of their students and moving students toward becoming their own teachers. The concept of "visible learning" drives conversations and feedback with teachers and administrators for the purpose of continually monitoring our effect on our students. Figure 5 depicts the specific mind frames that teachers must have to "see learning through their students' eyes" and to help students move toward "becoming their own teachers".

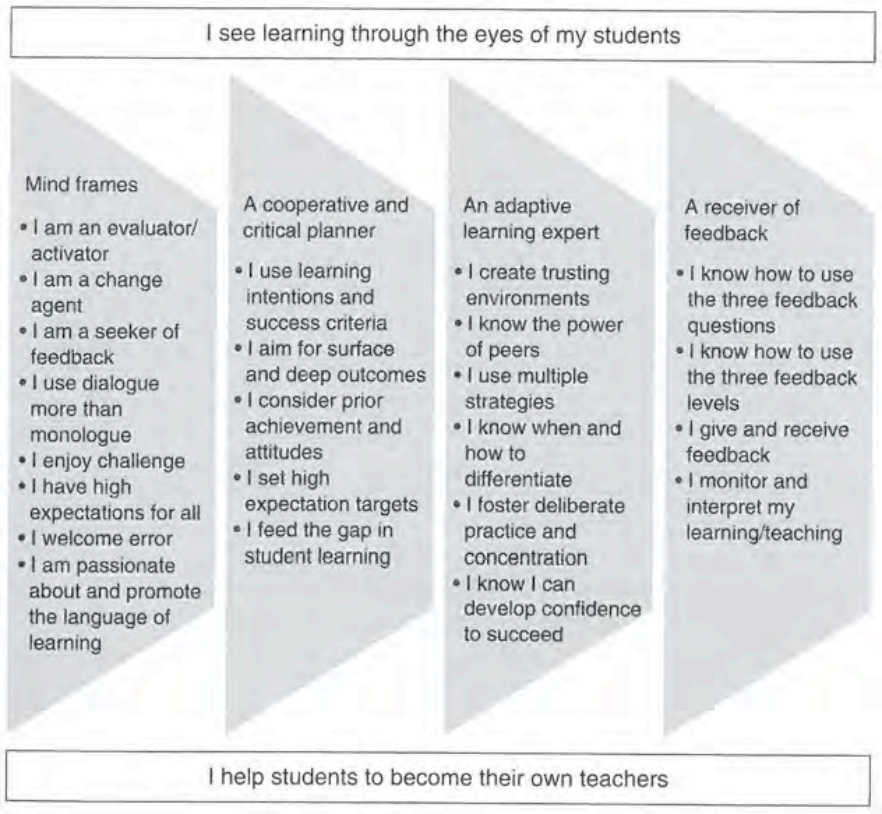


Figure 5. Know Thy Impact – Hattie's diagram of seeing learning through the eyes of students

The central message of Hattie's work is that teachers, schools, and systems need to be consistently aware, and have dependable evidence of the effects that all professional staff are having on their students, and from evidence, make decisions about how to teach and what to teach (Hattie, 2012).

Hattie refers to a hinge point to "…set the level where the effects of innovation enhance achievement in such a way that we can notice real-world difference…" (p.17). "The hinge point identifies a level of evidence that might be considered a minimum level for claiming worthwhile positive effect" (p.17). It is a guideline to begin discussions about what we can aim for if we

want students to change. The effect sizes for each instructional strategy are then put on a continuum to order them from least effective to most effective. Dr. Hattie developed a "barometer of influence" to illustrate zones of influence for any given innovation. The zone of desired effects begins at 0.40. the hinge point. Using the barometer of effect on student learning, "teacher expectations" exceeds the hinge-point, having a greater than average impact on student learning. The effect size for teacher expectations is 0.43, as depicted in Figure 6 below.

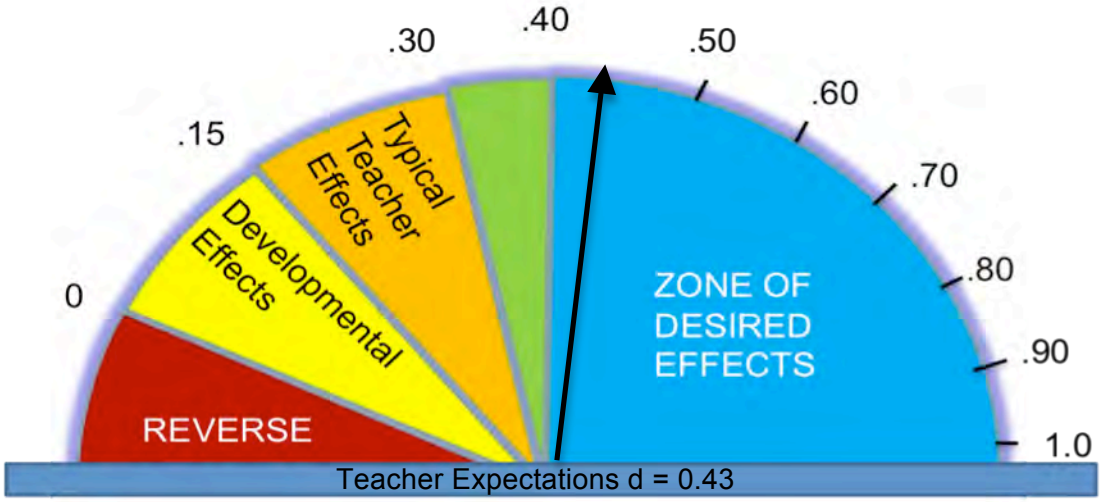


Figure 6. The barometer of effect for teacher expectations

Hattie found that if teachers have high expectations, they tend to have them for all students. Similarly if teachers have low expectations, they have them for all students. There are differences in achievement gains relating to whether teachers believe that achievement is difficult to change because it is fixed or innate, compared to teachers who believe that achievement is changeable. Teachers and schools must have expectations that are challenging, appropriate, and measurable, such that all students are achieving what is purposeful and valuable (p. 82).

Carol Dweck (2006), a leading researcher on motivation, is known for her distinction between fixed and growth mind-sets which Hattie references above. Dweck suggests:

> Growth mindset is based on the belief that your basic qualities are things you can cultivate through your efforts. Although people may differ in every which way-in their initial talents and aptitudes, interests, or temperaments-everyone can change and grow through application and experience. In a fixed mind-set students believe their basic abilities, their intelligence, their talents, are just fixed traits. They are carved in stone with only a certain amount of intelligence, a certain personality, and a certain moral character. (p. 6-7)

Dweck's assertion is important because (1) individuals with a "growth" theory are more likely to continue working hard despite setbacks, and (2) individuals' theories of intelligence can be affected by subtle environmental cues. For example, children given praise such as "good job, you're very smart" are much more likely to develop a fixed mindset, whereas if given

compliments like "good job, you worked very hard" they are likely to develop a growth mindset. In other words, it is possible to encourage students, for example, to persist despite failure by encouraging them to think about learning in relation to effort. CFSD seeks teachers who believe in and will directly teach students about effort-based ability. Saphier (2008) supports this belief:

> All children are born with the innate ability to achieve anything asked of them in school and that this ability is malleable through effective effort. It is not about having the raw ability to work with, but rather believing he or she has the confidence and investing effort effectively – working hard and acquiring knowledge and strategies for working smart. (p. 270)

Teaching effective effort means making students aware that effective effort is a combination of working hard and applying effective strategies. Emphasizing the strategy component with students is essential to giving them an explanation other than lack of ability when they are working hard and aren't yet seeing progress. These ideas are cultivated through our professional development sessions and reinforced through the Teacher Assessment Program (TAP).

Hiring High Quality Professionals

In hiring teachers for CFSD, we seek professionals who hold beliefs about students that are aligned with a growth mindset, or effort based ability. We understand that there are certain beliefs about children, about teaching and learning, and about schools that bear heavily on a teacher's willingness to learn and what it is he or she feels compelled to seek and learn. Some beliefs are essential to teacher learning. Without them, teachers will not be fully committed to stretching themselves. Without understanding one's beliefs, it is impossible to understand one's attitude and motivation to learn new approaches to teaching.

Some of the specific descriptors from our teacher job description that depicts the qualities that we are seeking in our teaching force include:

- Responsible for challenging all students to achieve their personal best through rigorous, engaging, innovative, instructional techniques that develop skills and knowledge for life long learning and responsible citizenship.
- Guides the learning process toward the achievement of curriculum goals; in harmony with the goals, establishes desired student performance objectives for all lessons, units and projects, and communicates these objectives to students.
- Assesses students to determine whether desired student performance objectives are being achieved.
- Plans, after identifying student needs, a program of study. Modifies instruction of program to meet the needs of each child.
- Employs instructional methods and materials that are most appropriate for meeting stated objectives.
- Evaluates, conscientiously and fairly, the accomplishments of students and provides progress reports as required by law, District policy, and administrative regulation.

- Establishes, maintains and promotes a classroom atmosphere, which ensures the emotional and physical safety and well-being of students and emphasizes mutual respect, self-worth, self-discipline, cooperation, consideration and responsibility.
- Participates as a member of an instructional team to promote learning activities for students consistent with district and school education objectives.
- Cooperates with other staff members in planning instructional goals, objectives and methods.
- Maintains and improves professional competence.

Most importantly, we strive to hire teachers who believe that all of their students can achieve at a high level given the right conditions; that is, that students can increase their ability through application, focus, and good strategies. These beliefs drive the teacher to:

- Become a teacher of strategies as well as a teacher of an academic discipline.
- Diversify his or her teaching to match different student learning styles.
- Ask "How might I approach this differently or alter the conditions?" when a student isn't learning.
- Develop the commitment to convey high expectation messages to students.

(See this report's section on Focused Professional Learning on p. 97 for a full description of the recruitment of teachers.)

Teacher Evaluation

The mission of Catalina Foothills School District is to guarantee that every student will graduate from high school well-prepared to prosper in postsecondary education, on-the-job, and in life. The different demands on 21st century education dictate new roles for teachers in their classrooms and schools. The district's Teacher Assessment Program (TAP) was driven not only by new understandings of learners and learning, but also by the new imperative that every student can and must achieve to high standards. The TAP document embraces this new emphasis and describes accomplished teaching that leads to improved student achievement. The Catalina Foothills School District's Teacher Assessment Program is expected to:

- Utilize rubrics that foster careful analysis and constructive dialogue about performance expectations.
- Provide clear performance expectations for accomplished teaching. The framework defines the actions that effective teachers engage in to deliver high quality instruction.
- Align professional development and support to the Teaching for Learning framework in order to provide teachers with focused training and the support necessary for growth and increased effectiveness.

Elmore (2004) believes that it is unfair and unrealistic to expect educators to achieve improved outcomes for students if they are not provided with the professional learning opportunities they

need to improve their practices. He views accountability as a reciprocal process and goes on to state:

> For every increment of performance I demand from you, I have an equal responsibility to provide you with the capacity to meet the expectation. Likewise, for every investment you make in my skill and knowledge, I have a reciprocal responsibility to demonstrate some new increment in performance. This is the principle of 'reciprocity of accountability for capacity.' (p. 93)

The complexity of teaching is well recognized. There are intellectual as well as emotional demands in teaching. Planning for the productive activity of 25-30 individuals, and successfully executing those plans, all within the context of multiple and sometimes conflicting demands from school, district, community and state can be a daunting task.

TAP identifies those aspects of a teacher's responsibilities that have been documented through empirical studies and theoretical research as promoting student learning. The instrument seeks to define what teachers should know and be able to do effectively in the classroom each day. The indicators represent CFSD's high expectations for teacher knowledge and skills and are part of a learning system for holding teachers accountable.

The framework is based on current research on teaching practice. The framework is made up of four domains (Figure 7). These include:

- Plan
- Teach
- Increase Student Achievement
- Exhibit Professionalism.

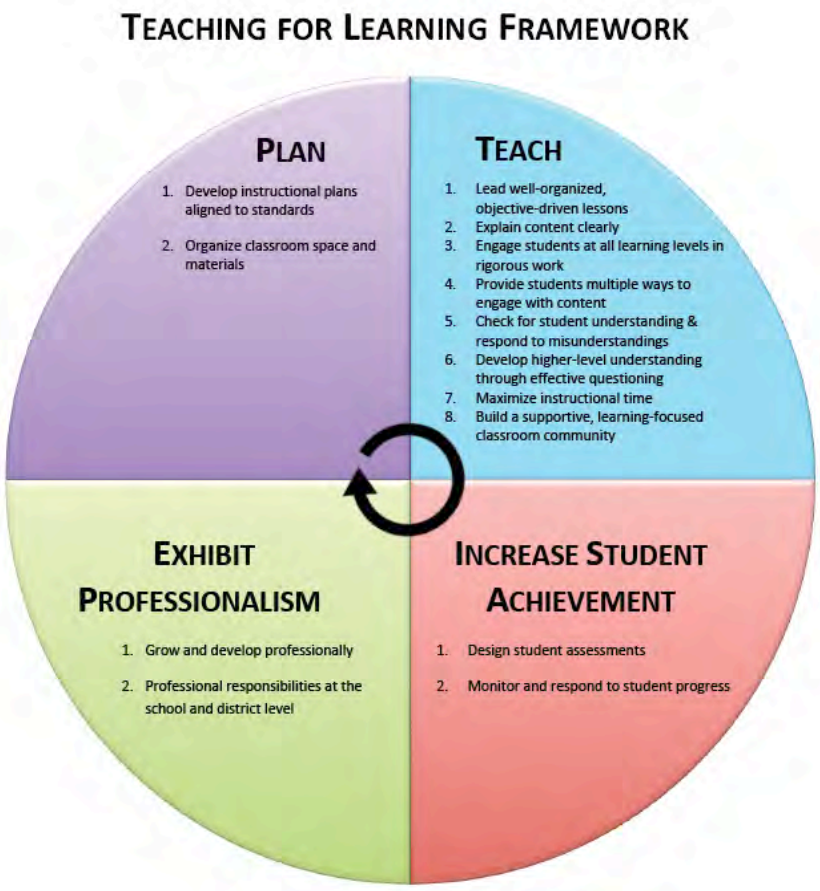


Figure 7. The four domains in the teaching for learning framework

Within each domain, there are components (rubrics). Components describe the specific knowledge, skills, and performance evaluated under the broader domain. There are two planning components, eight teaching components, two components under student achievement and two in professionalism. Each component has a rubric. The rubrics are comprehensive and detailed and designed to capture critical aspects of the complex art and science of teaching.

Performance indicators are the observable and measurable statements of educator knowledge and skills aligned to each component (rubric). They serve as the basis for identifying teaching performance (performance classifications) in one of four categories: Score 4 (highly effective) through Score 1 (ineffective).

A rubric (Figure 8) can be an indispensable resource, with detailed expectations for effective practice. Common language and shared understanding are the foundation for a strong professional culture that can support the growth and development of every educator.

TEACHING FOR LEARNING FRAMEWORK (TLF) RUBRIC: TEACH

TLF TEACH 4: PROVIDE STUDENTS WITH MULTIPLE WAYS TO ENGAGE WITH CONTENT			
SCORE 4.0: HIGHLY EFFECTIVE	**SCORE 3.0: EFFECTIVE**	**SCORE 2.0: DEVELOPING**	**SCORE 1.0: INEFFECTIVE**
• The teacher utilizes a variety [over time] of active engagement strategies/ techniques that highly and intellectually engage virtually all students with the content. • Re-engagement strategies utilized by the teacher successfully re-engage students with the lesson and sustain engagement for the duration of the lesson.	• The teacher utilizes a variety [over time] of active engagement strategies/techniques that elicit intellectual ("minds-on") engagement from most students throughout the lesson (see examples below). • The teacher appropriately matches engagement strategies/techniques to the learning goal(s), which enhances learning. • The teacher notices when specific students or groups of students are not engaged and takes action to re-engage students (See "attention moves" in *The Skillful Teacher*). • The teacher utilizes a variety [over time] of strategies/techniques that develop literacy skills across disciplines *(For example: critical reading/writing strategies, use of mentor texts, etc.)*	• The teacher utilizes [over time] a narrow range of engagement strategies/techniques to elicit intellectual ("minds-on") engagement from some students for some parts of the lesson. • The teacher utilizes engagement strategies/ techniques that are mismatched to the learning goals. • The teacher notices when students are not engaged, but does not apply specific strategies/techniques to re-engage them. • The teacher utilizes [over time] a narrow range of strategies/techniques to support literacy development across disciplines.	• The teacher limits student engagement by overusing the same engagement strategies/techniques. • The teacher does not consider the match between engagement strategies/ techniques and the learning goals. • The teacher rarely notices when students are disengaged. • The teacher limits student engagement by overusing the same engagement strategies/techniques to support literacy development across disciplines.
Notes: 1. For the purpose of this work, student engagement is defined as the degree to which students are actively pursuing deep learning related to established standards. Deep learning is defined as learning that involves the critical analysis of new ideas, linking them to already known concepts and principles, and leads to understanding and long-term retention of concepts so that they can be used for problem solving in unfamiliar contexts. Levels of Engagement: (1) Intrinsic, Tactical, Compliant, Withdrawn, and Defiant; (2) Behavioral, Social/Emotional, Cognitive (From Metiri Group/CFSD Report on Student Engagement). 2. Intellectual Engagement: emotional and cognitive investment in learning, using higher order thinking skills to increase understanding, solve complex problems, or construct new knowledge. 3.Teachers should be acknowledged for providing students with ways of engaging with content that target different learning modalities (auditory, visual, kinesthetic/tactile) or multiple intelligences (spatial, linguistic, logical-mathematical, kinesthetic, musical, interpersonal, intrapersonal, naturalistic), or for using other effective teaching strategies. 4. A teacher can also be acknowledged for providing students with multiple strategies of engaging with content even when all of the strategies target the same modality or intelligence (e.g., showing a short video clip, then using a graphic organizer - though both target the visual learning modality, they provide students with different ways of engaging with the same content). 5. During walkthrough and formal observations, data needs to be collected on the kinds of engagement strategies teachers are using so that data reflects a "variety" over time.		Strategies for engaging in content: • Accommodate different learning needs/styles/interests • Utilize technology as tools to access, interpret, evaluate, and apply information • Make connections between content and real world applications • Preview new content • Cue or identify critical/important information about content • Ask preview/focus questions • Present information in small chunks • Ask students to process/summarize new information • Ask students to record and represent knowledge • Use academic games and inconsequential competition • Manage response rate techniques (wait time, hand signals, technology, choral responses, etc.) during questioning	• Relate content to students' interests • Use pacing techniques (e.g., time limits) • Use friendly controversy techniques • Present unusual or interesting/novel information • Use activities that are challenging and compelling • Create relevant, authentic work • Provide work/tasks with student choice/options • Use stories/anecdotes, engaging body language/tone/volume, humor to demonstrate enthusiasm for the content • Use active participation strategies • Four key elements for engaging students in learning: (1) grouping of students, (2) activities and assignments, (3) structure and pacing, and (4) instructional materials and resources
Comments:			Score:

Figure 8. Sample rubric from TAP

The teacher performance classifications differentiate levels of educator performance along a continuum of professional practice. In each rubric/component and overall, experienced educators are expected to demonstrate "Score 3.0: Effective."

The teacher performance classifications are defined as follows:

- *Highly Effective* (Score 4.0): A highly effective teacher consistently exceeds expectations. This teacher's students generally made exceptional levels of academic progress. The highly effective teacher demonstrates mastery of the State Board of Education adopted Professional Learning Standards, as determined by at least two classroom observations.
- *Effective* (Score 3.0): An effective teacher consistently meets expectations. This teacher's students generally made satisfactory levels of academic progress. The effective teacher demonstrates competency in the State Board of Education adopted Professional Learning Standards, as determined by at least two classroom observations.
- *Developing* (Score 2.0): A developing teacher fails to consistently meet expectations and requires a change in performance. This teacher's students generally made unsatisfactory levels of academic progress. The developing teacher demonstrates an insufficient level of competency in the State Board of Education adopted Professional Learning Standards, as

determined by at least two classroom observations. The developing classification is not intended to be assigned to a veteran teacher for more than two consecutive years. This classification may be assigned to new or newly-reassigned teachers for more than two consecutive years.

- *Ineffective* (Score 1.0): An ineffective teacher consistently fails to meet expectations and requires a change in performance. This teacher's students generally made unacceptable levels of academic progress. The ineffective teacher demonstrates minimal competency in the State Board of Education adopted Professional Learning Standards, as determined by at least two classroom observations.

In CFSD, we have a detailed evaluation process for teachers (See Figure 9). All teachers are evaluated annually. The process for evaluation is differentiated between probationary and continuing teachers. For all probationary teachers (teachers with three or less years in CFSD), their full evaluation is completed during the first semester of the school year. They are observed formally twice during the semester, with two additional informal observations to inform the summative evaluation. During the second semester, the probationary teacher works on a professional growth plan, with a reflection on progress at the end of the school year. An additional two informal observations are completed for the probationary teacher during the second semester.

For continuing teachers (teachers in year four and above), their full evaluation is typically begun in the first semester and completed during the second semester. They are also observed twice formally, with an additional four informal observations throughout the first and second semester.

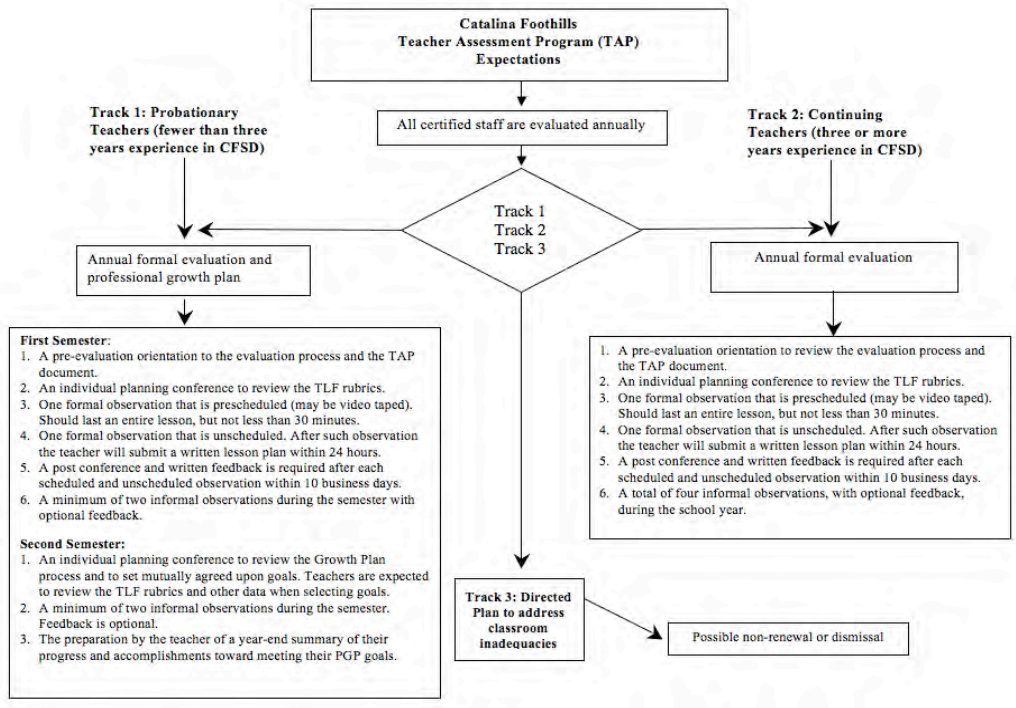


Figure 9. TAP flowchart

House Bill 2823 requires additional components to be included into the district evaluation policy. By the 2015-16 school year, the policies must describe:

- Support and consequences for teacher designated in the lowest performance classification.
- An intervention option for teachers designated in the lowest performance classification that includes the use of a performance improvement pan. The policy must specify this option may be used only once for each teacher.
- Dismissal policies pursuant to the statutory process for inadequate classroom performance of teachers who continue to be designated in the lowest performance classification after interventions have been provided.
- Dismissal policies pursuant to statute for teacher who are not provided intervention. This requires the policies to state that the dismissal process shall be implemented no later than the second consecutive year the teacher is designated in the lowest performance classification.

This legislation will require our TAP design team to evaluate our current system and include these provisions in the plan for the 2015-16 school year. Additionally, in 2014, we will start to revise Policy GCO, Evaluation of Professional Staff, and GCO-RA to reflect the statute requirements.

Performance Award

Holding all professional staff accountable for student learning is part of our Performance Award Plan in CFSD. In November 2000, the voters of Arizona passed Proposition 301, which provided sales tax monies to supplement the current general fund appropriations to education.

To hold all teachers accountable for student learning, the CFSD 301 Pay for Performance Design Team looked at how to distribute the performance pay component of Prop 301 and made a decision to adopt a school-based approach. They believed that a school-based performance award plan had the following advantages:

- A site or school-based award plan reinforces the idea that the school as a whole, not any one individual, is responsible for student achievement.
- Such a plan provides all teachers with the incentive to improve student achievement.
- The plan distributes award funds to all eligible employees who meet the established performance goals at each school.

There were several parameters that guided the Performance Pay Design team in creating a fair and equitable plan for holding professionals accountable for student learning:

- The CFSD performance award plan will focus on student achievement results and reward teachers for undertaking practices that enhance their overall teaching effectiveness.
- School-based awards for performance will be based on goals specific to each school; e.g., schools must either maintain current high levels of performance or improve their performance. Schools will not compete with each other for awards.
- Awards will be given for the overall performance of the entire school. If a school does not earn the award, that school's share will carry forward into the next year and be added to the total pool of district dollars available for distribution the following year.
- Awards will be given for participation in or leadership on a Data Team where teachers continually assess student progress and analyze results in order to plan for instruction that maximizes student achievement.
- All eligible certified staff that qualify for a performance award will receive an equal dollar amount for the same performance level based on their full-time equivalency (FTE).
- Participation in the Performance Award Plan is not voluntary.
- The core idea behind the performance award is to provide a bonus for performance during a specific time period. The award must be earned each year.

A number of potential assessments were considered as performance measures by the design team. It was decided that student achievement would be measured by students' scores on standardized tests for the pay awards. The team was guided by the following criteria:

- The measures must be statistically sound, with enough baseline data to calculate change.
- The measures must be recognized by the public as valid indictors of student achievement.
- Data management must be small so it does not generate an undue burden for teachers or administrators.

For the past three school years, the Scholastic Aptitude Test I (SAT), the Arizona Instrument to Measure Standards (AIMS), and the Stanford Achievement Test 10 (SAT 10) were used as student achievement measures because they met all of the required criteria. Different tests from AIMS were used during different years to ensure that we had three years of data measuring the same skills. If assessments (math, writing, SAT 10) changed, we did not include them in the calculation of performance until we had three years of reliable data.

House Bill 2823 requires that, by the school year 2014-15, an individual teacher's performance on the evaluation must be a portion of the performance pay system required by Proposition 301. With this in mind, the Performance Pay Award system will undergo a redesign. A challenge will be in thinking about the parameters used on our Performance Pay Award Plan, specifically with the three years of reliable data. In the spring, 2014, Arizona will implement a new test for assessing student achievement. Determining the best way to utilize the data provided to the district will be an issue to be discussed and resolved.

Conclusion

High expectations and accountability are essential and evident in all aspects of the CFSD organization. They communicate what is important and what we want to accomplish. There should be no secret about what is expected. Our primary role is to increase student learning. Holding all professional staff accountable for student learning as well as expecting excellence, monitoring performance, and providing feedback on performance is central to support student learning. Hiring personnel who meet or exceed our high expectations will continue to be a focus in our hiring practice. Jim Collins (2001) states, "Few companies have a culture of discipline. To obtain a culture of discipline organizations should have disciplined people, disciplined thoughts, and disciplined actions" (p. 13). In CFSD, we will continue to develop a culture of discipline through hiring and retaining disciplined people with disciplined thoughts who take disciplined actions to increase student learning.

Understandings

- Teacher expectations influence how students perform. The standards of performance teachers set and the beliefs they hold about a child's capacity to meet those standards play a vital role in the messages sent to students and ultimately in what students are likely to achieve.
- A growth mindset helps students understand that their talents and abilities can be developed through effort, good teaching, and persistence.
- All students will be provided with a rigorous college and/or career-oriented curriculum taught by highly qualified teachers.
- The Teaching for Learning framework in TAP communicates high expectations for teachers and holds them accountable for student learning.
- Recruiting a talented teacher pool is essential to providing high quality teachers.
- Holding teachers accountable for student learning includes rewarding them for their students' progress in learning.

Coherent and Aligned Curriculum Focused on Student Learning

The written and taught curricula are aligned to challenging, well-defined standards for success in postsecondary education and careers. Instructional and assessment practices are grounded in evidence-based research. Educators understand the role of classroom, district, and state assessments, what the assessments measure, and how student work is evaluated.

Essential Questions

- How does the district achieve curriculum coherence and alignment?
- What assumptions about learning guide our curriculum, instruction, and assessment practices?
- What is the purpose of assessment?
- Are we adequately preparing learners for life in the 21st century?

Introduction

Becoming a high-performing district that prepares students for the 21st century and beyond takes years of sustained commitment. It requires relentless attention to clarity of purpose and a commitment to continuous improvement. CFSD Superintendent Mary Kamerzell (2013) describes that purpose for the Catalina Foothills School District:

> The word "enterprise" refers to an undertaking that is especially difficult, complicated, or risky. And "enterprise" can also reference a systematic purposeful activity. Both meanings are a match to the heart of our enterprise in the Catalina Foothills School District; that is, teaching *for* learning. Reaching the levels of achievement in both teaching and learning that we desire is a challenging and complicated business. And we are committed to being systemic, systematic, and purposeful about teaching for learning.

Teaching for learning is not a program or curriculum, but rather, a way of thinking. As designed in CFSD, TAP's *Teaching for Learning Framework* captures the complex art and science of teaching and provides a common language and shared understanding for a strong professional culture that supports the growth and development of students and adults.

A coherent, articulated [standards-referenced], and challenging curriculum is the foundation for effective teaching and learning and its development is a highly valued collaborative effort in CFSD. We are fully committed to providing all students with a high-quality and engaging standards-referenced educational program with an emphasis on 21st century skill building. The district focuses its resources on achieving these priorities, ensuring that all district and school supports are aligned to support quality teaching and the improvement of student learning. In this way, *teaching for learning* not only speaks to what we teach, but also to how we teach so that each student can reach his/her potential.

What is Curriculum?

Curriculum takes content and shapes it into a plan for effective teaching and learning.

Grant Wiggins & Jay McTighe, 2005

Curriculum is a complex combination of the tools, practices, and resources that lead the learner from standards to student achievement. "Academic standards are not a curriculum; they are a framework for designing curriculum. A curriculum is a coherent, teacher-friendly document that reflects the intent of the academic standards" (Erickson, 2007, p. 48).

(image from NC DPI)

Having high academic standards isn't enough if they are not implemented through high yield instructional methods in a 21st century context. Quality student learning lies within the curriculum that is planned for them. Ultimately, teachers are collectively responsible for the quality of the curriculum. Curriculum, instruction, and assessment are interdependent, and curriculum development and implementation need to be approached with this important precept in mind.

21st Century Skills

Catalina Foothills probably has the most systemic implementation of 21st century skills of any school district in the country. Their implementation is so impressive because it has touched every aspect of how they deliver education in their district. Districts all over the country would be well served to see and study the great work CFSD has done to become a true 21st Century Skills district.

Ken Kay, 2009

During the past seven years, significant resources have been dedicated to developing K-12 curricula that integrate and measure 21st century skills in academic contexts. Since 21st century skill building is referenced throughout this section of the report, the following historical account is provided to give background information and highlight aspects of this strategic initiative in the context of curriculum coherence and alignment.

Systemic reform for 21st century learning has been a priority for the Catalina Foothills School District since 2005. At that time, there were few resources for developing and implementing 21st century skills. The district was faced with the challenge of trying to foresee students' future needs and how those new demands fit in relation to existing curricula. Equally important, we had

to find ways the skills could be taught along with academic content, and then manage the complex process of implementation.

The specific skill set students will need to exceed in the 21st century has been a topic of interest in education since the early 1990s. In 1991, the United States Department of Labor formed the Secretary Commission on Achieving Necessary Skills (SCANS) to examine "the demands of the workplace and whether our young people are capable of meeting those demands" (US Department of Labor, 1991, p. xiii). The commission's report compared "old" requirements for success in America with what students need in the 21st century American workplace. It also defined the criteria for success in the workplace in terms of competencies and foundational requirements. This was one of the first efforts to define 21st century skills and the role that schools should play in teaching them (Marzano & Heflebower, 2011).

The ideas in the SCANS report led to a variety of efforts over the next two decades to define what skills will be needed for success in the 21st century. They include, North Central Regional Laboratory and Metiri Group in their release of *enGauge 21st Century Skills: Literacy in the Digital Age* (2003), the Partnership for 21st Century Skills (P21) which defined 21st century skills in terms of a "unified, collective vision for education and framework for action" (Partnership for 21st Century Skills, 2003, p. 2), Ed Leader21, a national network of school and district leaders focused on integrating the 4Cs (critical thinking, communication, collaboration, and creativity) into education, and The National Research Council (2012) which is calling for new approaches to teacher preparation and professional development to help instructors acquire a deep understanding of the role of 21st century skills in learning academic content. One of the key dimensions of college readiness in the 21st century is the development of key cognitive strategies, which Conley (2007) describes as "patterns of intellectual behavior that lead to the development of mental processes and capabilities necessary for college level work (p. 13). These strategies include intellectual curiosity, problem solving, analysis, interpretation, reasoning, and precision and accuracy.

There has been a growing appreciation for the importance of 21st century skills other than the content skills typically measured on standardized tests, and agreement that they should be explicitly taught and assessed within the regular academic curriculum (Bellanca & Brandt, 2010; Conley, 2007; Darling-Hammond, 2010; Dede, 2010; Hargreaves, 2010; Kay, 2010; Kyllonen, 2012; Lemke, 2010; Marzano & Heflebower, 2012; National Governors Association, 2010; Partnership for Assessment of Readiness for College and Careers, 2010). These efforts make clear that educators and employers claim that 21st century skills are important for the schools to develop, and for students to possess in order to succeed in the 21st century.

CFSD engaged an advisory committee of staff and community in 2006 to consider and identify the skills our students will need for postsecondary education, work, and life instead of adopting the P21 framework or any other published list of skills and themes. Twelve skills were initially selected and the complex work began to explicitly define the skills, create rubrics to measure them, and then embed the skills in curriculum during the cycle of curriculum design.

Teams of educators worked for a period of two years to identify and define the traits and qualities for each of CFSD's 21st century skills. The traits/qualities were the foundation for

developing a set of K-12 rubrics that are currently used to measure 21st century skills and traits in our classrooms. The traits provide a common language and focus for teaching each skill while the rubrics provide a tool for measuring the skills within the context of CFSD's programs of study. We have been committed to measuring these skills and reporting the results to students, parents, and the community for the past six years.

In the years since, CFSD has continued to sharpen the focus and revise curriculum and assessment to more fully integrate new technology and engage students in learning and applying knowledge and skills in authentic and real world contexts. As a result, we merged some of the initial twelve 21st century skills where there was overlap or redundancy resulting in the following seven 21st century skills: Critical & Creative Thinking, Communication, Systems Thinking, Teamwork, Self-direction, Cultural Competence, and Leadership. The rubrics went through an external review process by experts in the field. Additionally, as they continue to be utilized by teachers to evaluate student performance and products, there is a periodic review and revision to further clarify the traits and descriptions of performance on the four-point continuum in each rubric. Figure 10 portrays each of CFSD's seven 21st century skills and their related traits.

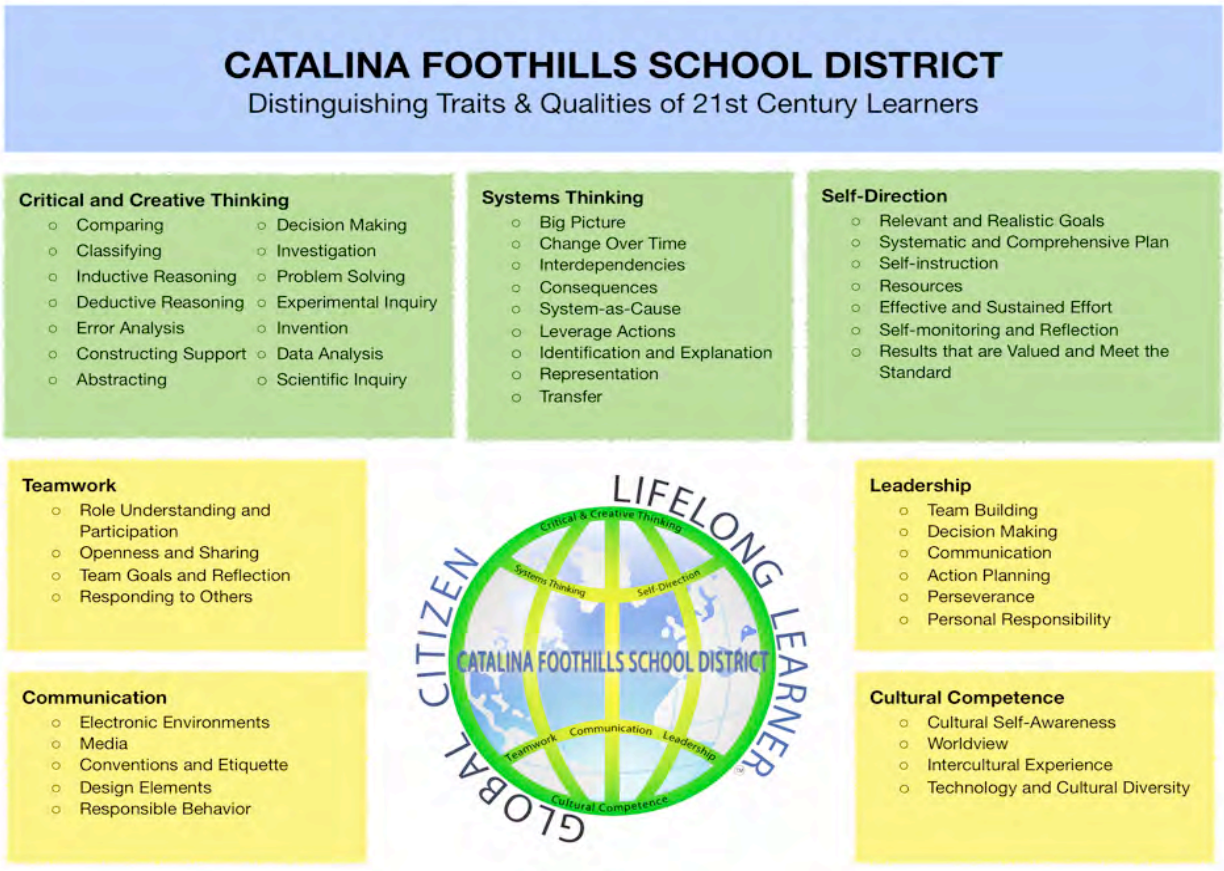


Figure 10. Catalina Foothills School District's 21st century skills and traits

Our expectations for 21st century learners are defined in CFSD's 21st century skills rubrics. We have been committed to 21st century skill building and measuring our students' growth in all of these skills. Using a backward design approach (Wiggins & McTighe, 2005) teachers mindfully

embed these skills into units of study. Figure 11 is an example of one rubric that is used at grades K-2 to measure the application of four different systems thinking concepts: Big Picture, Change Over Time, Interdependencies, and Consequences.

	Keep working at it.	You're getting close.	You've got it!	Wow!
Big Picture 	• I'm not sure which parts are important. • I have trouble listening to other people's ideas.	• I know which parts are important, but I'm not sure how they all work together. • I share my ideas with others and try to listen to other people's ideas.	• I see how the parts work together and can explain my thinking. • I try to understand other people's thinking and their thinking helps me to figure out how things work.	• I see how the parts work together and can explain my thinking in a way that is very clear to other people. • I explain that how people think can change what happens.
Change over Time 	• I make a list of what happened, but I'm not sure which parts are really important. • I'm not sure how something can change over time.	• I make a list of what happened in order, but I'm not sure what's changing. • I see that everything that happens is connected together.	• I put important events in order. • I can figure out what is changing over time and can explain how it is changing.	• I can find something that is changing over time. • I can figure out the time it takes for change and how much something changes in that time.
Interdependencies 	• I know that some things happen because of other things happening.	• I can explain how one part causes a change in another part.	• I can explain how one part changes a second part and how that comes back and changes the first part.	• I can explain and give examples of how "the parts affecting each other" works in a circle over and over.
Consequences 	• I know that what I do changes what happens, but I can't think of an example.	• I can talk about a time when someone did something that caused something to happen right away. • I can explain that sometimes what happens is "good" and sometimes it is "bad."	• I can talk about a time when someone did something that caused something to happen right away and later on, too. • I can give an example of how what happens might be what I want or what I don't want.	• I can give examples and explain how what people do can affect what happens right away and a long time from now. • I can give examples of consequences, both that are wanted and unwanted.

Figure 11. Grades K-2 rubric for measuring the systems thinking concepts

Since 2010, the district has been focused on 21st century skill building, technology integration, assessment, and student engagement. The specific skills of self-direction and critical thinking have had our attention, and are still considered highly valued skills for post-secondary learning and career pathways. Professional staff has been engaged in the design of performance-based, authentic tasks and assessments that measure CFSD's 21st century skills with a focus on critical/creative thinking and communication.

The Metiri Group administered a survey in 2010 and 2013 to gauge school and district progress on student expertise with 21st century skills. The D7-5 charts from Dimension 7, Accountability, provide the teacher's perspective on student expertise with 21st century skills. For self-direction and critical thinking teachers reported an increase in student skills for both the intermediate and expert level, with the largest shifts from novice to intermediate. These data are represented in Figure 12 and Figure 13 below.

For self-direction, there was an overall increase from 43% to 55% at the intermediate level and 5% to 9% at the expert level. For critical & creative thinking, teachers reported an overall increase from 47% to 53% at the intermediate level and 4% to 9% at the expert level. There was a 12% and 6% shift respectively, from novice to intermediate. However, since the level of student skill for both the intermediate and expert levels combined, as reported by teachers, is

64% for self-direction and 62% for critical & creative thinking, it highlights the need for continued growth in these 21st century skills. It is desirable, then, to increase the percentage of students at the intermediate and expert levels. As a district, we continue to grow in this important work. Becoming thoughtful planners, teachers, and assessors of these important skills will require ongoing, focused attention.

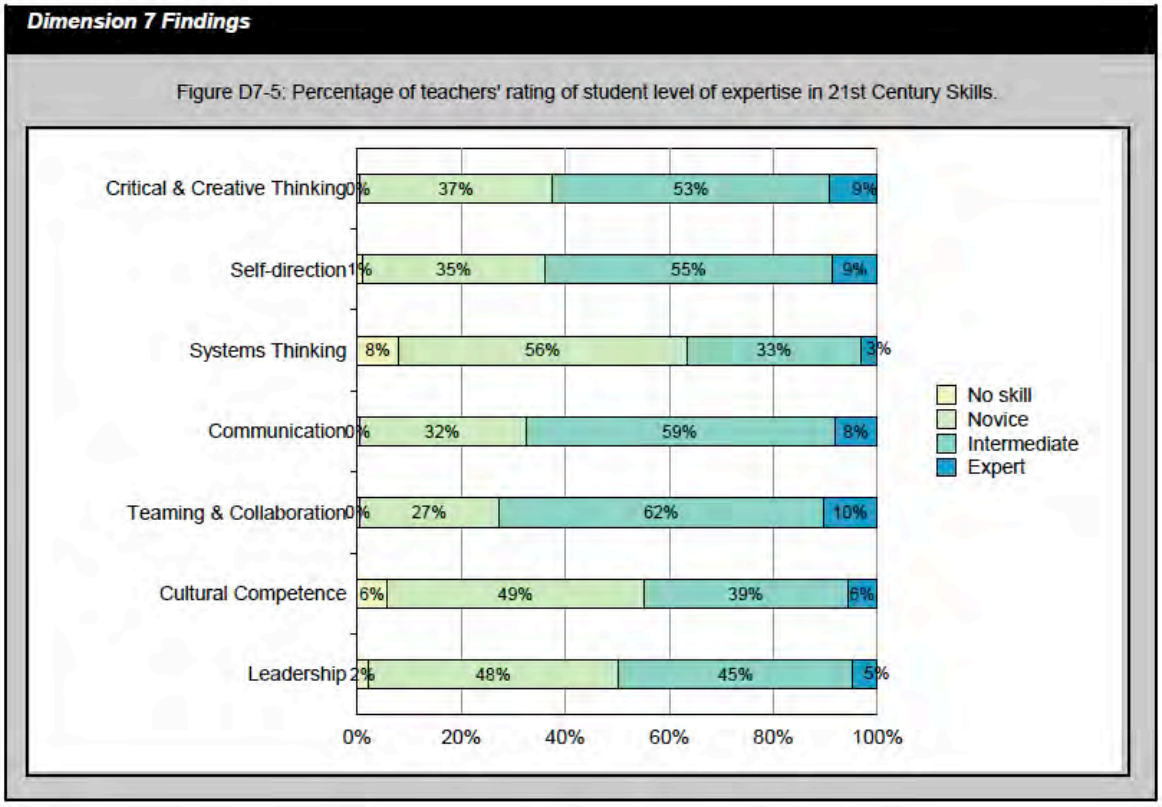


Figure 12. Dimension 7 (D7-5) findings for 2013: Percentage of teachers' rating of student level of expertise in 21st century skills.

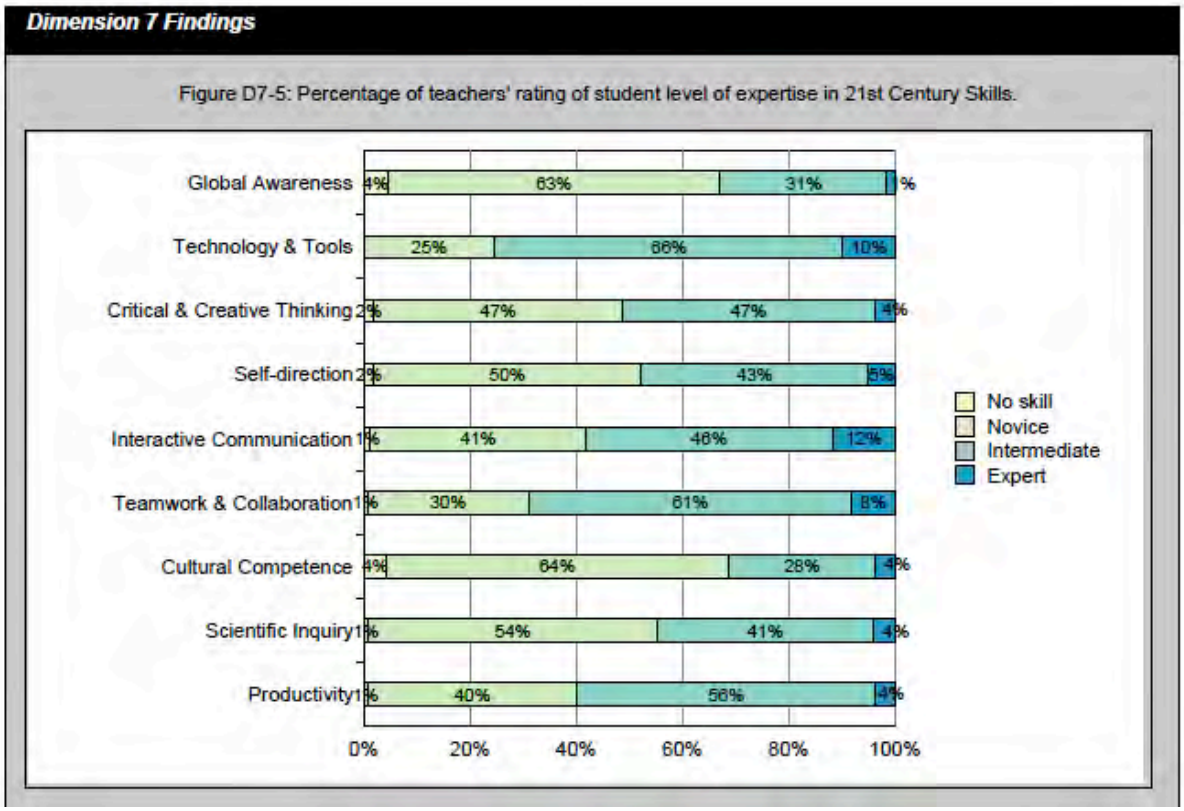


Figure 13. Dimension 7 (D7-5) findings for 2010: Percentage of teachers' rating of student level of expertise in 21st century skills.

Teachers also reported a 14% increase from 2010 to 2013 (Figure 14 and Figure 15) when asked if they strongly agree or agree that students in their classrooms are clear about how they need to demonstrate their skill level with CFSD's 21st century skills. The data show the biggest shift from "disagree" to "agree." This 25% increase is a positive shift. When teachers are clear on the criteria for success, research shows that students are more likely to demonstrate success.

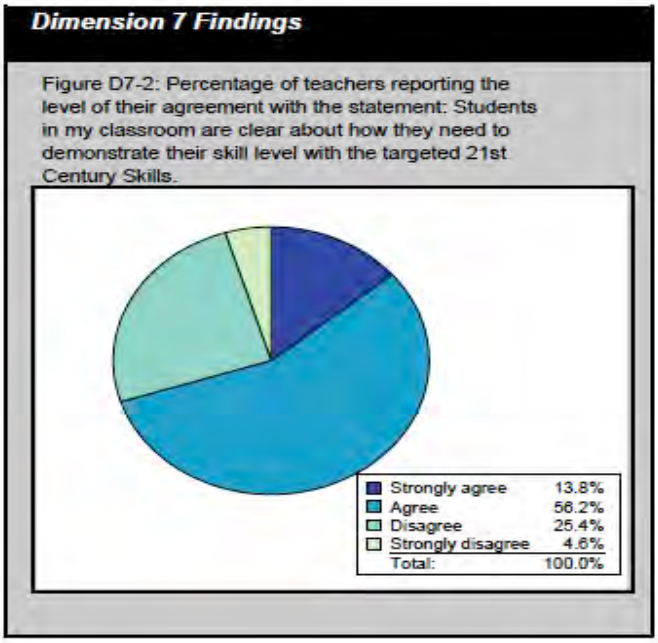


Figure 14. Dimension 7 (D7-2) findings for 2013: Percentage of teachers reporting that students are clear about how they need to demonstrate their skill level with CFSD's 21st century skills.

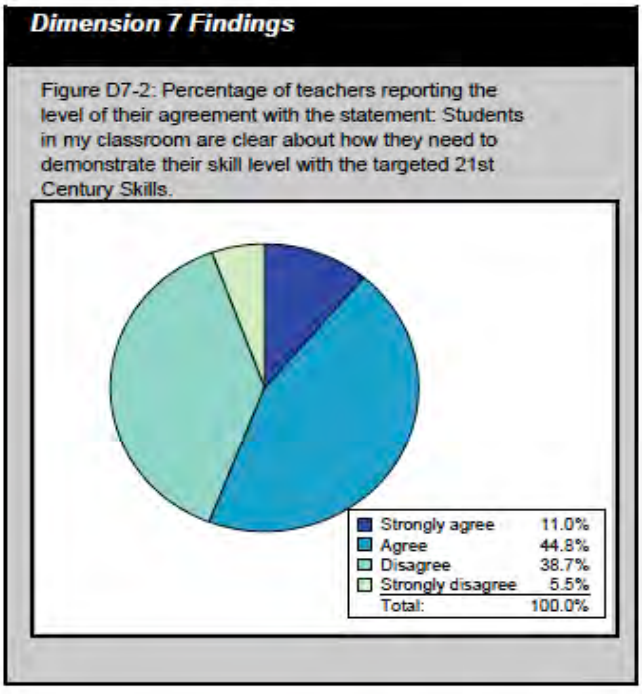


Figure 15. Dimension 7 (D7-2) findings for 2010: Percentage of teachers reporting that students are clear about how they need to demonstrate their skill level with CFSD's 21st century skills.

Since 2008-2009 school year, the district has been using a standards-referenced report card at grades K-8 to report progress on academic content and targeted 21st century skills. (Refer to this report's section on Frequent Monitoring of Teaching and Learning, p. 118.) The report card provides students and parents with explicit feedback about student progress for each subject area measurement topic and for each CFSD 21st century skill. In order to look at progress across K-8, the district created a variety of reports that show cumulative progress for each grading period. One report was designed to display summative scores for each of the seven 21stcentury skills. Another report was designed to display summative scores for 21st century skills that were intentionally embedded as measurement topics in science and social studies, for example. The scores from the district's electronic gradebook are archived each grading period. They then can be used to create reports that show aggregate scores across multiple grade levels and subject areas. Figure 16 through Figure 23 display the number and percentage of rubric scores earned by students as summative scores on each of CFSD's 21st century skills for the 2012-13 school year. The scores represent cumulative progress across multiple disciplines. For example, a student may receive a score for self-direction in science, social studies, and math.

In Figure 16, Critical and Creative Thinking represents skills such as, comparing, error analysis, decision-making, deductive/inductive reasoning. There were 23,432 summative scores for Critical Thinking as measured across curricular areas. Since students take multiple classes during the day, it can be assumed that some students received a summative score for Critical Thinking in more than one class. The data show that 69% of these summative scores were at proficient and above as reported by teachers.

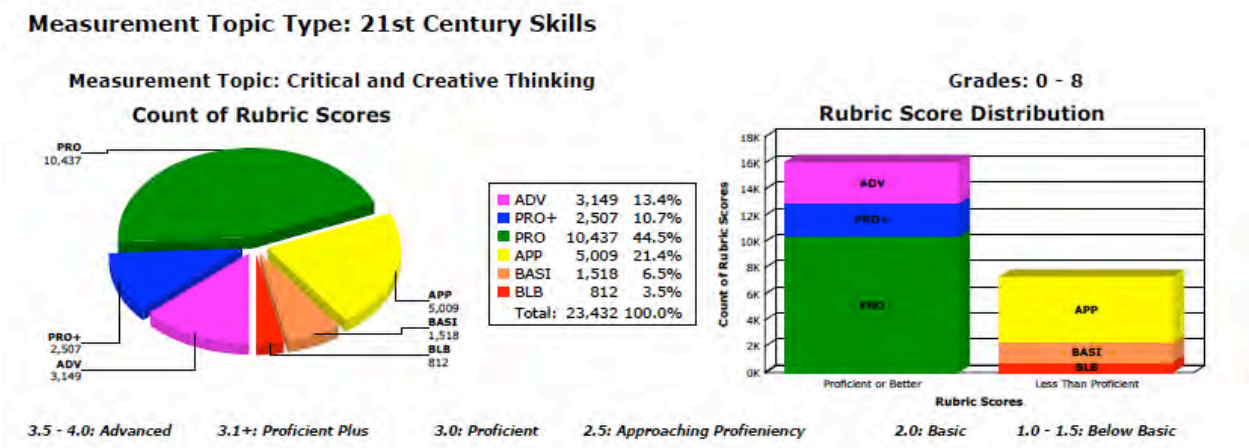


Figure 16. Count and percentage of rubric scores for critical and creative thinking

Figure 17 shows a total of 39,020 summative scores for Self-direction. The data show that 68% of the scores were at proficient and above when students were assessed in the traits of Self-direction during the 2012-13 school year. Some of the traits that are associated with Self-direction are goal setting, self-monitoring, sustained effort, planning, and self-instruction. Teachers may be assessing one or more of these traits in a given assignment, project, or task.

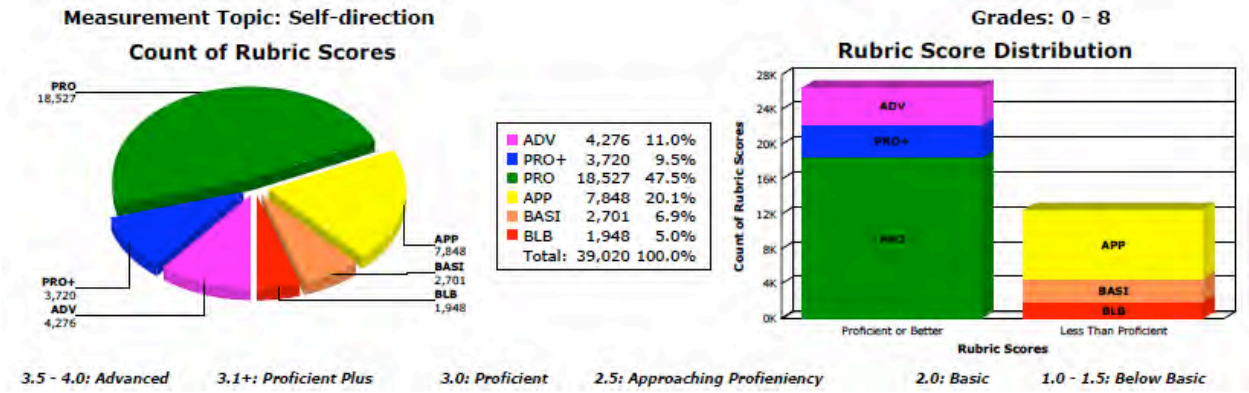


Figure 17. Count and percentage of rubric scores for self-direction

Figure 18 shows 6,454 summative scores for Systems Thinking when measured across all applicable content areas. Systems Thinking includes concepts such as big picture, change over time, and interdependencies. For example, change over time is often applied to the analysis of characters in literature or historical and economic issues/events in social studies using behavior over time graphs. At grade 4, students examine the transition from Arizona as a territory to statehood, identifying and analyzing patterns of change over time. The data show that 71% of scores were at proficient and above when measured across multiple disciplines.

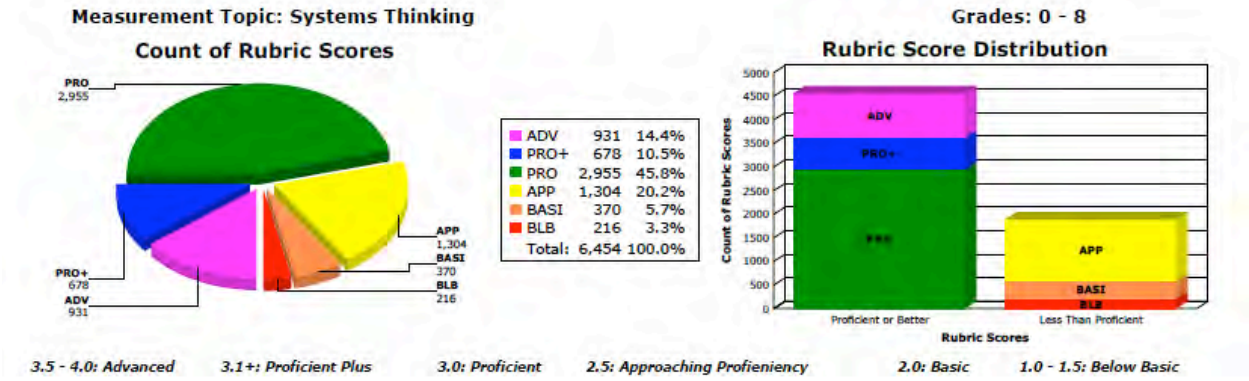


Figure 18. Count and percentage of rubric scores for systems thinking across subject areas

Another source for scores in Systems Thinking is the science and social studies curriculums. In science, Systems Thinking concepts such as big picture, interdependencies, and change over time were intentionally placed in the curriculum and aligned to science content. For example, students may study the concept of interdependencies as they examine the role of plate tectonics in the changes to the Earth's surface, or use the concept of change over time to study the adaptation of an organism's survival in a desert ecosystem with increasing aridity. Figure 19 shows 5,505 summative scores for Systems Thinking in the science curriculum. The data show that 68% of the scores were at proficient and above when this skill was measured in the context of the science curriculum.

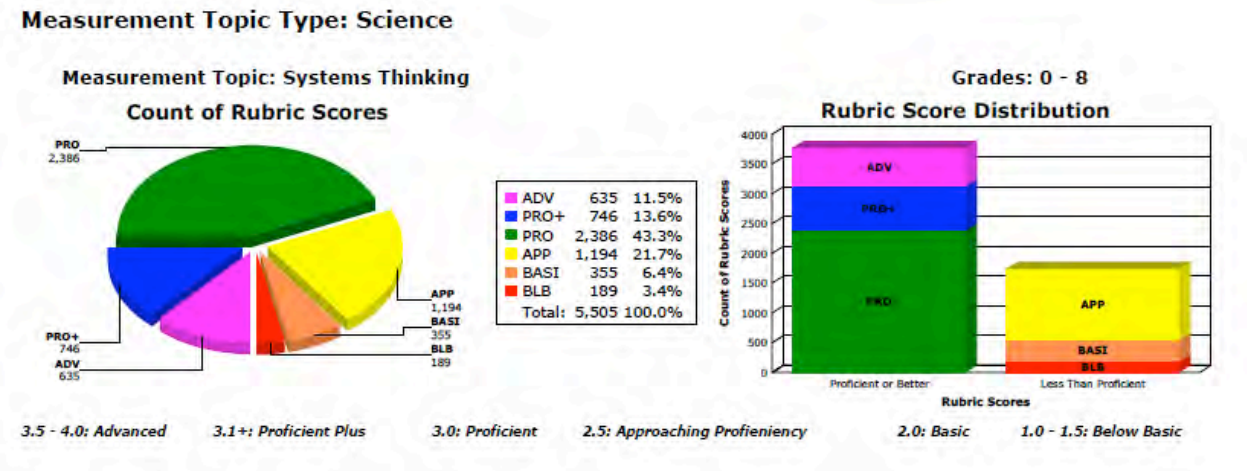


Figure 19. Count and percentage of rubric scores for systems thinking in science

The Communication [digital] scores in Figure 20 include the application of communication skills across a variety of contexts, including electronic environments. Students are expected to demonstrate proficiency in a range of media and use appropriate conventions and etiquette. There were 8,197 summative scores. The data show that 56% of the scores reflect meeting and exceeding the expectations.

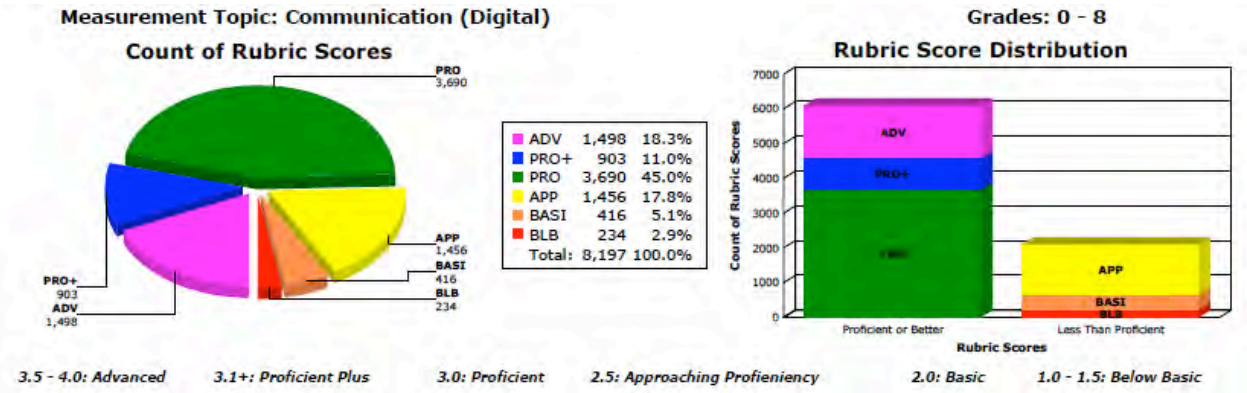


Figure 20. Count and percentage of rubric scores for communication [digital]

Figure 21 shows 26,345 summative scores for Teamwork. Teamwork refers to the abilities to cooperate as a member of a highly successful group, to interact smoothly with others, and to work together with one or more people to achieve a goal (e.g., solve problems, create novel products, learn and master content). The demands of 21st century working and learning increasingly call for cooperative efforts. The data show that 82% of scores reflect effective teamwork skills by our students.

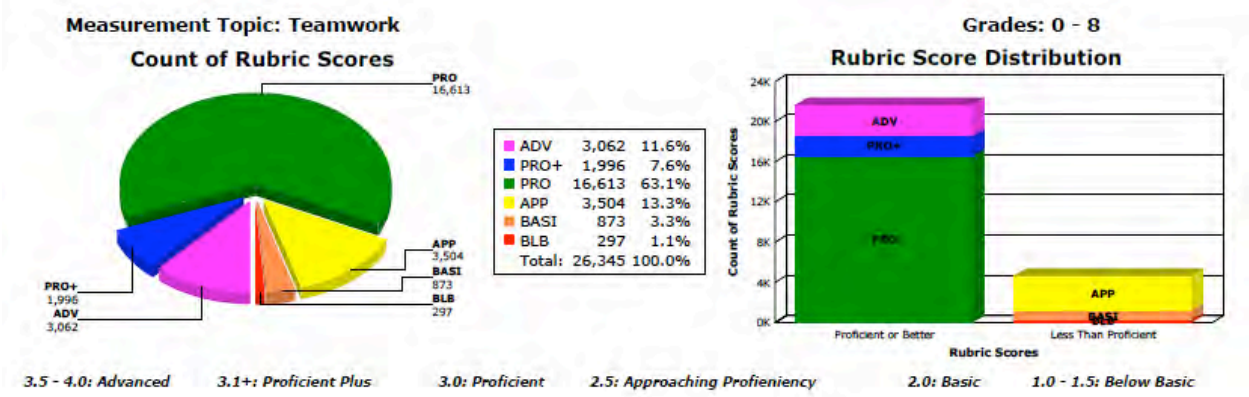


Figure 21. Count and percentage of rubric scores for teamwork

Figure 22 shows 5,334 summative scores for Leadership as measured within applicable content areas. Leadership is the capacity of an individual or team to guide, direct, or influence a group or institution in ways that bring about change and achieve stated purposes. Leaders in the 21st century must be adaptable, possess wide intellectual curiosity, and be lifelong learners. They must be willing to see value in different perspectives, be comfortable with uncertainty, look globally for solutions and challenges, and empower others to effect change. The data show that 83% of scores are at proficiency and above in traits of leadership.

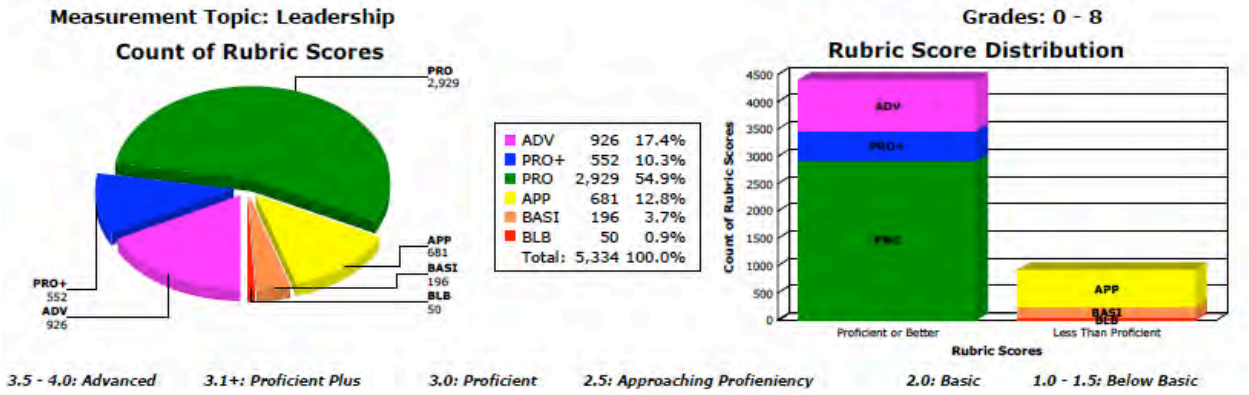


Figure 22. Count and percentage of rubric scores for leadership

Figure 23 shows 3,920 summative scores for Cultural Competence. Students who are culturally and globally competent value diversity, exhibit an informed sensitivity, and actively engage with/in other cultures. Given the realities of globalization in a "flat" world, our students need to develop the ability to work cooperatively with individuals from vastly different backgrounds, communicate effectively in a variety of cultures and languages, engage in solving critical global and/or cultural issues, and view the world from a perspective other than one's own. The data show that 76% of scores for the traits of Cultural Competence are at proficiency and above.

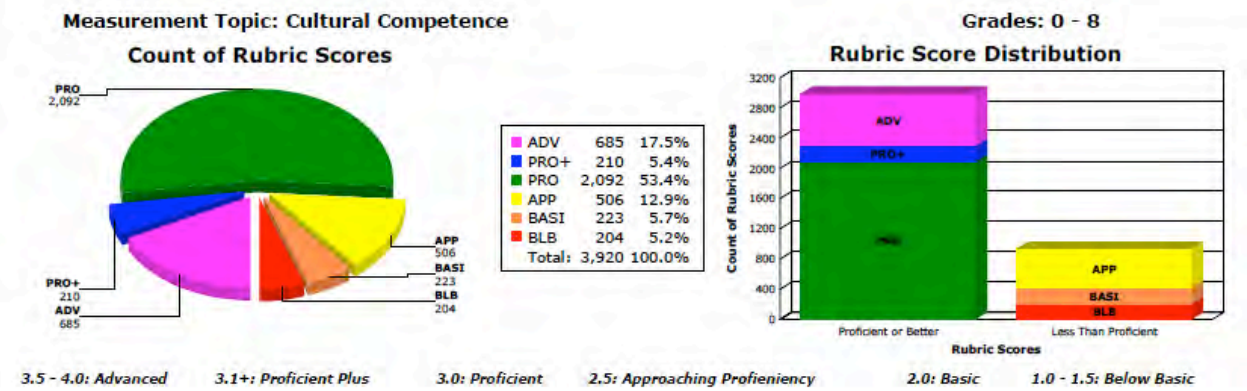


Figure 23. Count and percentage of rubric scores for cultural competence

We have found that 21st century skills can serve as student learning outcomes using academic content as the vehicle. Curriculum can be built around developing them, professional development can emphasize such instruction, and learning environments can be developed to promote them. Ed Coughlin (2009), Senior Vice President of the Metiri Group, summarized the work of CFSD as follows:

> The Metiri Group works with states and local school districts across the nation in the areas of 21st Century Skills and learning. We are constantly being asked, "Where is this really happening for kids?" There are only 3 or 4 districts in the nation that we are confident in referring them to. Catalina Foothills is one of those districts, perhaps at the top of the list.

Curriculum Coherence

A written "coherent" curriculum effectively organizes and integrates important academic content so students can see how it builds on or connects with other content and ideas, enabling them to develop new understandings and skills. Teachers know what is being taught by other teachers, particularly teachers in the same subject area, including the subject-area standards and content taught in both previous and subsequent grade levels. All curriculum resources—from textbooks and reading materials to formative and summative assessments—are based on the same consistent and coherent set of learning standards.

Creating curriculum coherence is a dynamic and synergistic process which involves teachers of a department (content area) or grade level working together to craft engaging learning experiences for students, balancing their own and collective instructional goals and strategies in relation to the intended (written) curriculum. The importance of the process itself cannot be overstated – it is ongoing and iterative – and creates an environment that strengthens opportunities for all students to learn.

Prior research affirms that efforts to increase curriculum coherence and alignment must be intentional and well-organized to be effective. According to Liebling (1997), "The result of coherence is the creation of a unified K-12 educational system that, in its totality, provides a quality learning environment in which students will acquire the skills and abilities they need to

achieve their lifelong aspirations" (p. 17). In Beane's view, a coherent curriculum is fundamental to a "worthwhile" curriculum. He asserts:

> A "coherent" curriculum is one that holds together, that makes sense as a whole…The idea of coherence begins with a view of the curriculum as a broadly conceived concept—as THE curriculum—that is about "something." It is not simply a collection of disparate parts or pieces that accumulate in student experiences and on transcripts. A coherent curriculum has a sense of the forest as well as the trees, a sense of unity and connectedness, of relevance and pertinence. Parts or pieces are connected or integrated in ways that are visible and explicit. There is a sense of a larger, compelling purpose, and actions are tied to that purpose. (1995, online)

King and Newmann define program coherence as a key element in school capacity. In their view, "a school's instructional capacity is enhanced when its programs for student and staff learning are coherent, focused on clear learning goals, and sustained over a period of time" (as cited in Turner, 2003, p. 2). Schools with instructional coherence have been shown to increase student achievement, while schools with no coherent plan either showed no improvement or saw achievement scores drop (Newmann, Smith, Allensworth, & Bryk, 2001). These researchers found that a common instructional framework that specifies and aligns content, resources/tools, methods of teaching, and assessments is a necessary condition to achieve curriculum coherence.

The district's curriculum design process is the basis for achieving curriculum and instructional coherence. It has three phases: (1) program evaluation, (2) design, and (3) implementation. This K-12 process is deliberate, systematic, and systemic. It is highly teacher-driven. Curriculum decisions made in one phase are not independent of decisions made in other phases – and so the curriculum design process tends to be iterative – other phases returned to for consideration and possible modification. But recognizing the different tasks and issues in each phase is important in making the process work. It is a conscious planning effort, but it is not a neatly defined process that can be pursued in a series of steps. It is professional development at its best, engaging teachers in dialogue, research, and decision-making around curriculum content, instruction, and assessment issues. Because it is the teachers who utilize the curriculum and work directly with the students meant to benefit from it, we believe they should be the main drivers in its creation. In our view, a strong curriculum is the result of teacher involvement in every step of the process. Figure 24 portrays a three-phase process that is used by CFSD to create a K-12 coherent and aligned curriculum.

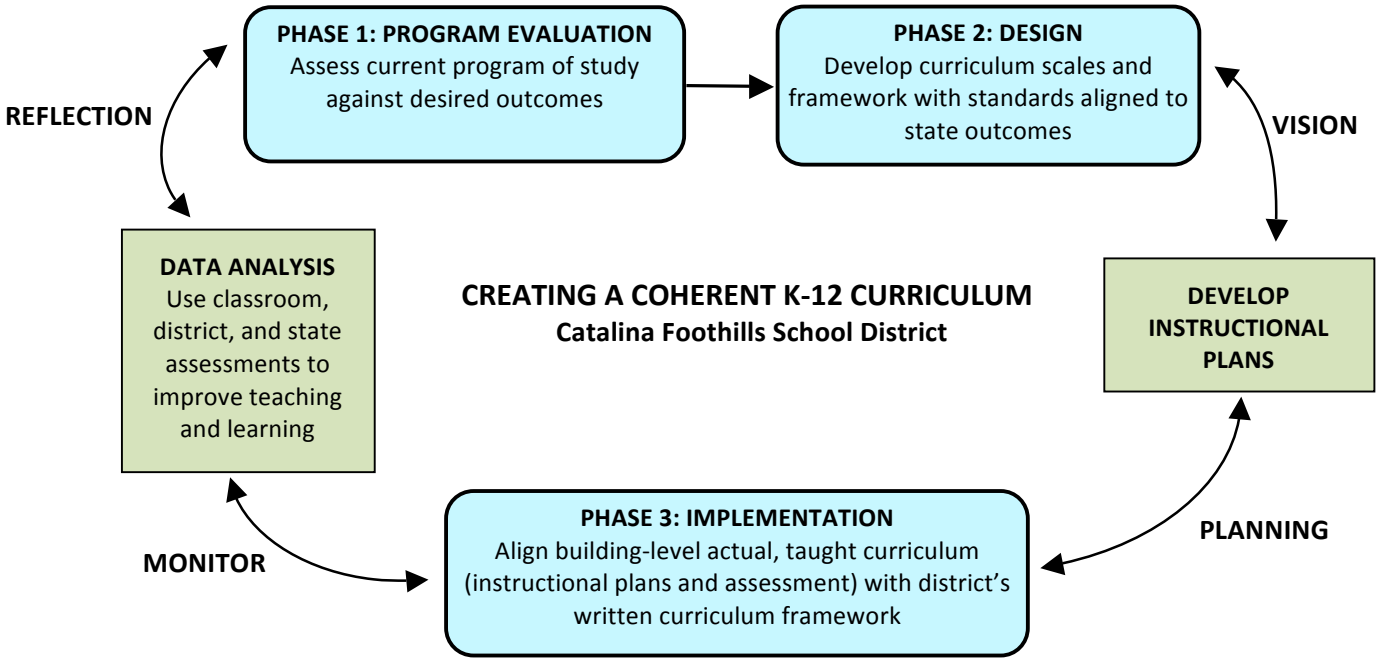


Figure 24. The process for achieving a coherent and aligned K-12 curriculum
(Adapted from Liebling, 1997)

The CFSD curriculum design process establishes a structure that meets the need for responsive yet predictable curricular change at a district level, and at the same time, gives schools the scope, flexibility, and autonomy they need to plan and shape the curriculum so that teaching and learning is meaningful and beneficial to their students. The process builds on existing good practice(s) and involves making decisions about how to align local needs and outcomes to Arizona's academic standards, national standards, and current research. The process clarifies priorities for student learning, the ways in which those priorities will be addressed, and how student progress and the quality of teaching and learning will be assessed.

The ultimate aim of a curriculum is independent transfer, i.e., for students to be able to apply their learning, thoughtfully and independently, to varied complex situations, inside and outside of the school. Lacking this capacity, students will be neither college nor workplace ready.

Curriculum Alignment

The alignment of curriculum, instruction, and assessment is fundamental to educational practice. In an aligned curriculum, all components in the teaching system are connected. Simply stated, curriculum alignment means the standards (skills and concepts) that we teach the students match the standards that are assessed. A scope of what to teach is used to create a sequence of when to teach each standard within the school year. "It has been reported that when assessments are aligned with the instructional objectives, student learning (i.e., success) can be increased as much as two standard deviations" (Bateman, Taylor, Janik, & Logan, 2007). In Figure 25, the components of alignment are depicted as shifting gears to illustrate the connection between curriculum, instruction, and assessment.

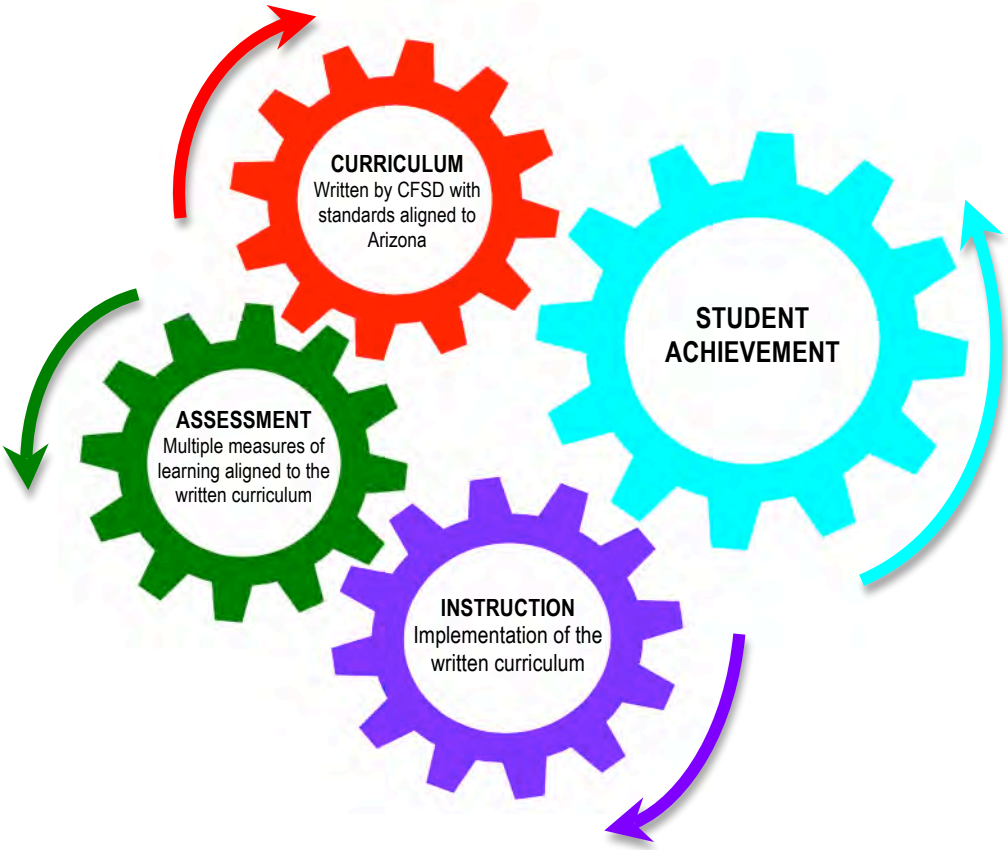


Figure 25. Curriculum, assessment, and instruction depicted as gears to drive student achievement

A primary goal of curriculum is the development and deepening of student understanding. To achieve deep curriculum alignment, instruction must not only match the curriculum content (standards), but also the cognitive demand (rigor) required of the students and on which they will be assessed. Cognitive demand refers to the kind of thinking students will be expected to engage in based on the complexity of the task. Expectations for students are embedded within the standards/benchmarks. Assessments are created based on the standards/ benchmarks. Therefore, it is important for teachers to match the context of instruction and the tasks required of students. The more opportunities students have to practice skills, strategies, and procedures on high level tasks in a variety of rich contexts, the more likely it is that they will be able to transfer them to new situations.

Research confirms that the matching (alignment) of curriculum content to what is assessed is highly significant in explaining improved test scores (Shannon & Bylsma, 2007). Marzano (2003) provides support from research on school-level factors contributing to student achievement. His analysis of the research identifies a "guaranteed and viable curriculum" as ranking first among five variables that most strongly correlate to student achievement. Marzano also highlights the importance of opportunity to learn as an important factor of this variable. If students do not have the opportunity to learn the content expected of them, then it is not likely that they will. Specifically, for students to achieve standards, there must be a match or alignment between three types of curriculum:

- Intended (written) curriculum – academic content standards specified by the state, district, or school to be addressed in a particular course or at a particular grade level;
- Implemented (taught) curriculum – content (topics, concepts, skills) actually delivered by the teacher; and
- Attained (tested and learned) curriculum – content actually learned by students that is aligned with the intended (written) and implemented curricula.

A "guaranteed and viable curriculum" is one that guarantees that the curriculum being taught and assessed is the written curriculum adopted by the CFSD Governing Board. It is viable when adequate resources and time are ensured to teach the content that is essential. In summary, high-performing schools and districts have a coherent and well-aligned instructional system:

- Curricula addresses the rigor in the academic standards
- Instructional conditions align with each curriculum
- Assessments provide multiple opportunities for students to demonstrate attainment of standards

Students are expected to be active participants in their learning. They are immersed in a challenging curriculum that requires them to seek out and acquire new knowledge, apply what they have learned, and build upon that to create new knowledge.

Curriculum Coherence and Alignment in CFSD

CFSD utilizes standards-referenced curricula that prepare students for postsecondary learning. A standards-referenced curriculum is one that reflects or is aligned with national, state, and district content and performance standards. The standards represent the goals of teaching and learning. They are common, challenging, publicly known, and describe precisely what we want students to know and be able to do as a result of their experiences in our schools.

In CFSD, the academic standards and 21st century skills provide a focus for organizing curriculum content, instructional programs, and assessment plans. The curriculum provides information to teachers about the content, instructional strategies, and complexity of student performance levels necessary to meet the standards. For students, the standards set clear performance expectations, helping them understand what they need to do in order to meet the standards. Since standards communicate shared expectations for learning, they allow parents to know how their children are progressing in their learning.

The standards are articulated, K-12, in a framework of curriculum scales/rubrics for each subject area and grade level/course. All curriculum scales/rubrics display the expected learning on a four-point continuum (4.0 = Advanced, 3.0 = Proficient, 2.0 = Basic, 1.0 = Below Basic), which enables teachers and students to keep track of progress over time. The scales serve as the basis for developing annual plans/maps, planning instructional activities/tasks, and designing

assessments. Students earn scores or grades that correspond precisely to how well they can demonstrate the targeted learning standards/goals described in the scales. In many cases, the curriculum revision teams provide examples of learning targets for score 4.0, but it should be noted that teachers can and should develop complex (4.0) learning targets for and along with their students based on demonstrated progress and proficiencies. Table 3 depicts the generic proficiency scale used by CFSD curriculum design teams.

Table 3

Generic Proficiency Scale for Creating Standards

Score 4.0	More complex content – demonstrates in-depth inferences and applications	
	Score 3.5	*In addition to Score 3.0 performance, partial success at score 4.0 content*
Score 3.0	Targeted learning standard/goal – demonstrates proficiency by successfully meeting the standard/goal	
	Score 2.5	*No major errors or omissions regarding score 2.0 content, and partial success at score 3.0 content*
Score 2.0	Simpler content	
	Score 1.5	Partial success at score 2.0 content, and major errors or omissions regarding 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	

(Adapted from Marzano, 2013, p. 49)

Curriculum design teams in CFSD customize the generic proficiency scale by inserting specific targeted standards/benchmarks (3.0), simpler learning targets (2.0), and complex learning targets (4.0) for a subject area by grade level/course. The descriptors for these scores do not change from scale to scale. That is, the only content that changes from one scale to the next is the 2.0, 3.0, and 4.0 content.

The half-point scores are used to indicate that a student has moved beyond one whole-point score on the scale, but is not yet demonstrating proficiency at the next whole-point score. For example, a score of 3.5 indicates that a student correctly answered or performed 2.0 and 3.0 items/tasks, but only had partial success on score 4.0 items/tasks. A score of 2.5 indicates that a student has correctly answered all the items or correctly performed all the tasks regarding the 2.0 content, but has only correctly answered some of the items or correctly performed some of the tasks regarding the 3.0 content. A score of 1.5 indicates that a student has demonstrated partial success on items or tasks involving 2.0 content, but missed all other types of items. A score of 1.0 indicates that a student missed all the items and tasks on an assessment when working on it independently, but was able to demonstrate partial proficiency on 2.0 and 3.0 content with help from the teacher. That is, the first time the student completed the assessment/task, s/he was unable to correctly answer any items or complete any tasks. However, when the teacher provided the student with cues, prompts, questions, or other supports, the student was able to answer or complete some of the 2.0 and 3.0 items or tasks.

CFSD utilizes a system of *measurement topics* as an organizational structure for the proficiency scales. A measurement topic refers to a category of knowledge and/or skills that usually extends across grade levels. For example, in English Language Arts, the second standard for Reading

Literature (RL) and Reading Informational Text (RI) at every grade level addresses the topic of Key Ideas and Details. Organizing the proficiency scales into measurement topics allows teachers to see the progression of knowledge from one grade level to the next and provides a vehicle for keeping track of individual student progress in meeting standards at the measurement topic level. This data can also provide a snapshot of progress across entire grade levels or an entire school, and can be the basis for identifying future instructional emphases. If the aggregated data indicates that an insufficient percentage of students in a particular grade level are at or above the designated performance standard, then the teachers at that grade level might make a concerted joint effort to enhance student progress for the measurement topic. Table 4 is an example of a proficiency scale for the measurement topic, Key Ideas and Details from Reading Standards for Literature in English Language Arts at grades 9-10.

Table 4

Proficiency Scale for Key Ideas and Details at Grades 9-10 for Reading - Literature

CATALINA FOOTHILLS SCHOOL DISTRICT STANDARDS FOR ENGLISH LANGUAGE ARTS: GRADES 9/10 Reading Standards for Literature	
Key Ideas and Details	
College and Career Readiness (CCR): Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	
Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications. The student will be able to: • explain how any excerpt (passage, argument, or detail) relates to and contributes to the main ideas of the whole text • analyze how details contradict or complicate an implicit main idea • infer how events/details author has chosen to omit affect the ideas of the text
Score 3.5	In addition to score 3.0 performance, in-depth inferences and applications with partial success
Score 3.0	The student will: **9-10.RL.1** Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. Learning Goals: I can: • Articulate specific implicit and explicit ideas. • Locate evidence. • Explain relevance of evidence. • Analyze an author's words and determine multiple pieces of textual evidence that strongly and thoroughly support both explicit and inferential questions.
Score 2.5	No major errors or omissions regarding the score 2.0 content, and partial success at score 3.0 content
Score 2.0	• The student will perform basic processes, such as: o identify concrete and abstract subjects of texts o identify clear and obvious details that support main ideas • The student will recognize or recall specific vocabulary/terminology, such as: o explicit and implicit o inference o concrete and abstract subject o textual evidence
Score 1.5	Partial success at score 2.0 content, but major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content

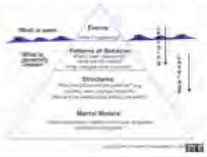
The proficiency scales with content and performance standards, organized by measurement topics, specify the knowledge and skills that students should learn. However, the standards also provide the basis for other factors in a standards-referenced system, including instructional examples/strategies, resources, assessments, and professional development.

Teachers are ultimately responsible for implementing a curriculum in the classroom. What students learn is influenced by how and what they are taught. Table 5 illustrates how curriculum design teams in CFSD articulate a common interpretation of the standards and provide teachers

with instructional examples, strategies, and applications that integrate 21st century skills and technology. In a curriculum framework document, the proficiency scale depicted in Table 5 precedes the instructional examples in Table 5.

Table 5

Articulation of Curriculum Content for Key Ideas and Details at Grades 9-10

Understanding(s) and Essential Question(s)	Explanations and Examples	Strategies and Resources for Integrating 21st Century Skills
Grade 9 Year-long Essential Questions The Self and the World: A Study in Culture and Identity • Who am I? • How does culture define me? • How am I like others in the world? • What is the world like? Grade 10 Year-long Essential Questions The Individual and Western Society: A study in tradition and change • What does it mean to be a human in a social world? • What is the "ideal" society? • What does it mean to be an individual and a member of society? • What factors support or destroy a society's fabric? • When is it good for a society, or group, or family, to change? Essential Questions (related to standard): • What do good readers do? • Am I clear about what I just read? How do I know? Understandings: • Effective readers use a variety of strategies to make sense of key ideas and details presented in text.	**CFHS NOTES** This standard requires students to analyze and support text meaning and messages, including reader inferences determined from the stated information, as well as reader interpretation of the author's intent, even if it is not stated. The author's use of literary elements to communicate his/her ideas or messages is the basis of this standard. Students will recognize the impact of the author's use of literary elements in RL Standard 1, 9-10 in the development of a text. • Teachers access a variety of texts including multi-culturally diverse selections, non-print or visual texts, adopted anthologies, informational texts, etc. • Teachers familiarize students with appropriate formatting for citing sources, MLA style manuals in book or electronic format for supporting and citing sources. • Teachers will use a variety of active reading strategies such as Direct Reading-Thinking Activities (DRTA), KWL charts, Dialectic or Double Entry Reading Journals, and Question/Answer Relationship (QAR). • Students will cite relevant examples from the text to clearly support their analysis in various formats including written products, nonlinguistic representations, text renderings, and Socratic discussions. • Students will consider the structural features of short stories, plays, poems, or novels within their analyses. Students will use electronic or paper graphic organizers such as Venn Diagrams to organize their evidence. Connections: RL.9-10.1, SL.9-10.1, W.9-10.2, W.9-10.9	**Critical and Creative Thinking: Induction** Use Inspiration software (already on school computers) or other mind-mapping software to construct webs of evidence – words and phrases that relate to a particular topic (or topics) in a paragraph. **Critical and Creative Thinking: Constructing Support** Model how to select evidence from a complex text by highlighting details under a document camera, then have students work in groups (guided practice) to extract evidence to support a different idea, then move to independent practice; here's a lesson using the Narrative Life of Frederick Douglass and Chief Seattle's speech from Learn NC (University of North Carolina at Chapel Hill). **Teamwork** Create a Google Doc, embed a passage in it (a poem, a selection from a novel, etc.) and have students collaboratively highlight, in different colors: details that relate to different topics, or details that support or complicate a particular main idea. **Systems Thinking: Representation** Use an iceberg diagram to identify the visible details, the patterns of behavior, the underlying structures, and the mental models of a text. 

The design and implementation of a coherent and aligned curriculum in CFSD is a comprehensive process, but allows for flexibility. It establishes the parameters within which teachers apply their professional knowledge. The district has developed a shared understanding of what a curriculum must contain in a standards-referenced system. It recognizes that academically, students start at different points. Therefore, rigid pacing guides and scripted curricula that provide no flexibility for teachers are not required. Curriculum framework documents provide enough examples to allow teachers, in collaboration with other teachers, to develop annual plans, high quality units of instruction, and assessments.

Curricula in CFSD are based on current research and best practices. All subject areas use defined academic standards established in proficiency scales. Teachers are required to post learning goals and a daily agenda, which identify their standards-referenced lessons. Relevance and rigor are a continuous focus. Teachers are integrating CFSD's 21st century skills and technology to increase the authenticity and rigor of the standards. And to guide the development of this work, CFSD uses *Understanding by Design* (UbD), developed by nationally recognized educators, Grant

Wiggins and Jay McTighe (2005), as the basis for unit and lesson development. "Understanding *by design* as opposed to understanding by good fortune" is the goal to helping students acquire and understand important ideas and transfer learning to new contexts (Wiggins & McTighe, 2011).

Tools and resources, such as the CFSD proficiency scales/rubrics, unit design process and templates, authentic assessment template, model for developing performance-based tasks/assessments, professional development, and coaching, are available as supports to sustain a coherent and aligned curriculum. The district publishes electronic documents that each teacher can access in CORE 21 (Faculty Login) as a guide for developing daily lesson and unit plans.

Assessment

> *The long-term purpose in schooling is transfer: to equip learners to take what they have learned and use it outside school.*
>
> Wiggins & McTighe, 2011

Assessments are an integral part of the instructional process. A coherent and aligned curriculum includes assessments that are matched to the learning standards (proficiency scales) and the purposes for which the assessments will be used. In fact, assessment is and what should drive the curriculum and actions of both students and teachers. According to McTighe & Wiggins (2012), "The standards come to life through assessments. They refer to the desired *qualities* of student work and the degree of *rigor* that must be assessed and achieved" (p. 10).

A comprehensive assessment system provides multiple measures and offers a continuum of methods that may be used to determine acceptable evidence of learning. This evidence can be triangulated to support conclusions about student performance. According to Guskey (2007), assessments must be an ongoing effort to help students learn. Students need multiple opportunities to demonstrate what they know and can do. "Assessments cannot be a one-shot, 'do-or-die' experience for students" (p. 22). Wormeli (2011) supports this notion through "redos and retakes," which he believes is the best way to prepare students for life. In his view:

The teacher who claims to be preparing students for the working world by disallowing redos forgets that adult professionals actually flourish through redos, retakes, and doovers. Surgeons practice on cadavers before doing surgeries on live patients. Architects redesign building plans until they meet all of the specifications listed. Pilots rehearse landings and take-offs hundreds of times in simulators and solo flights before flying with real passengers. Lawyers practice debate and analysis of arguments before litigating real cases. Teachers become much more competent and effective by teaching the same content multiple times, reflecting on what worked and what didn't work each time . . . . How pompous is it for a teacher, then, to declare to students, "This quiz/writing assignment/project/test cannot be redone for full credit because such a policy prepares you best for the working world." This teacher doesn't have a pedagogical leg to stand on. The best preparation for the world beyond school is to learn essential content and skills well. (p. 22)

CFSD's comprehensive and balanced 21st century assessment system includes three layers:

- Classroom- and team-based formative and summative assessments
- District-wide common performance-based assessments (summative)
- Standardized assessments (summative)

Formative assessments occur during instruction and are used to monitor learning and provide ongoing feedback. They help students identify their strengths and weaknesses, target areas for growth, and help teachers recognize where students are struggling so that problems can be addressed. They serve as "assessments *for* learning" (Stiggins, 2005).

Summative assessments are designed at the classroom, district, and state/national level and can be used in accountability systems. Data from summative assessments are typically evaluative and can be used to measure achievement in relation to standards. They serve as "assessments *of* learning" (Stiggins, 2005). Students can use both formative and summative assessment results to gauge their progress toward course or grade level standards/benchmarks.

Assessments in both areas have focused on aspects of critical [and creative] thinking. For science, assessments measure the thinking skill of scientific inquiry. Assessments are designed around actual investigations that involve inquiry skills as aligned to the curriculum. For example, Figure 26 displays the results for an assessment at grade 3. Students participated in a complete investigation that was part of a unit on plants. They were measured on one aspect of Scientific Inquiry: data analysis. The data show that 71% of third grade students scored proficient and above when measured on the trait of data analysis within the inquiry process on a unit on plants.

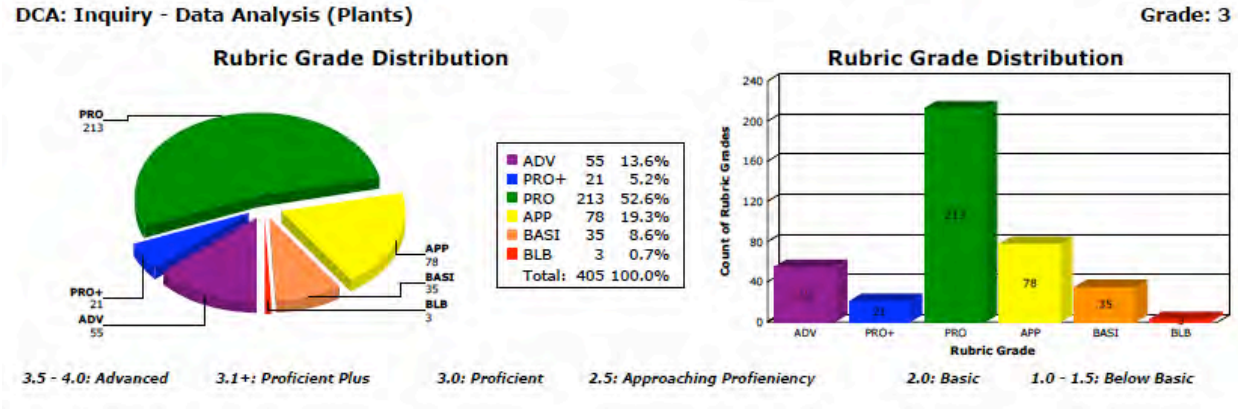


Figure 26. District-wide third grade assessment results for scientific inquiry skill of data analysis All grade levels utilized this design parameter for the district common assessments on Scientific Inquiry.

Figure 27 displays the results for grade 7. Students were measured on the inquiry skill of data analysis. Results show that 60% of students scored proficient and above on this measure of inquiry.

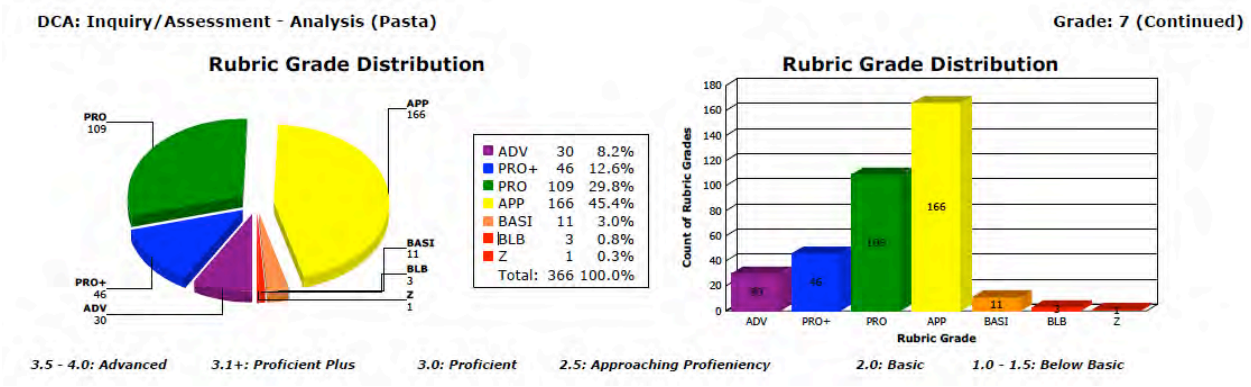


Figure 27. District-wide seventh grade results for scientific inquiry skill of data analysis.

Figure 28 displays the results for student performance at grade 10. Students were measured on their ability to identify patterns and trends in data, as measured during an investigation in Chemistry. Results show that 84% of students scored proficient and above on this measure of inquiry using the letter grade scores of B- to A+.

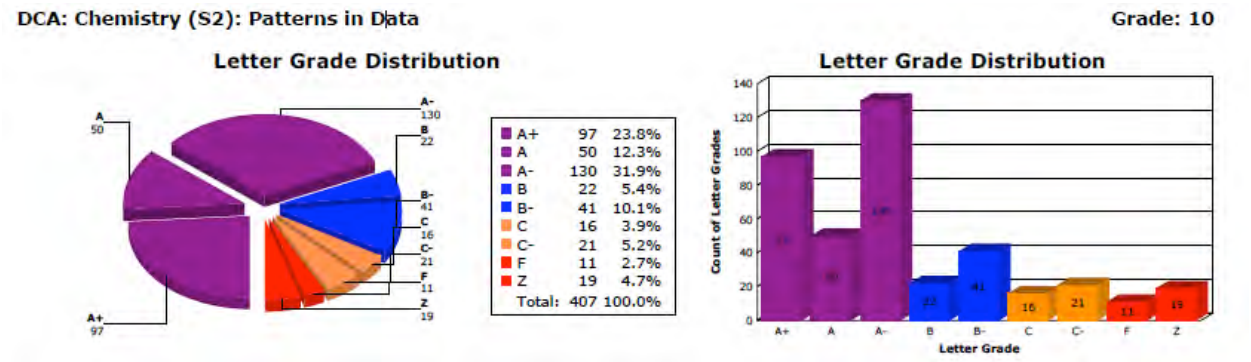


Figure 28. Grade 10 assessment results for scientific inquiry skill of patterns in data, as assessed during an investigation in Chemistry

The next two examples display the results for Critical [and Creative] Thinking as measured in the context of social studies content. Figure 29 displays the results for one of two district common assessments at Grade 8. In this case, students were asked to describe multiple perspectives of an issue using Comic Life or other electronic software. The results show that 92% of students scored proficient or above when measured on the critical thinking skill of analyzing perspectives.

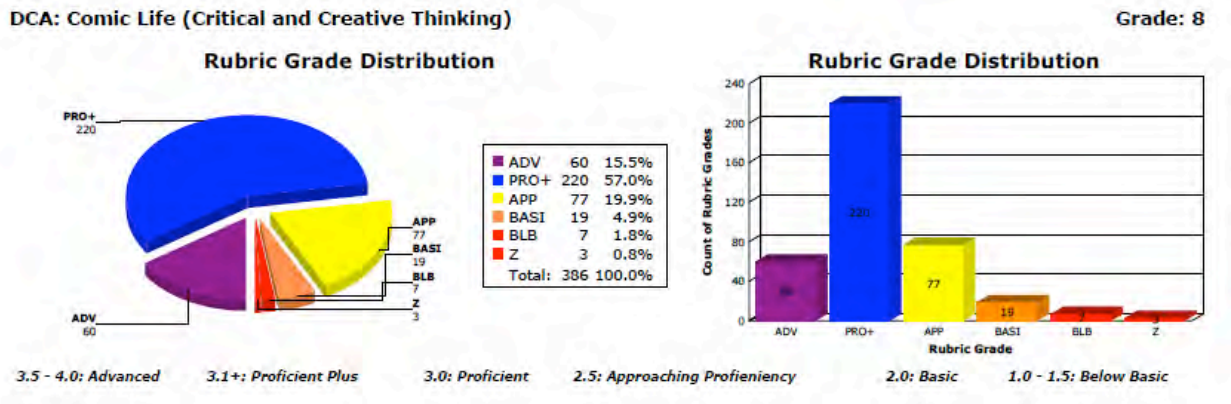


Figure 29. District-wide assessment results at grade 8 for analyzing multiple perspectives

Figure 30 displays the common assessment results for student performance at grade 11 when measured on the critical thinking skill of analysis as part of a common assessment in U.S. History. The results show that 92% of students were successful on this aspect of the assessment using the letter grade scores of B- to A+.

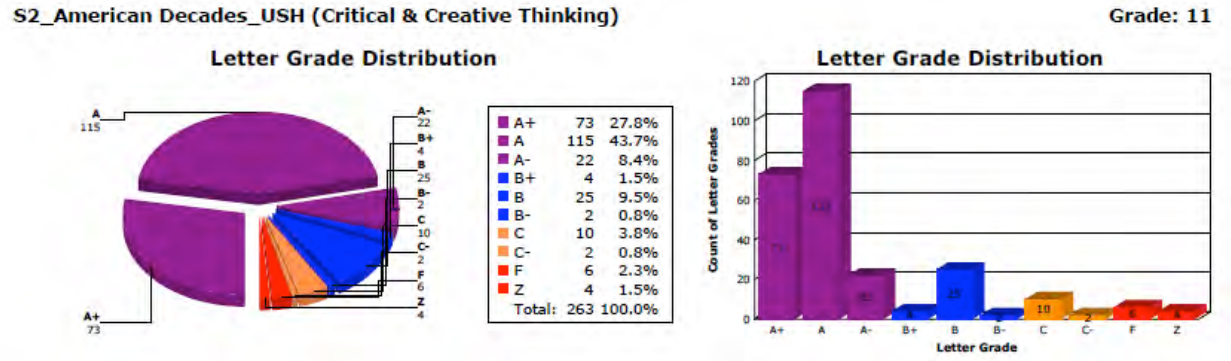


Figure 30. Assessment results at grade 11 for the skill of analysis as measured on a common assessment in U.S. History

The district is making progress in the development of common summative assessments and reporting student progress in measures of critical thinking as designed by these assessments. Common summative assessments, as well as classroom-based formative and summative assessments, provide students and teachers with data about progress in 21st century skill building in the context of academic content.

Standardized assessments are examples of external summative tests that evaluate student performance according to a set of criteria administered across a wide population. These assessments provide quantitative data on the academic performance of students when compared with peers across the state and/or across the nation (e.g., Arizona Instrument to Measure Standards - AIMS, Stanford 10, Scholastic Aptitude Test - SAT, American College Testing - ACT, National Assessment of Educational Progress – NAEP).

Standardized commercial assessments that assess academic content and 21st century skills in authentic contexts are few. Current tests are generally not designed to gauge how well students apply what they know to new situations or evaluate how they might solve complex problems or communicate ideas. With this in mind, the district's strategic priorities in the area of assessment shifted in 2010 to (1) instructional and assessment opportunities that stimulate student self-direction and critical thinking, and (2) the authenticity of student academic work.

In response to these priorities, the district identified a valid and reliable external measure, the College and Work Readiness Assessment (CWRA), to supplement district and classroom assessments at the high school, and redesigned its common assessment plan to include the use of performance-based tasks across K-12.

The CWRA is an online performance-based assessment that specifically measures critical thinking, analytic reasoning, problem solving, and written communication skills. It includes a performance task that presents an engaging, real-world scenario and a set of accompanying documents. Students are asked to analyze the documents in order to address a problem. They must examine the strengths and weaknesses of different points of view or courses of action. In addition, they may need to weigh different types of evidence, evaluate the credibility of the evidence, and identify questionable assumptions in order to craft a written response that addresses the stated problem. The CWRA tasks are designed to assess students' higher order thinking and writing skills regardless of their academic focus. It makes clear that higher order learning is valued in CFSD because that is what the assessment requires.

The CWRA functions as a cross-curricular assessment that informs instructional practices and assessment design. Beginning with the baseline data from Spring 2011, the district has been analyzing the performance results of both entering and exiting students at the high school. Assessing freshmen allows the district to understand students' specific strengths and weaknesses after their K-8 experience, making formative use of the results. Senior level results provide the district with information on three metrics: (1) college readiness – national comparison of exiting seniors in CFSD to college freshmen, (2) national comparison of high school seniors across participating CWRA schools, and (3) internal growth at the high school – actual freshmen to senior gains by cohort (this data is not available until 2015). In this way, the CWRA not only provides the district with an annual measure of performance, but also measures the district's contribution to the development of academic and 21st century skills, including the effects of changes to curriculum and instruction.

An analysis of the mean performance task scores from 2011, 2012, and 2013 shows that CFSD seniors, overall, are college ready! That is, they are outperforming college freshmen at participating colleges/universities who are administering the Collegiate Learning Assessment (CLA), which parallels the design of the CWRA. Figure 31 displays the mean scores for CFSD seniors and college/university freshmen that are taking the CLA at participating schools.

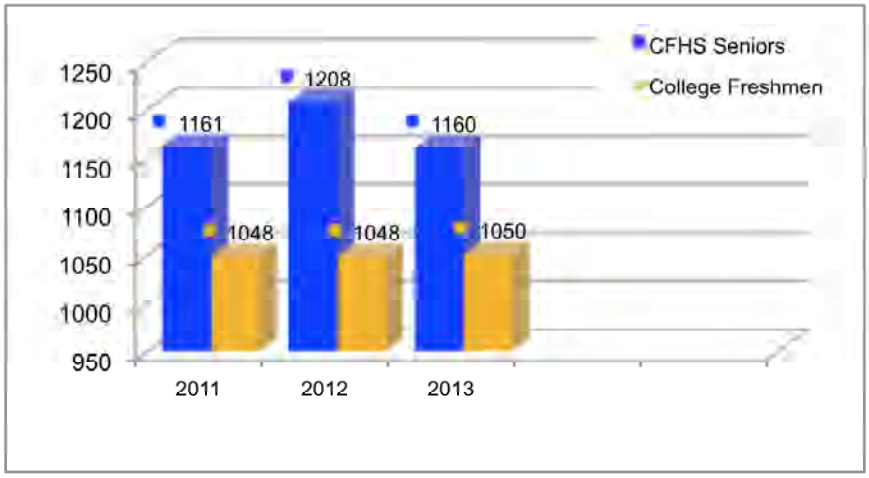


Figure 31. Catalina Foothills School District Seniors Are "College Ready"! Mean CWRA scores for CFSD seniors and mean CLA scores for college freshmen

Figure 32 displays the distribution of CFSD students' Spring 2013 performance in the subscore categories of Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving. The numbers on the graphs correspond to the percentage of students that performed at each score. The distribution of subscores across all participating CWRA schools is presented for comparative purposes. The scores range from 1 (low) to 6 (high). The rubric continuum is best described as improvement over a grades 9-16 spectrum, so the goal is to see high schools bring their students a certain distance (peaking at the 3s and 4s) with colleges doing the rest. Results show that 80-89% of CFSD seniors are scoring in the targeted range (3.0 - 4.0). However, 11-20% of seniors (approximately 33-60 students) scored below the standard across subscores with Problem Solving as the area most in need of attention and growth.

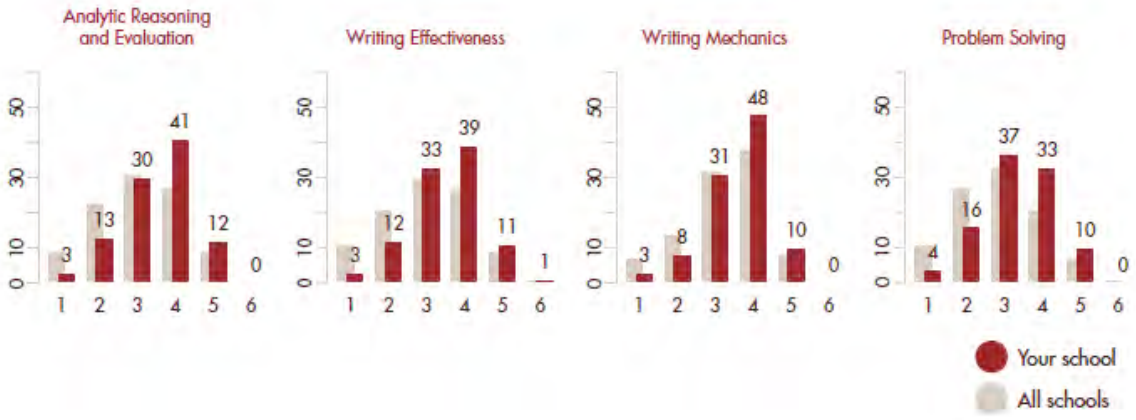


Figure 32. Distribution of senior subscores for the Spring 2013 CWRA

It is important to note that the graphs for each subscore are not directly comparable due to potential differences in difficulty among subscore categories. For example, it may be easier to

obtain a high Writing Mechanics score than it is to obtain a high Analytic Reasoning and Evaluation score.

Table 6 displays the distribution of mean rubric scores over three years for CFSD seniors compared with seniors in all CWRA schools in the subscore categories of Analytical Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving.

Table 6

Comparison of CWRA Subscores of CFHS Seniors and All CWRA Schools

Summary of CWRA Subscores for CFHS Seniors and All CWRA Schools								
Analytic Reasoning/ Evaluation			**Writing Effectiveness**		**Writing Mechanics**		**Problem Solving**	
Year	CFHS	All Schools	CFHS	All Schools	CFHS	All Schools	CFHS	All Schools
2011	3.3	3.0	3.4	3.1	3.4	3.1	3.3	3.0
2012	3.6	3.0	3.6	3.0	3.7	3.3	3.4	2.9
2013	3.5	3.1	3.5	3.0	3.6	3.3	3.3	2.9

An analysis of the mean scale scores for the performance tasks administered in 2011, 2012, and 2013 shows that CFSD seniors are outperforming seniors at participating CWRA schools. Figure 33 displays the scores for CFSD and all CWRA schools for this three-year period.

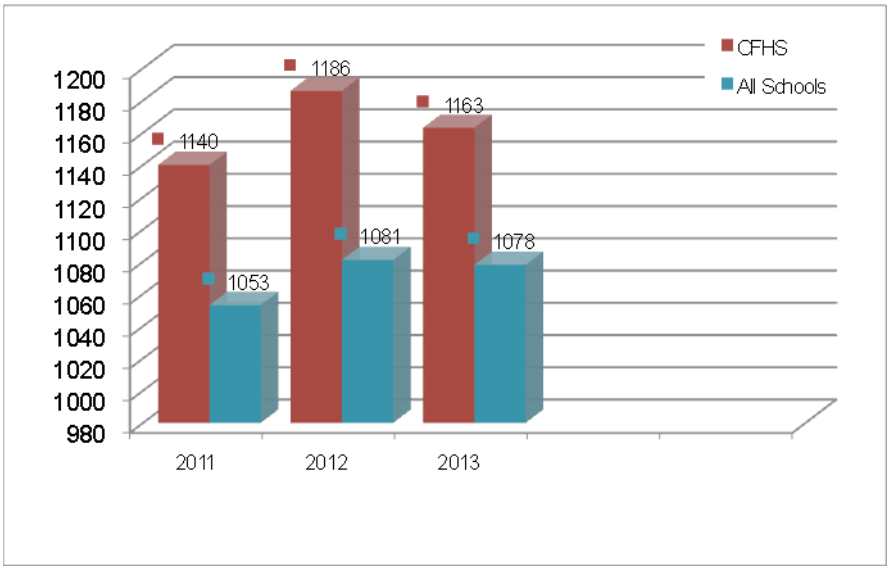


Figure 33. Catalina Foothills High School Seniors Outperform Seniors at CWRA Schools! Mean scale score results on the CWRA for students at CFHS and students at all participating CWRA schools

Figure 34 displays the distribution of CFSD freshmen performance in the subscore categories of Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem

Solving in Fall 2012. The numbers on the graphs correspond to the percentage of freshmen that performed at each score. The distribution of subscores across all schools is presented for comparative purposes.

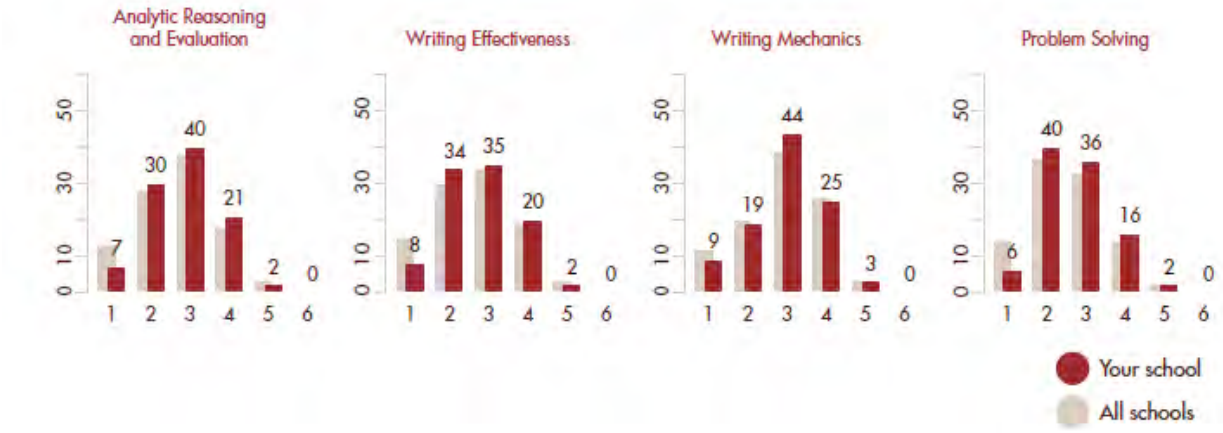


Figure 34. Distribution of freshman subscores on the fall 2012 CWRA

The Fall 2012 results show that 54-72% of the 333 freshmen tested were already scoring in the targeted range (3.0-4.0) across subscores. As entering freshmen, there is a larger range of students performing below standard, which is to be expected at the beginning of their high school years. 28-46% of freshmen are scoring below the targeted range in each of the four subscore categories with Problem Solving (46%) as the area that needs the most growth. Problem solving is showing up as the weakest area for both seniors and freshmen.

Table 7 displays the distribution of CFSD freshmen performance over two years, 2011 and 2012. The freshmen results for 2013 have not yet been received. The summary of mean CWRA subscores in the categories of Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving shows that CFSD freshmen are scoring at or near the performance of freshmen in other participating CWRA high schools.

Table 7

Comparison of CWRA Subscores of CFHS Freshmen and All CWRA Schools

Summary of CWRA Subscores for CFHS Freshmen and All CWRA Schools								
Analytic Reasoning/ Evaluation			**Writing Effectiveness**		**Writing Mechanics**		**Problem Solving**	
Year	CFHS	All Schools	CFHS	All Schools	CFHS	All Schools	CFHS	All Schools
2011	2.7	2.7	2.7	2.6	2.9	2.9	2.6	2.5
2012	2.8	2.7	2.7	2.7	2.9	2.9	2.7	2.5

The district also utilized the CWRA as a model to redesign its common [performance-based] assessment plan into a more formalized plan with specific parameters for use at the elementary,

middle, and high school levels. The new design builds on the previous five years of "authentic intellectual work," from Newmann, Secada, and Wehlage (1995), Newmann, King, and Carmichael (2007), Wiggins & McTighe (2005), and the Metiri Group. The goal is to anchor the curriculum around important, recurring tasks in order to provide students with ongoing opportunities to apply and transfer learning.

Performance tasks/assessments provide one viable approach to developing and measuring transferrable higher-order learning. Additionally, they are critical to assessing important aspects of Arizona's College and Career Ready Standards (common core) and other content standards in cross-disciplinary contexts. Students will be asked to use evidence to analyze and solve problems, make claims and support them with source-based evidence, and to reason effectively. These are skills that CFSD has prioritized, values, and is committed to teaching and measuring. They are important college- and career-readiness skills that are generally not addressed by the multiple-choice tests that have dominated the testing landscape for the past two decades. If we insist on judging classroom-based performance tasks/assessments with the "validity" and "reliability" criteria traditionally used by statisticians and psychometricians, it will be more difficult to move much beyond factual and procedural recall to achieve the kinds of higher-level student work that we need more of. We believe our teachers will be thoughtful assessors of these assessments and tasks. Table 8 displays the performance task/assessment design considerations currently being used by professional staff to create performance-based tasks and assessments.

Table 8

Design Considerations for Developing Performance Assessments and Tasks

Performance Assessment/Task Design Considerations
• Identify an issue
• Create a scenario that places the student in an authentic/real-world situation
• Give the student a specific role
• Include a decision to be made or a problem to solve
• Require understanding and transfer of learning
• Identify an authentic product that someone assuming the role would produce (the student will produce this product)
• Include some appropriate stakes to add urgency
• Include some appropriate opposition to make it compelling
• Create a task library (set of documents) that includes a range of information sources (students are asked to use these materials in preparing answers to the task's questions
• Require students to engage in critical thinking, analytic reasoning, communication, and problem solving (or similar 21st century proficiencies) in order to arrive at a solution or decision
• Require understanding and transfer of learning
• Create transparent evaluation criteria and rubrics that are made clear to the students so they can evaluate their own work and receive feedback on strengths and weaknesses

During the 2012-2013 school year, an assessment leadership team was created to provide differentiated K-12 professional learning in the development of performance-based tasks/assessments using the design parameters. New tools and templates, aligned to CFSD language and practice, were created to incorporate the new performance-based task/assessment

design parameters (e.g., Task-O-Matic, prompts, graphic organizers, model tasks). They have been uploaded into CORE 21 and to the professional development site in the Faculty Login.

Next, assessment teams were created for writing and math to develop common performance-based tasks/assessment items at grades 1-12. The performance tasks are built around authentic problems and contexts. Students are presented with an array of related documents to analyze and use to develop a written response to the problem. The purpose of these recurring tasks is to familiarize students with a new type of assessment and provide teachers with information about their students' abilities and progress in critical thinking, problem solving, and written communication. Aggregate results are used to inform ongoing practice in teaching and assessing 21st century skill competencies in the context of academic disciplines.

The focus on authentic assessment in our place is grounded in the research on authentic pedagogy conducted by Newmann and Wehlage (1995). They identified authenticity standards that can be used to judge the intellectual quality of schoolwork: construction of knowledge, disciplined inquiry, and value beyond school. Research over the years has shown that these "standards" for authenticity have been found to increase student achievement across student groups. CFSD uses the "standards for authentic pedagogy" as filters for planning instruction and assessment. Instead of requiring teachers to use one best practice or model as the context for authentic assessment, professional educators in CFSD make mindful decisions about how to apply the principles of authenticity through instructional planning and other collaborative efforts with colleagues.

Wormeli (2006) recommends two guidelines when considering "authentic" assessment. First, the assessment is close to how students will apply their learning in real-world applications. He uses the example of a five-paragraph essay to illustrate his point. He contends that there is no business or company that asks students to write a five-paragraph essay. Instead, the expectation is to be able to discern the appropriate number of paragraphs for a successful document, dividing and combining paragraphs as necessary by content, audience, and purpose. He suggests that it is more authentic to ask students to complete a properly completed essay, regardless of length, rather than assess students on a topic that requires a five-paragraph essay. However, Wormeli also suggests that holding students accountable for adult-level proficiency as would happen in their lives beyond school may, at times, be inappropriate. Sometimes the reason for teaching and assessing certain topics is to develop communication and thinking skills. For example, not many of us graph parabolas in our daily routine as adults, but learning to do so teaches us many skills and concepts applicable throughout our lives. They might include the following:

- Accounting for variables
- Following logic to its conclusion
- Getting enough data (points) to plot the curve (at least three ordered pairs) so that we can be sure of our answer
- Explaining our thinking symbolically to others
- Persevering
- Extrapolating to predict outcomes
- Checking the reasonableness of conclusions

- Weighing the use of alternative strategies (Wormeli, p. 32)

It is also important to note that not every assessment has to be authentic to real life. Sometimes lessons and assessments prepare students for learning and growth during the current school year. In this case, teachers need to be mindful of overtly sharing the importance the skills and concepts that they teach and then show students how they are doing in attaining them.

A second aspect of authenticity refers to the match between how students are being assessed in relation to how students are demonstrating their learning in the instructional process. For example, one does not focus math lessons on numeric computation and then assess students on that content through word problems or contextualized scenarios. Similarly, in science, teaching students using "recipe" labs and then testing them using an inquiry lab is not a match. Wormeli contends that all grades are questionable if assessment is not a match to how students learned and what they were supposed to learn.

The CFSD proficiency scales are the starting point for designing aligned and effective classroom or district assessments. They provide the basis for developing and correlating assessment items that align to the curriculum. Teachers who effectively use the proficiency scales also use them with students in the form of rubrics (in "kid-friendly" language) so they can measure their own learning. The rubric is derived from the learning expectations established in the proficiency scales and should be understood and used by all students to measure their own learning and growth. Table 9 illustrates how a teacher might design a rubric for evaluating textual evidence in science classes at grades 9-10.

Table 9

Rubric for Measuring Textual Evidence in Science and Technical Classes at Grades 9-10

After reading a science/technical text, the student. . .	
Score	**Criteria**
4	***Demonstrates Score 3.0 skills and may:*** • Make a complex observation or point about the text. • Select and analyze complex or contradictory information in the text.
3	***Demonstrates Score 2.0 skills and:*** • Selects specific and sufficient textual evidence that supports the observation/point. • Explains how the textual evidence supports the observation/point.
2	• Makes an accurate observation or point about the text. • Identifies details of explanations/descriptions from the text that pertain to the observation or point.

A rubric, such as the above example, provides students with the criteria for success to meet the standard (or learning goal) and be deemed successful. Rubrics or scoring guides are important instructional and assessment tools. Stiggins (2005) asserts, "Students can succeed if they know what it means to succeed" (p. 132) and advises, "State the meaning of success up front, design instruction to help students succeed, and devise and use assessments that reflect that vision of success." Prior research suggests that student learning improves when teachers are clear on the criteria they will use in judging the quality of student work and can apply the criteria

consistently. Further, the more students have a role in assessing and monitoring their own learning, the likelihood of increased achievement results.

In the real world, success rarely depends on a single opportunity for performance. Most performances are practiced several times before they become real – there is a great deal of assessment and redoing before a final product is released. There are many reasons why students may not perform their best on a day that is designated for a test or performance. The objective of teachers is to identify the most consistent level of performance of students. To do this means teachers need to vary assessments and provide multiple opportunities for students to demonstrate learning. Guskey (2003) explains it this way:

> To become an integral part of the instructional process, assessments cannot be a one-shot, do-or-die experience for students. Instead, assessments must be part of an ongoing effort to help students learn. And if teachers follow assessments with helpful corrective instruction, then students should have a second chance to demonstrate their new level of competence and understanding. This second chance helps determine the effectiveness of the corrective instruction and offers students another opportunity to experience success in learning. (p. 10)

When teachers were asked to identify which assessment types they consider important in informing instructional decisions, performance-based assessments and grade level or subject matter team assessments ranked higher than other assessment types in 2010 and 2013. The percentage of teachers selecting these assessment types increased by 5% between 2010 and 2013. There was an 8% increase in the importance of district-wide assessments. Figure 35 and Figure 36 display the results of teacher perspectives on the importance of various assessments.

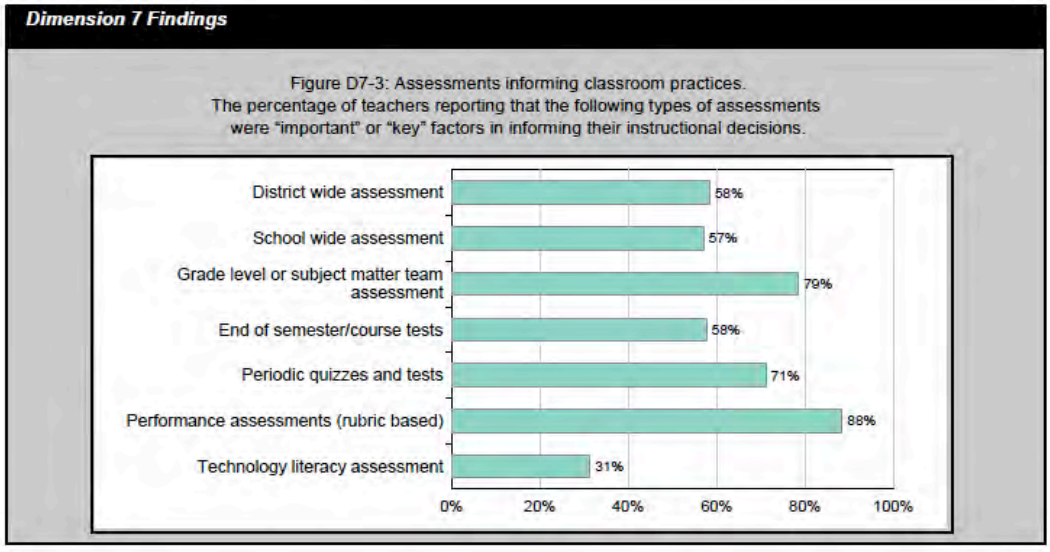


Figure 35. Dimension 7 (D7-3) Findings for 2013: Percentage of teachers that reported particular assessment types as important or key in informing their instructional decisions in the classroom

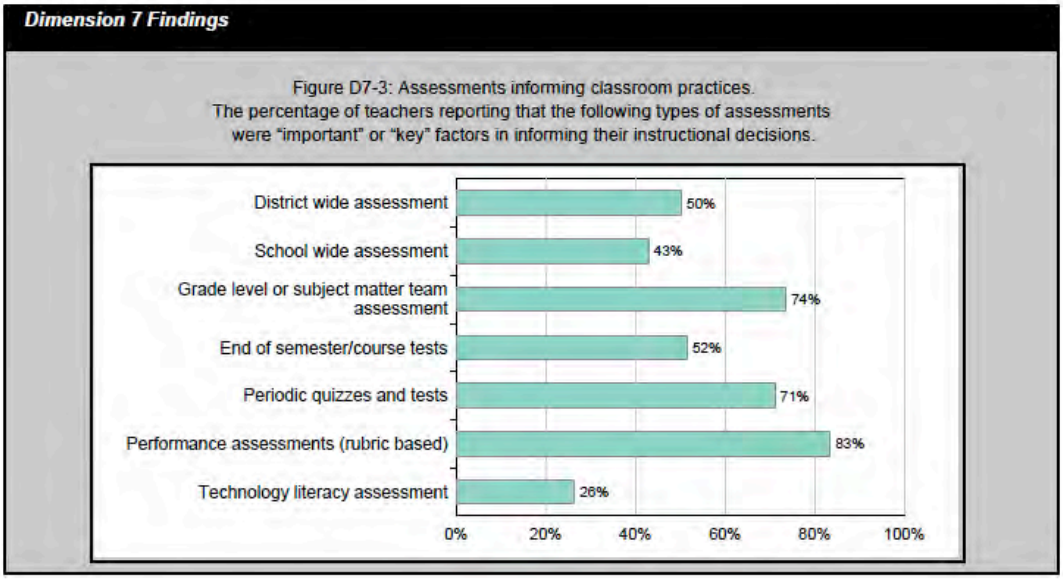


Figure 36. Dimension 7 (D7-3) Findings for 2010: Percentage of teachers that reported particular assessment types as important or key in informing their instructional decisions in the classroom

Administrators supervise and monitor instructional programs and practices at their school sites. They were asked to indicate which assessment methods were routinely used by classroom teachers to assess student attainment of 21st century skills. Figure 37 and Figure 38 displays the results.

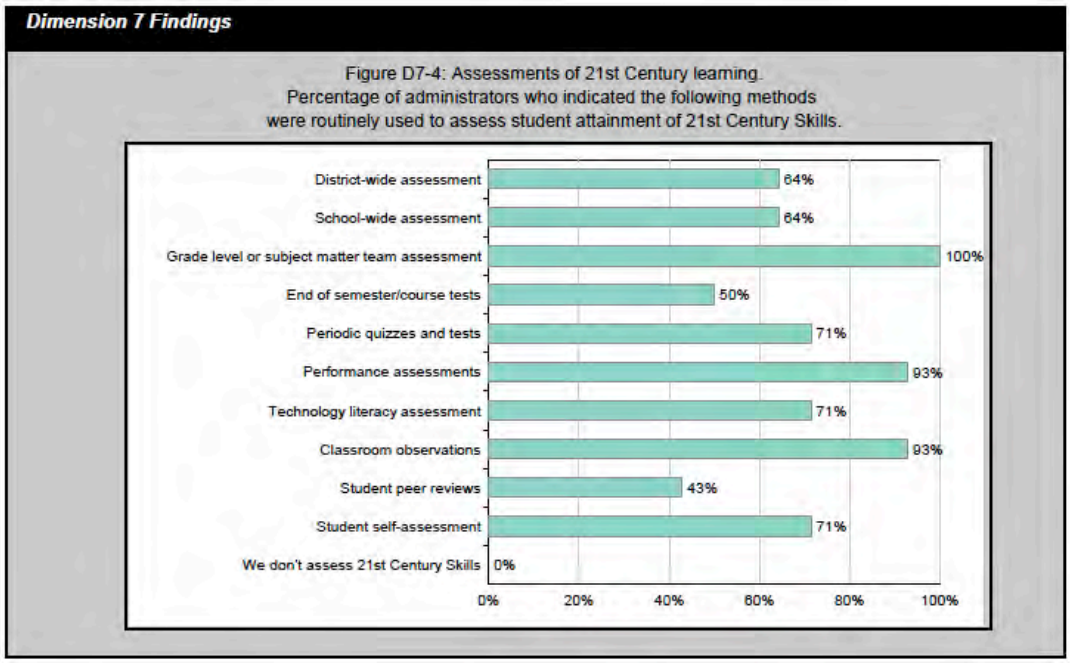


Figure 37. Dimension 7 (D7-4) Findings for 2013: Percentage of administrators who indicated various assessment methods used routinely to measure 21st century skills

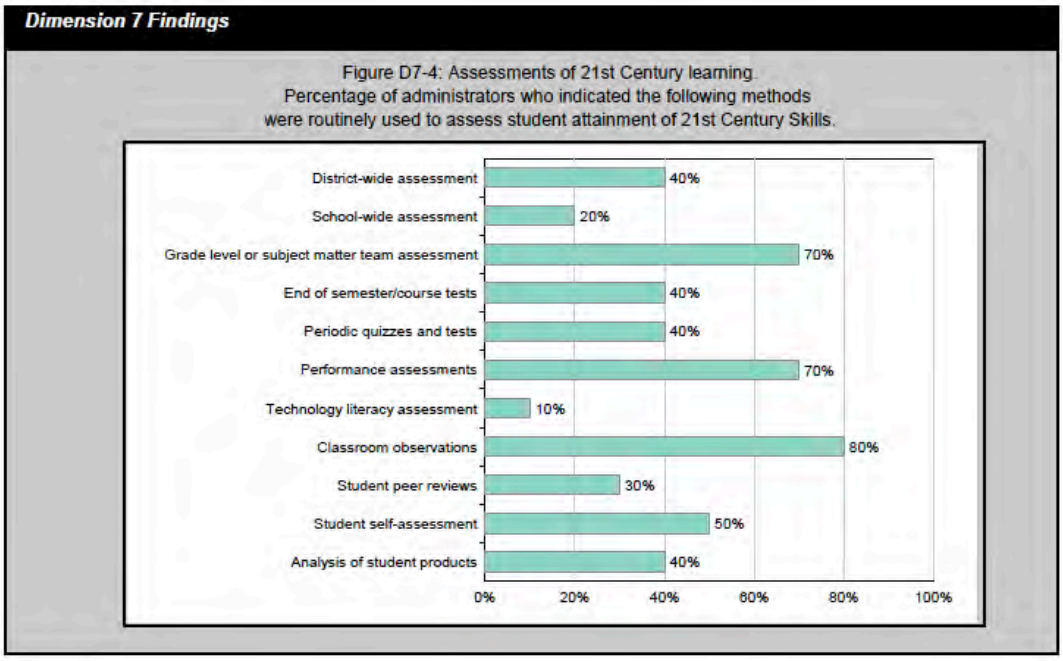


Figure 38. Dimension 7 (D7-4) Findings for 2010: Percentage of administers who indicated various assessment methods used routinely to measure 21st century skills

From 2010 to 2013 the percentage of administrators indicating routine use of assessments for measuring 21st century skills increased by 24% for district-wide assessments, 30% for grade level or subject matter team assessments, and 23% for performance-based assessments. Student self-assessment increased by 21%. The most significant increase was seen in technology literacy assessments with an increase of 61%. The data clearly show that there was an increase from 2010 to 2013 in the percentage of principals who indicated that all assessment types were being used to measure attainment of 21st century skills.

Assessment has played a central role in education over the past two decades, and is seen as a powerful lever for influencing what happens in schools and classrooms. It is vital that our investment focus on preparing our students for the complexities, challenges, and opportunities in life and not merely on fulfilling federal and state requirements. Looking forward, it makes sense to continue to reflect on, refine, and improve 21st century skill building and assessment development in our place.

Student Engagement

Emergent research identifies student engagement as one of the most powerful factors affecting achievement of students at every ability level (Metiri, 2013). "Engagement is influential in all students' learning trajectories" (p. 29).

What exactly is student engagement? Fred Newmann states that engaged learners make a "…psychological investment in learning. They try hard to learn what school offers. They take pride not simply in earning the formal indicators of success (grades), but in understanding the

material and incorporating or internalizing it in their lives (as cited in Metiri, 2013). Newmann's definition suggests that students who are engaged are involved in their own learning. For the purpose of our work in CFSD, engagement has been defined as "the active pursuit of deep learning to accomplish established standards."

Research shows that the more actively students participate in their education, the more likely they are to learn at a deep level. Schlechty (2002) theorized that when teachers work on the quality of work they give students, the work will engage more students more of the time. "Improved academic performance will result from increased student engagement because students work harder to achieve desired results" (Bowen, 2003, p. 1). Schlechty offers the following [work] design qualities that foster engagement when considered by teachers as they create classroom tasks and activities:

- *Product focus* – structuring tasks and activities so that what students are to learn is linked to some product, performance, or exhibition to which the student attaches personal value.
- *Affirmation of performance* – designing tasks and activities so that the performance of students is made visible to persons who are significant in their lives, as well as designing the work in ways that make it clear that the quality of the performance of the student has meaning and value to peers and others whose opinions the student values and cares about.
- *Affiliation* – designing tasks so that students are provided the opportunity to work with peers as well as with parents, outside experts, and other adults, including but not limited to the teacher.
- *Novelty and variety* – providing students with the opportunity to employ a wide range of media and approaches when engaged in the activities assigned and encouraged.
- *Choice* – designing tasks and activities so that students can exercise choice either in what they are to learn or how they go about learning that which it is required that they learn.
- *Authenticity* – linking learning tasks to things that are of real interest to the student especially when the student is not interested in learning what adults have determined he or she needs to learn.
- *Content and substance* – refers to what is to be learned and the level of student interest in the subject or topic.
- *Organization of knowledge* – refers to the way the work is organized, consideration of instructional strategies, learning styles, and technologies to be employed.
- *Clear and compelling product standards* – refers to the extent which students have rubrics, models, checklists, etc. to help them know what quality looks like.
- *Protection from adverse consequences for initial failures* – refers to the extent to which students are provided a supportive environment to practice and to learn where mistakes are valued as part of the learning process

Bowen (2003) conducted a review of the research and professional literature to explore student engagement, the work students find engaging, and the design qualities of this work. Her review correlated to each one of Schlechty's ten design qualities. The research suggests that teachers consider these design qualities when developing lessons.

To better understand actual levels of engagement as reported by individual students and their perceptions of the conditions in our schools that have been linked by research to increases in student engagement, the district administered the *Student Outcomes/Student Perspectives Engagement Survey*, designed and validated by the Metiri Group. The survey was administered in 2010 and 2013 to assess the extent to which CFSD students are engaged in educational practices that have been linked to high levels of learning and development.

In 2010, the student engagement survey was administered to 3,007 students in grades 5-12. The resulting data provided a baseline that was used to compare the data from the 2013 survey, which was administered to 2,813 students in grades 5-12. The fifth grade students who took the survey in 2013 were in second grade in 2010. Their survey results reflect the work done on engagement at the elementary level. The fifth grade students who took the survey in 2010 were in eighth grade when they took the survey in 2013. The survey results from these students reflect the work around student engagement during their middle school experience. The ninth grade students who took the survey in 2010 took the survey again as seniors in 2013. Those results reflect engagement efforts at the high school over a three-year period.

Three different "kinds" of engagement data were examined within the larger measure of engagement to ascertain the extent of student engagement in the district:

- Levels of engagement
- Types of engagement
- Classroom Structures to Engage Students

Levels of Engagement

A taxonomy of student engagement levels was used to distinguish the engagement behaviors of CFSD students in grades 5-12 for 2013 and 2010. The data from the student surveys at each school were aggregated to report the percentage of students at five different levels of engagement:

- *Engaged* (the activity is viewed as personally meaningful and sufficiently challenging)
- *Tactically Engaged* (the official reason for the work is not the reason the student does the work; substitutes own goals [e.g., grades, college acceptance, parent approval])
- *Compliant* (the work has no meaning and is not connected to what does have meaning; emphasis is on minimums and exit requirements)
- *Withdrawn* (student is disengaged from classroom activities and goals, thinking about other things or is emotionally withdrawn)
- *Defiant* (student is disengaged from classroom activities and goals; student's rebellion is usually seen as acting out; student is actively engaged in another agenda)

The survey questions asked students if characteristics known to be those of students at that level of engagement are typical of them. Figure 39 and Figure 40 displays the overall district engagement by level of engagement for 2010 and 2013.

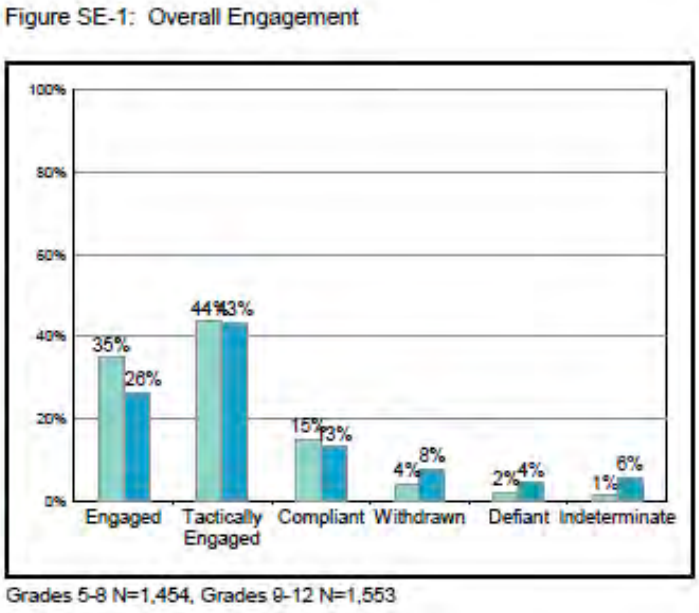


Figure 39. Overall district engagement by level of engagement for 2010

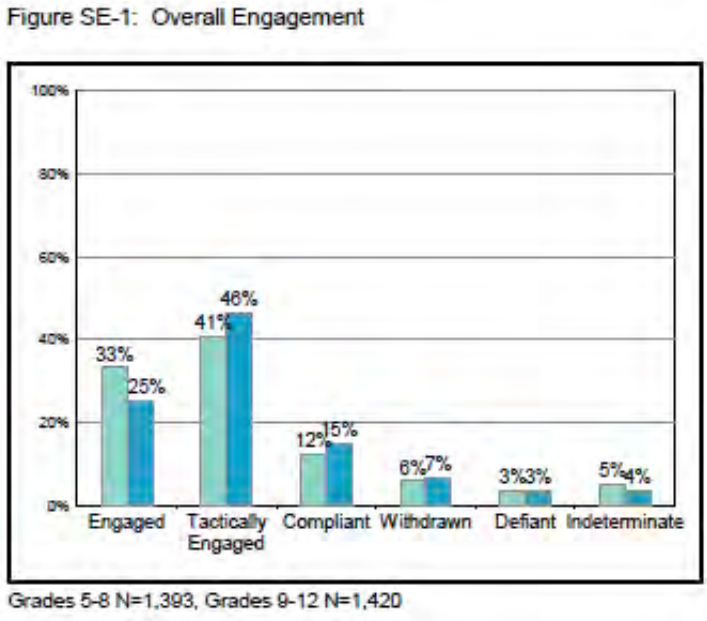


Figure 40. Overall district engagement by level of engagement for 2013

Table 10 shows how the engagement levels differ in terms of commitment and attention.

Table 10

Attention and Commitment by Engagement Levels

Table SE-2: Attention and Commitment by engagement levels

	High Attention	Low Attention	No Attention	High Commitment	Low Commitment	No Commitment	Diverted Attention
Engaged	✓			✓			
Tactical	✓				✓		
Compliant		✓			✓		
Withdrawn			✓			✓	
Defiant							✓

Types of Engagement

The data on student engagement was also analyzed to determine the degree to which cognitive, behavioral, and social/emotional engagement was reported by students. The types of engagement are described as follows:

- *Cognitive* – A student's investment in the effort required to comprehend complex ideas and master difficult skills
- *Behavioral* – A student's participation in academic, social, and extracurricular activities
- *Social/emotional* – A student's interdependence with classmates, academics, teachers, and school (Fredericks, Blumenfield, & Paris, 2004)

Each is important, but the three are also interdependent. While it is obvious that the cognitive advances academic achievement, emergent research also indicates strong correlations between how emotionally and socially engaged students are with teachers and classmates, and how well they do academically and whether they graduate. The data is best used by schools to set goals for improvement related to each type of engagement.

Figure 41 and Figure 42 on the next page display the aggregate district engagement by type of engagement for students in grades 5-8 (dark green) and 9-12 (light green). Little change was noted when comparing the 2010 results with 2013.

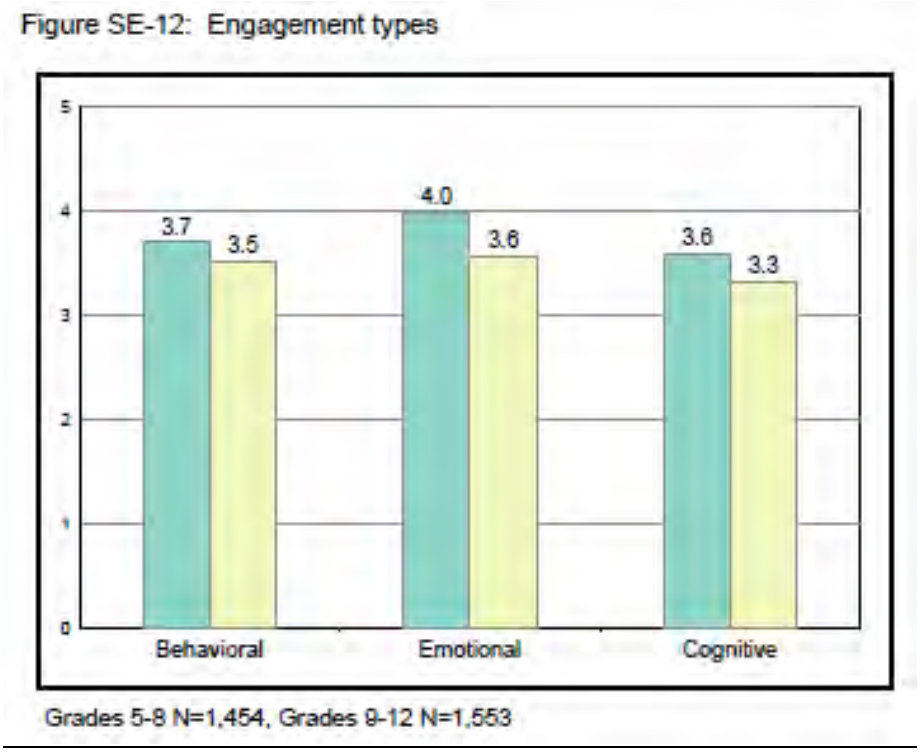


Figure 41. Overall district engagement by type of engagement for 2010

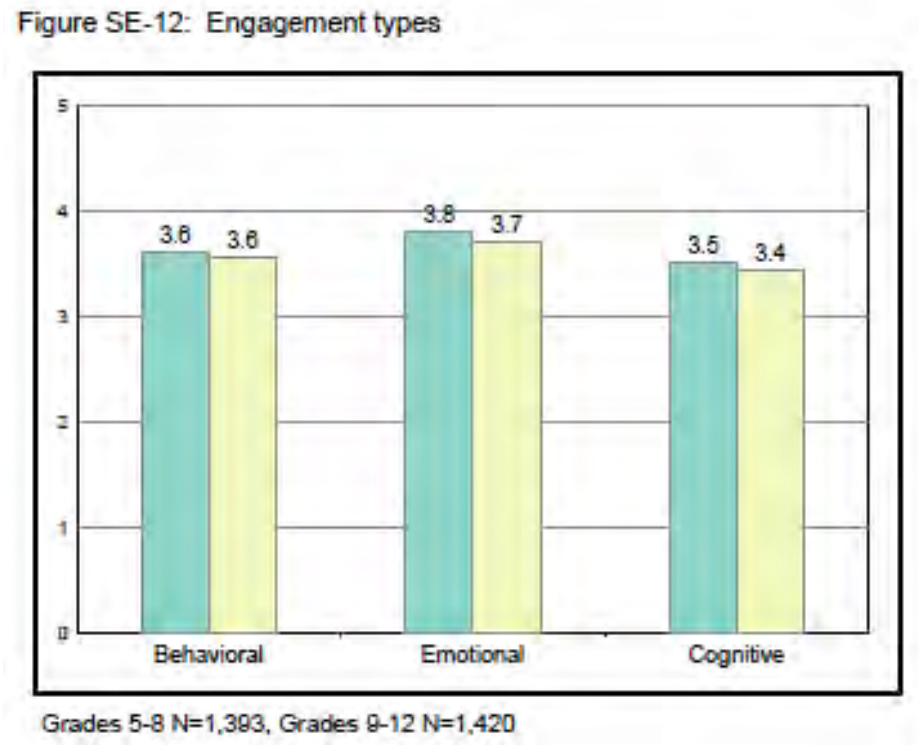


Figure 42. Overall district engagement by type of engagement for 2013

Classroom Structures to Engage Students

Some learning environments are more effective than others in scaffolding deep learning in students. Based on emergent research, the Metiri Group identified specific classroom structures/conditions and surveyed our students to gauge student perspectives on the existence of and quality of classroom structures/conditions that could lead to their engagement in learning. The survey asked students to rate 50 statements on classroom structures/conditions using a 5-point scale with 1 = Completely False to 5 = Completely True and 3 as a neutral mid-point.

Three major elements have been shown to advance deep learning through student engagement:

- *Content* – Opportunities to engage with academic subjects in ways that result in deep understanding of concepts, principles, and context; score high on the Content scale indicates that students find the subject matter interesting and perceive it to be relevant, important, and attainable
- *Process* – Learning activities through which the student is able to make sense of, or master, the content; a high score on this scale would indicate that students perceive the classroom as an environment in which they can learn through intellectual risk taking without fear of ridicule, they can work interactively and interdependently with others, and they perceive those activities and tasks to be meaningful, as do persons of importance to them
- *Product* – Structures that enable students to rehearse, apply, extend, and demonstrate what he/she has learned through an assignment; some examples of how teachers promote product engagement include giving students' a choice of how to express required learning (e.g., create a movie or interview an expert) or encouraging students to create their own product assignments as long as the assignments contain specific elements

Figure 43 and Figure 44 display the aggregate district scores for student engagement related to the three classroom structures and the overall score on the classroom structures in grades 5-8 (dark green) and 9-12 (light green) for 2010 and 2013.

Higher scores reflect higher evidence/quality of classroom structures (related to content, process, product) that engage students in learning, whereas low scores reflect less evidence/quality of such classroom structures. Scores greater than three (3), as denoted by the bar, imply that students perceive moderate to high evidence of classroom structures to engage them in learning. Scores lower than three (3) indicate that students reported either low or moderately low evidence/quality of classroom structures that engage them.

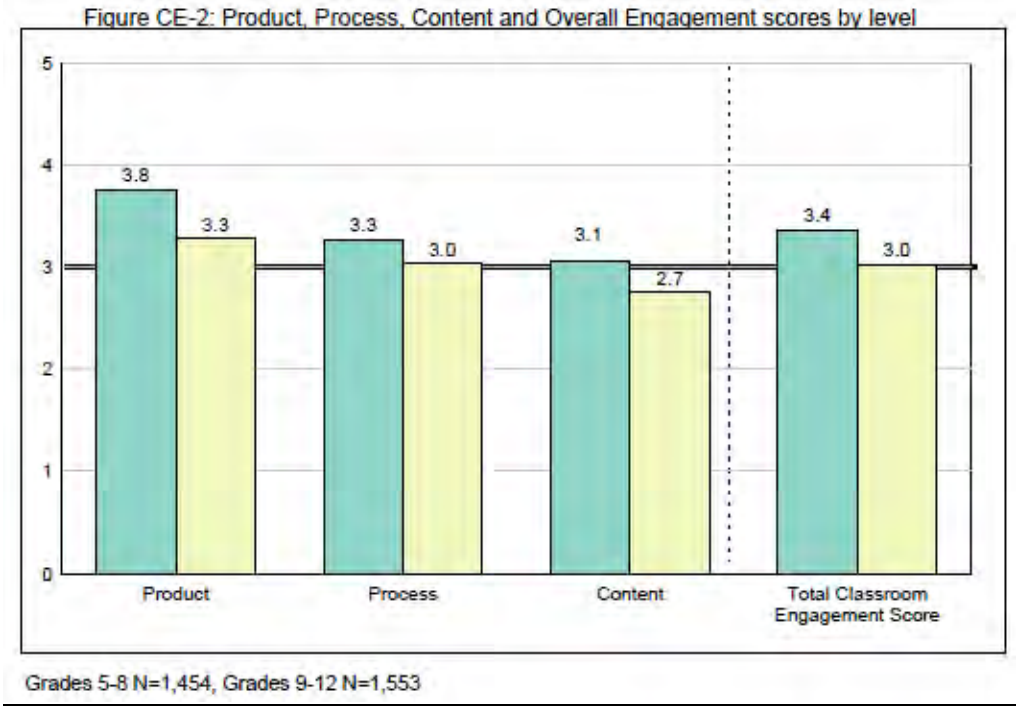


Figure 43. Product, process, content and overall engagement for 2010

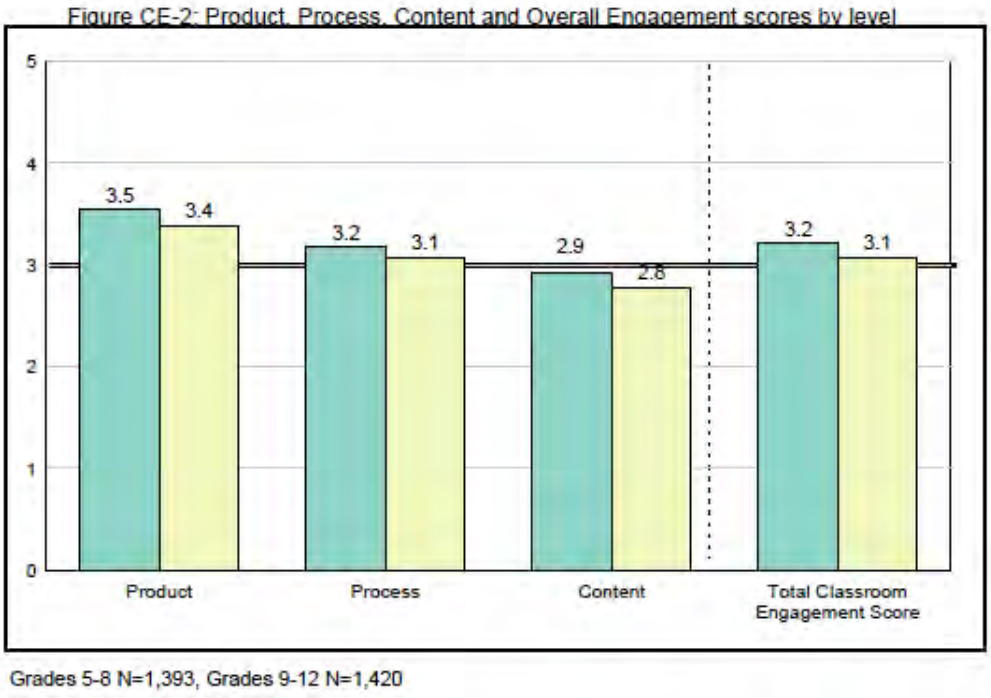


Figure 44. Product, process, content and overall engagement for 2013

Based on the survey cut points and definitions used for this survey, CFSD student perceptions about the quality of classroom structures fall on the scale between moderately low (2.0 to 2.4) and moderately high (3.5 to 3.0) except for the classroom structure of "product" at grades 5-8. "Product" had the highest district mean score. As a district, the classroom structure of "content" had the lowest mean score. In all cases, students perceived the evidence/quality of these structures to be lower at the high school level.

Attention to classroom structures can positively impact student engagement. Every item in the classroom structures section of the survey comes from a research-based strategy for promoting student engagement in the classroom. A mean score of 4.0 to 5.0 indicates a high number of and quality of structures that engage students. Since most of the aggregate scores fall within the "neutral" range (neither moderately low nor moderately high), this suggests the district continue to work on this important aspect of student learning.

Student Engagement Trend Report for 2010-2013

The district also reviewed the student engagement data using a trend analysis. First, the 5th grade results from 2013 were compared with the 2010 results. Second, the district analyzed the engagement trends of those students who took the survey in 2010 and again in 2013.

Methodology

The first set analyzed was a comparison between 5th grade student engagement levels in the spring of 2010 and in the spring of 2013. The second comparison looked at how student engagement levels among a matched set of students have changed from spring 2010 to spring 2013. The engagement levels are defined as intrinsically engaged, tactical, compliant, withdrawn, and defiant. For these analyses chi-square statistical tests were used.

5th Grade Results

Among the 5th graders in spring 2010 and spring 2013 there was no significant change in student engagement levels. Overall 5th grade students were intrinsically engaged and tactical in both the spring of 2010 and the spring of 2013. As shown in Table 11 and Table 12, students in spring of 2010 and spring of 2013 were predominately intrinsically engaged or tactical. Therefore no real shift in engagement levels was seen between the 5th graders of 2010 and the 5th graders of 2013. Both groups displayed high levels of engagement.

Table 11

5th Grade Chi-Square Results Student Engagement Levels Spring 2010 to Spring 2013

5th Grade	***p***
Spring 2010 (*n*=310)	.601
Spring 2013 (*n*=275)	

*$p < .05$

Table 12

5th Grade Frequencies Over Time

Time	Engagement Levels					
	Intrinsically engaged	Tactical	Compliant	Withdrawn	Defiant	Total
5th grade - Spring 2010	40%	43%	11%	5%	1%	100%
5th grade - Spring 2013	43%	38%	12%	6%	1%	100%

Next, the district investigated engagement trends among students who completed the engagement survey in spring of 2010 and again in spring 2013. The grades represented are 5-9 in the spring of 2010 and 8-12 in spring of 2013. In total there were 1,232 matched students who completed the student engagement survey in spring of 2010 and again in spring of 2013, eliminating the students classified as indeterminate results in a matched sample n of 1,156. Among the matched set of students (Table 13), there was a significant change in student engagement levels.

Table 13

Matched Set Results: Grades 5-9 (spring 2010) and Grades 8-12 (spring 2013) chi-square results: student engagement levels spring 2010 to spring 2013

Grade	**Value**	***df***	***p***
Matched set (*n*=1,156)	238.149[a]	16	.000*

*$p < .05$

The data in Table 14 show that 42% of students classified as intrinsically engaged in spring 2013 were intrinsically engaged in spring of 2010. Further, 45% of students classified as tactical in spring of 2013 were intrinsically engaged in spring of 2010 (which represents a shift in the opposite direction). And 59% of students classified as tactical in 2013 were tactical in 2010. This demonstrates that students in 2010 and 2013 were overall engaged.

In terms of students who were not engaged (those classified as compliant, withdrawn, or defiant), there was a shift in students being classified as compliant and withdrawn, with 40% of students classified as compliant in spring of 2013 having previously been classified as withdrawn in 2010. Also, 36% of students classified as tactical in spring of 2013 were previously classified as compliant in spring of 2010, and 27% of students classified as tactical in 2013 were previously classified as defiant in 2010. This illustrates that among the matched set of students from spring 2010 to spring 2013 there was a positive shift in students' engagement levels.

In sum, 5th graders at both time points (spring 2010 and spring 2013) displayed high levels of engagement and there was a positive shift in student engagement levels among the matched set of students from 2010 to 2013.

Table 14

Comparison of Student Engagement Levels Over Time

Engagement Level Spring 2010		**Engagement Level Spring 2013**				
	Statistics	Intrinsically Engaged	Tactical	Compliant	Withdrawn	Defiant
Intrinsically Engaged	Count	169	183	32	16	5
	Expected Count	115	199	52	24	15
	% within Engagement Level_Sp10	42%	45%	8%	4%	1%
Tactical	Count	131	319	48	23	18
	Expected Count	153	265	69	32	21
	% within Engagement Level_Sp10	24%	59%	9%	4%	3%
Compliant	Count	21	53	47	14	11
	Expected Count	41	72	19	9	6
	% within Engagement Level_Sp10	14%	36%	32%	10%	8%
Withdrawn	Count	3	7	16	10	4
	Expected Count	11	20	5	2	2
	% within Engagement Level_Sp10	8%	18%	40%	25%	10%
Defiant	Count	4	7	4	5	6
	Expected Count	7	13	3	2	1
	% within Engagement Level_Sp10	15%	27%	15%	19%	23%

n = 1,156 *Expected count = statistical trend*

Conclusion

According to Coughlin (2013) there is clear evidence that student engagement declines between 5th and 11th grade for student populations as a whole (personal communication). This has been confirmed in the literature in the United States and even more powerfully in Canada. The trend has also been seen in districts that have used this student engagement instrument with startling consistency. For this reason, if a district sees little evidence of declining engagement as students move from late elementary through high school, that "0" change statistic should be interpreted as a significant gain! According to Coughlin CFSD has "bucked a well-documented trend" in the overall engagement levels of students.

Although overall engagement is high (engaged and tactically engaged), a large percentage of students are tactically engaged (45%). Future efforts on creating the classroom conditions for engagement (content, process, product) warrant our attention. Student perceptions about conditions related to engagement around "content" surfaced as a greater need and include teacher consideration of work design qualities such as choice (e.g., showing understanding of a topic in different ways, more student-directed work), creativity, novelty and variety (e.g., learning in new ways outside of school), and linking tasks to topics that are of interest to the students. These conditions are within our sphere of influence as adult practitioners and are critical factors for improving teaching and learning.

Harnessing Technology for Engagement and Achievement

> *Teachers must become comfortable as co-learners with their students and with colleagues around the world. Today it is less about staying ahead and more about moving ahead as members of dynamic learning communities. The digital-age teaching professional must demonstrate a vision of technology infusion and develop the technology skills of others. These are the hallmarks of the new education leader.*
>
> Don Knezek, 2008

Given the ubiquitous nature of the Internet in our lives, the availability of web-based tools, and the many capabilities of technological devices, teaching students how to effectively use technology as tools for learning is a necessity if we are to prepare them for success in the 21st century. A research study by Spires, Lee, Turner, and Johnson asked 4,000 middle school students their opinions on what engages them to achieve in school (Schrum & Levin, 2009). They ranked computers and Internet research as what they enjoyed and learned from best. They also saw the relevance of these tools to their future. "Schools have a pressing responsibility to address this issue head on . . . and take advantage of these tools for enhancing the curriculum" (Schrum & Levin, 2009, p. 162). However, technology is only a wise investment if it changes something about the way students learn, opens new doors and possibilities, and/or helps them engage in their learning experiences.

Technology is one resource that affects student engagement (Bowen, 2003). It allows for 24/7 access to information, easily created and shared digital content, and continuous social interaction. CFSD educators can leverage technology to create an engaging learning environment to meet the emerging needs of students in this generation. No longer does learning have to be one-size-fits-all or confined to the classroom. Since 2009, the district has been actively engaged in advancing innovative and educationally sound uses of technology. A capital outlay override and strong technology plan guide this work. These plans call on CFSD educators to challenge students to use technology and information resources responsibly and to think critically and creatively to solve problems effectively and efficiently. To assist educators in actualizing these plans, CFSD provides a variety of site-based and district level technology professional development activities, including job-embedded coaching by the district's curriculum technology integrators (CTIs). The CTIs are teacher leaders with a strong foundation in pedagogy and teaching methodologies. They also have additional specialized training and knowledge in instructional technology. The CTIs have become an important resource to our teachers, helping them more effectively utilize technology and support students' 21st century learning needs in a context of relevance, "just in time," rather than "just in case."

The Metiri Survey (2010 and 2013) was used as a vehicle to collect data on the perceived use of technology by CFSD teachers and administrators. The data was used to ascertain the level of implementation and suggests areas for growth in future years. Figure 45 reports the percentage of administrators in the district who report that teachers are required to consider innovative approaches to teaching and learning in their classrooms (see list of innovations in the figure below) in 2010. Figure 46 shows the perceived growth of teacher implementation after three years in 2013. The results are considered strong indicators of the degree to which the district is systematically integrating 21st century learning and technology across the system. There were

significant increases in considering the "research on effective uses of technology" (43%) and "innovative uses of technology" (24%) when implementing district curriculum between 2010 and 2013.

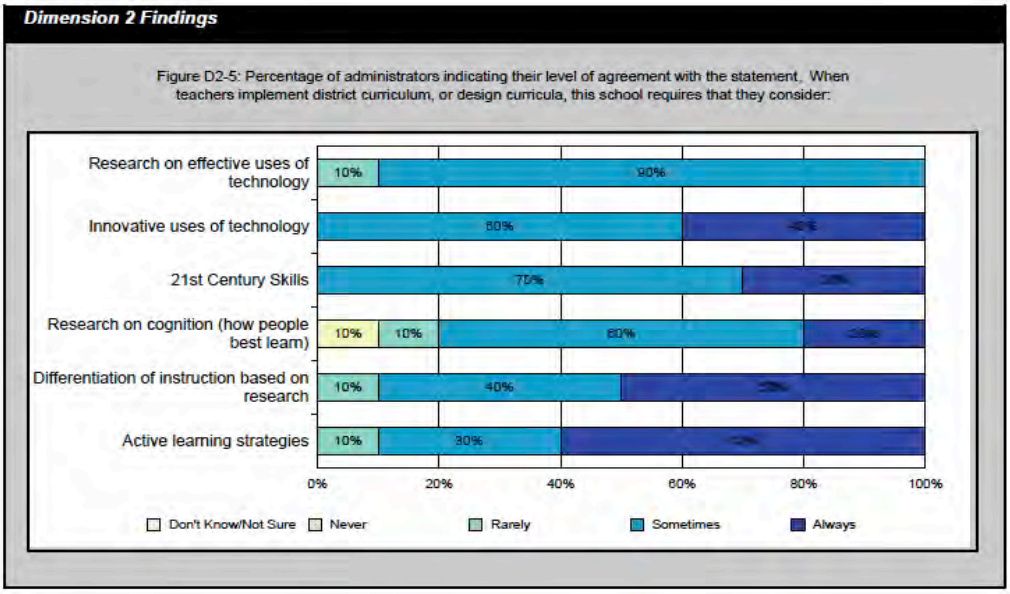


Figure 45. Percentage of administrators indicating teacher implementation of innovative approaches to teaching and learning in their classrooms in 2010.

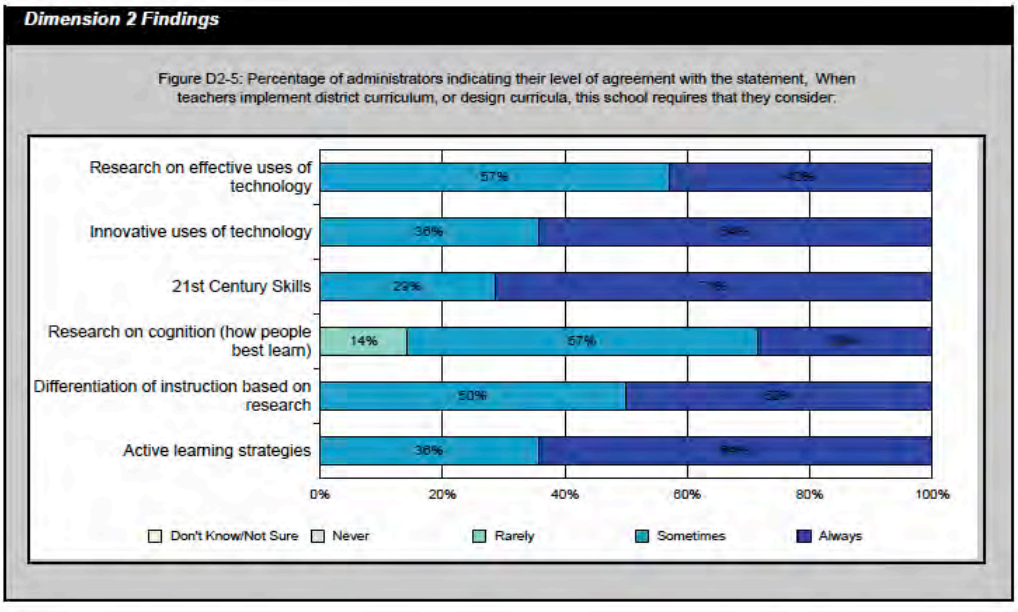


Figure 46. Percentage of administrators indicating teacher implementation of innovative approaches to teaching and learning in their classrooms in 2013.

Two key factors in student engagement are opportunities for student choice and student creativity. Figure 47 and 48 provide insight into such opportunities in the district, with and without technology, from 2010 to 2013 as reported by administrators and teachers.

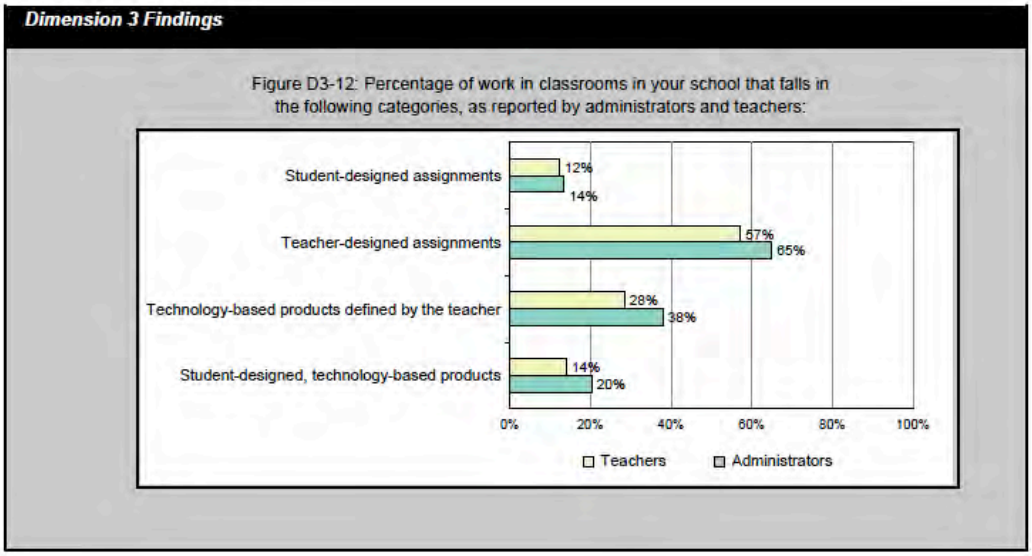


Figure 47. Percentage of work in classrooms that provides for student choice and creativity, including student- and teacher-designed assignments or products using technology in 2010.

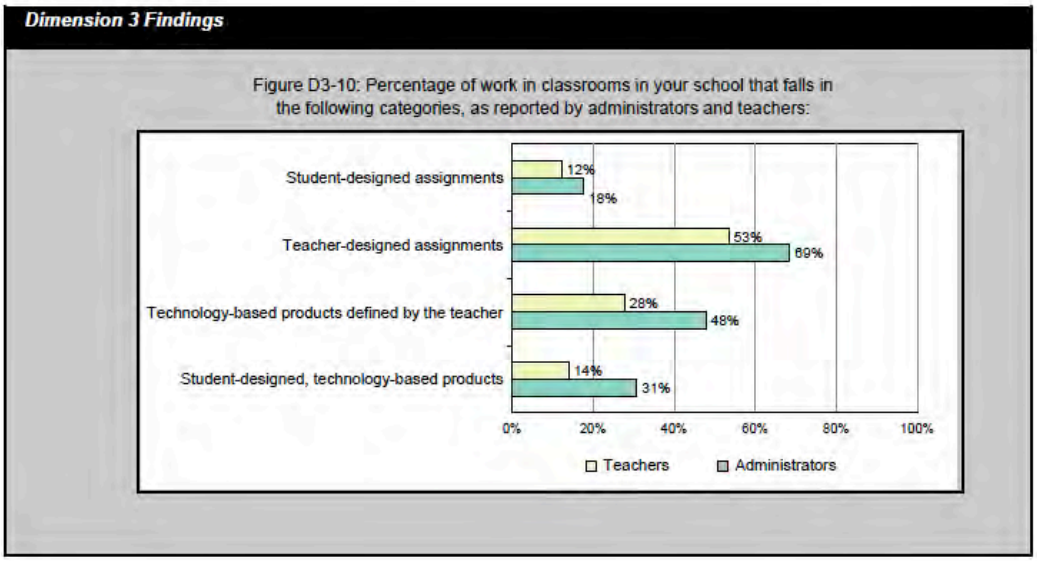


Figure 48. Percentage of work in classrooms that provides for student choice and creativity, including student- and teacher-designed assignments or products using technology in 2013.

The data show that there was an 11% increase in the perceived use of student-designed technology products as reported by administrators; however there was no change reported by teachers. Overall, there was little to no change in student-designed products whether using technology or not. The percentage of teachers and administrators reporting on the use of teacher-

designed products or assignments was about the same, indicating that student choice and creativity need our attention when considering innovative practices and technology.

Figure 49 and Figure 50 below show the perceptions of teachers as to the applicability of the use of technology to their specific teaching assignments.

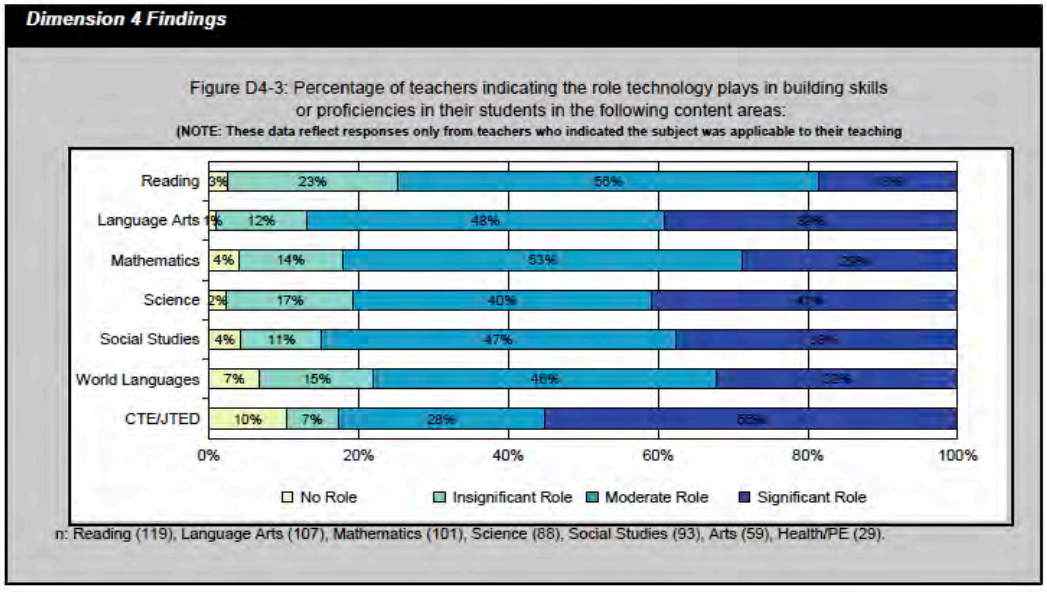


Figure 49. Percentage of teachers in 2010 who indicated technology plays a role in building skills in their respective content areas.

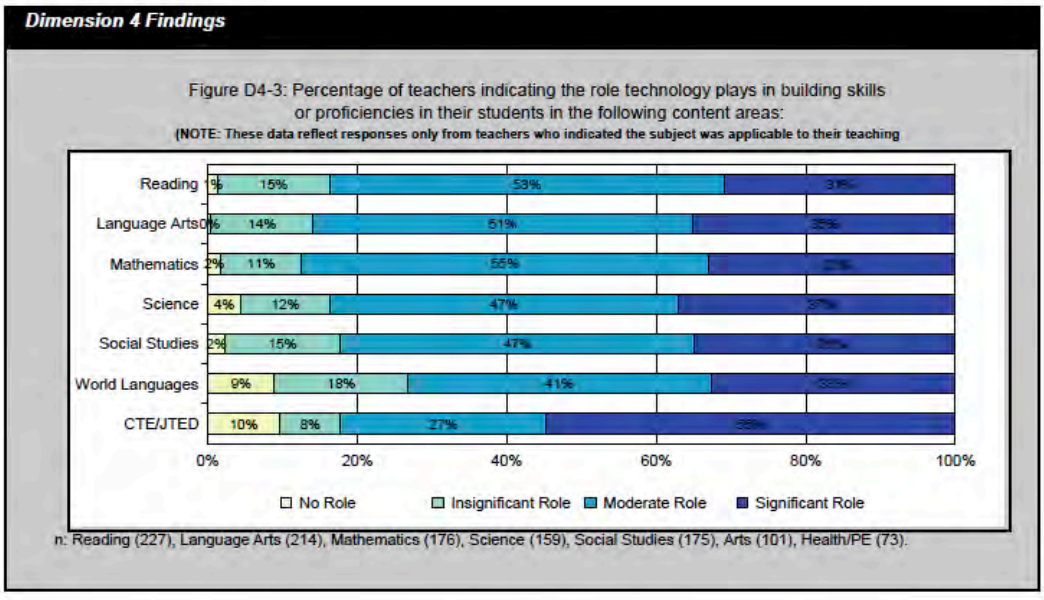


Figure 50. Percentage of teachers in 2013 who indicated technology plays a role in building skills in their respective content areas.

Overall, teachers agree that technology plays a moderate to significant role in skill development in their respective content areas. Although the finding is small, the data do show that some teachers view technology as insignificant or having no applicability to their teaching. Career and Technical Education (CTE) had the largest response rate in the significance of technology in their content areas, but surprisingly also had the largest percentage of responses for "no role," considering the large use of technology in these classrooms and the requirement to use technology and equipment based on industry standards.

Technology use in schools is shifting to more collaborative and innovative uses of Internet resources, web-based tools, and multimedia production. Figure 51 and Figure 52 provide insights from administrators as to current use and importance of such technology uses by administrators. The data show an increase in current use and perceived importance for all items. Most uses of technology are "scaling up" except for online communication with experts, peers, and others. This makes sense since CFSD just recently established its technology guidelines on social media and online collaboration and communication.

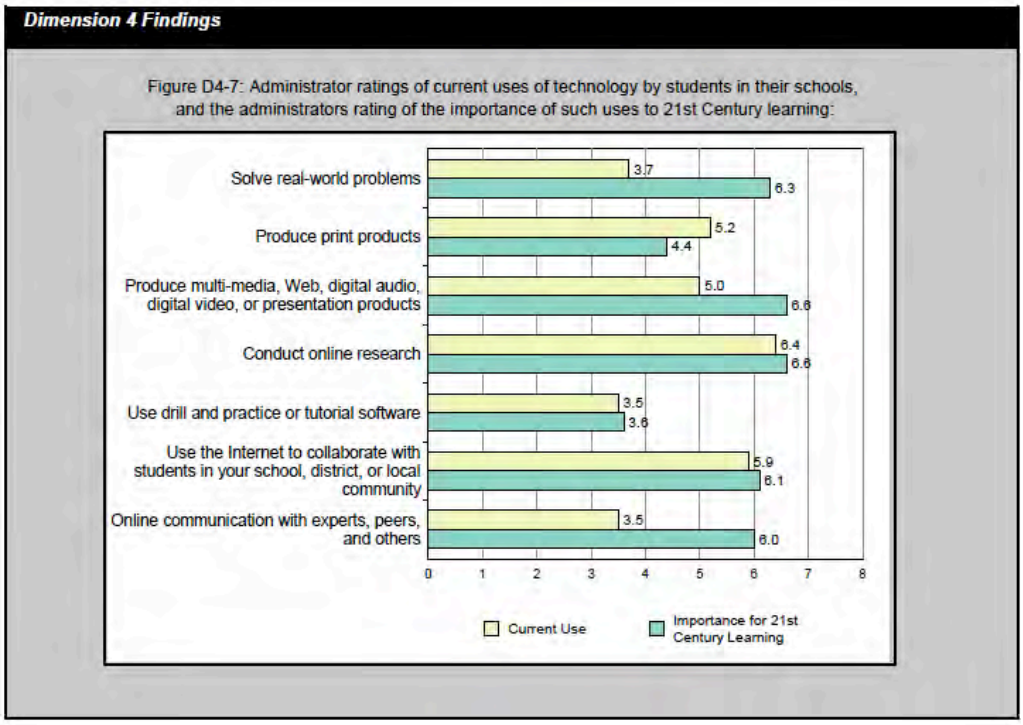


Figure 51. Administrator ratings in 2010 of current uses of technology by students in their schools and the importance to 21st century learning.

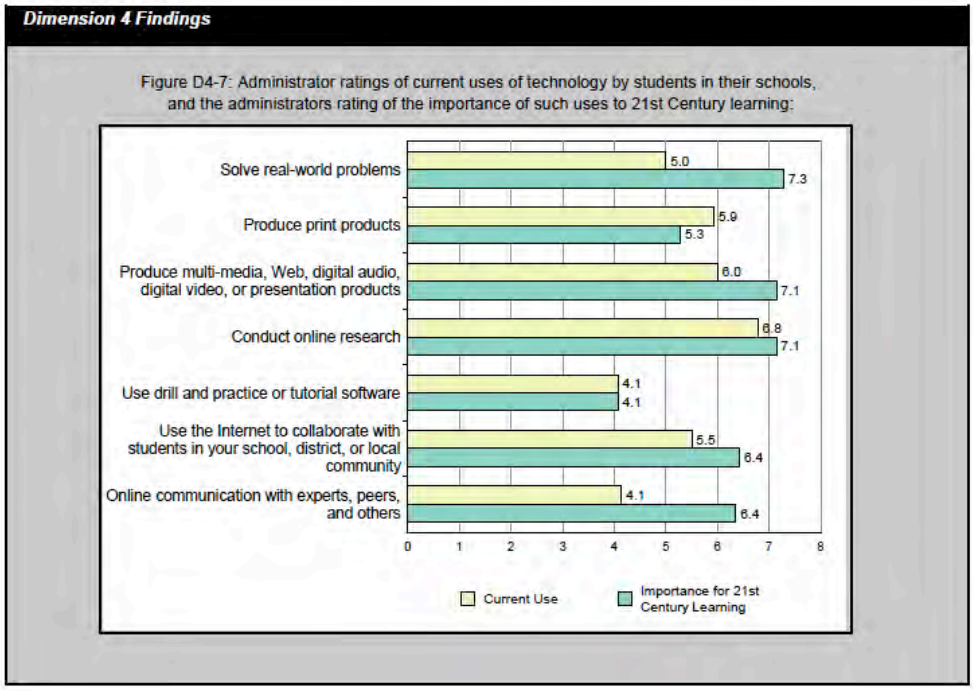


Figure 52. Administrator ratings in 2013 of current uses of technology by students in their schools and the importance to 21st century learning.

21st Century Skills/Technology Assessment for Students

The Arizona Department of Education (ADE) defines technology literacy as "the ability to responsibly use appropriate technology to communicate, solve problems, create products and access, manage, integrate, evaluate, and create information to improve learning in all subjects, to use information to improve learning in all subject areas and to acquire lifelong knowledge and skills for the 21st century."

The primary goals of the CFSD technology plan are to ensure students are technology literate by eighth grade and to assist students (at all levels) to effectively integrate technology to enhance their learning. To measure eighth grade literacy, CFSD administered an external 21st century skills assessment to all district eighth graders during the prior three years. On this assessment, students are expected to demonstrate creativity, collaboration, information fluency, critical thinking, decision-making, knowledge of safe and legal use of technology (digital citizenship), and to troubleshoot systems and applications. The assessment uses a psychometrically validated blend of performance-based questions with interactive simulations and multiple-choice, scenario-based questions.

Each student's performance results are communicated by proficiency level. The proficiency levels are advanced, proficient, basic, and below basic. In addition, the district and schools receive an item analysis of questions according to the assessment categories: creativity and innovation; communication and collaboration; research and information fluency; critical

thinking, problem solving, and decision making; digital citizenship; and technology operations and concepts. Figure 53 displays overall student results from 2011-2013.

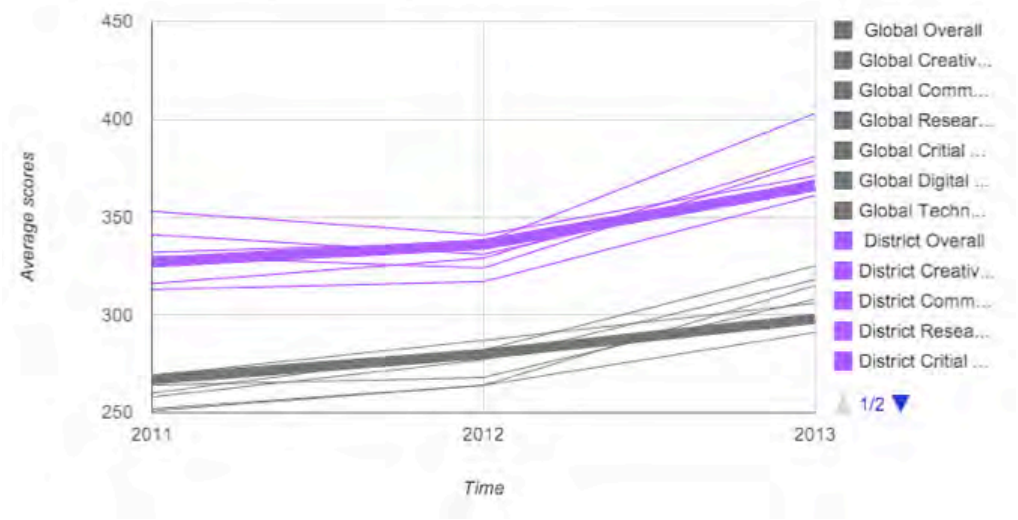


Figure 53. Student results (district vs. global) from 2011-2013

Based on the assessment results, CFSD eighth graders (as separate cohorts), overall, have increased their proficiency in technology-related skills over the three-year period, and are considered technology proficient. The district mean score was 366 in 2013 compared to a global (all students who took the assessment world-wide) mean score of 298. Specifically, 84% of students were considered "proficient," with mean scale scores that fell between 300 and 500. Thirty-eight percent (38%) of students had a mean scale score that fell in the advanced range of 400 – 500. The mean scale score range for all students in 2013 was 160 – 488. The scale score ranges are as follows:

100 – 199: Below Basic

200 – 299: Basic

300 – 399: Proficient

400 – 500: Advanced

The district mean scores for 2013 for each section of the assessment are as follows:

381: Creativity and Innovation

361: Communication and Collaboration

369: Research and Information Fluency

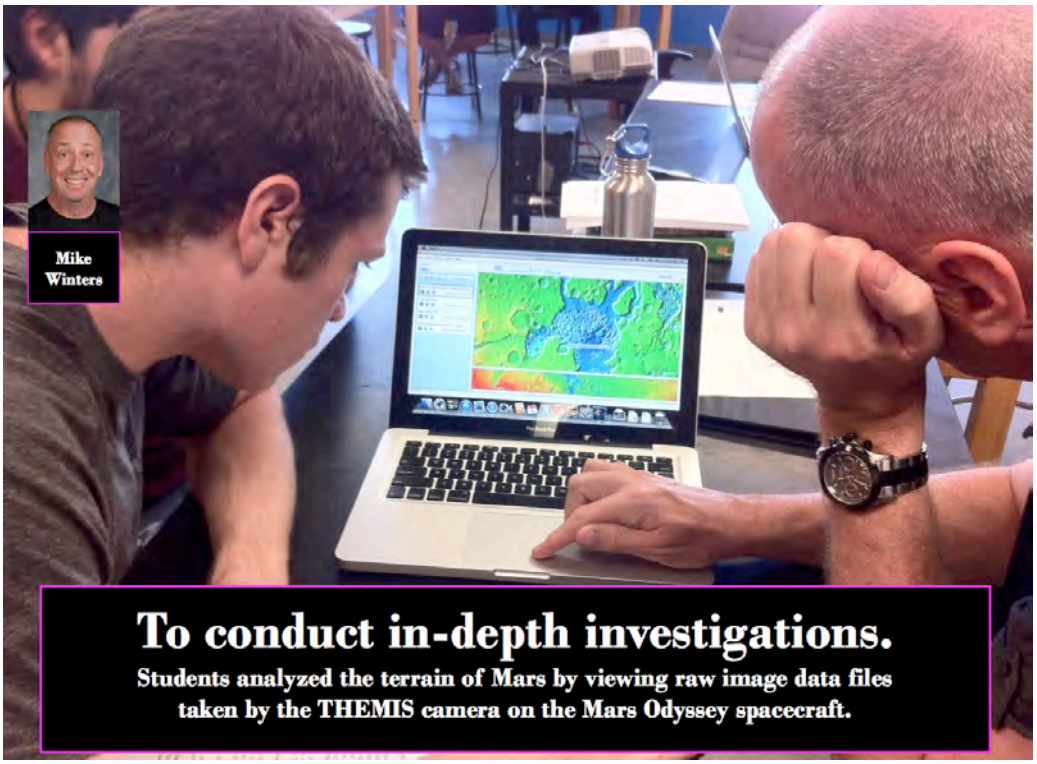
379: Critical Thinking, Problem Solving, and Decision Making

403: Digital Citizenship

371: Technology Operations and Concepts

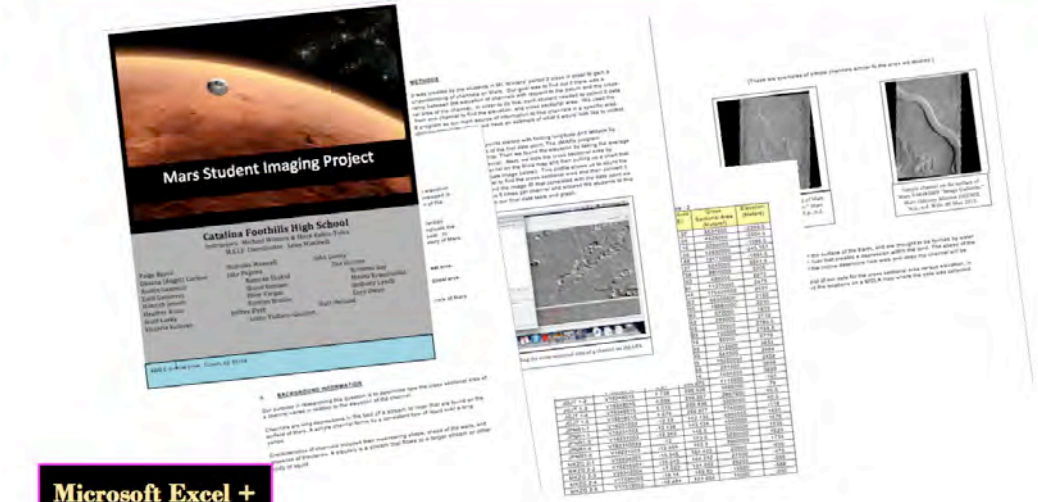
The mean scores show that students are demonstrating proficiency at the upper end of the score range for "proficient" and are scoring in the "advanced" range for digital citizenship (safe and legal use of technology).

The images that follow display a variety of examples of how students and teachers in CFSD classrooms are utilizing technology in teaching and learning. Students use technology . . .

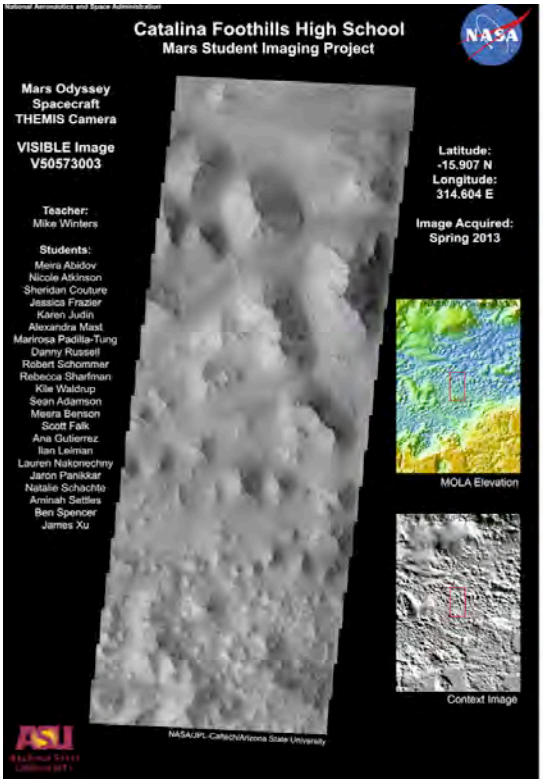


To present their findings.

They composed a report of their hypothesis, method, data, results, and conclusion.

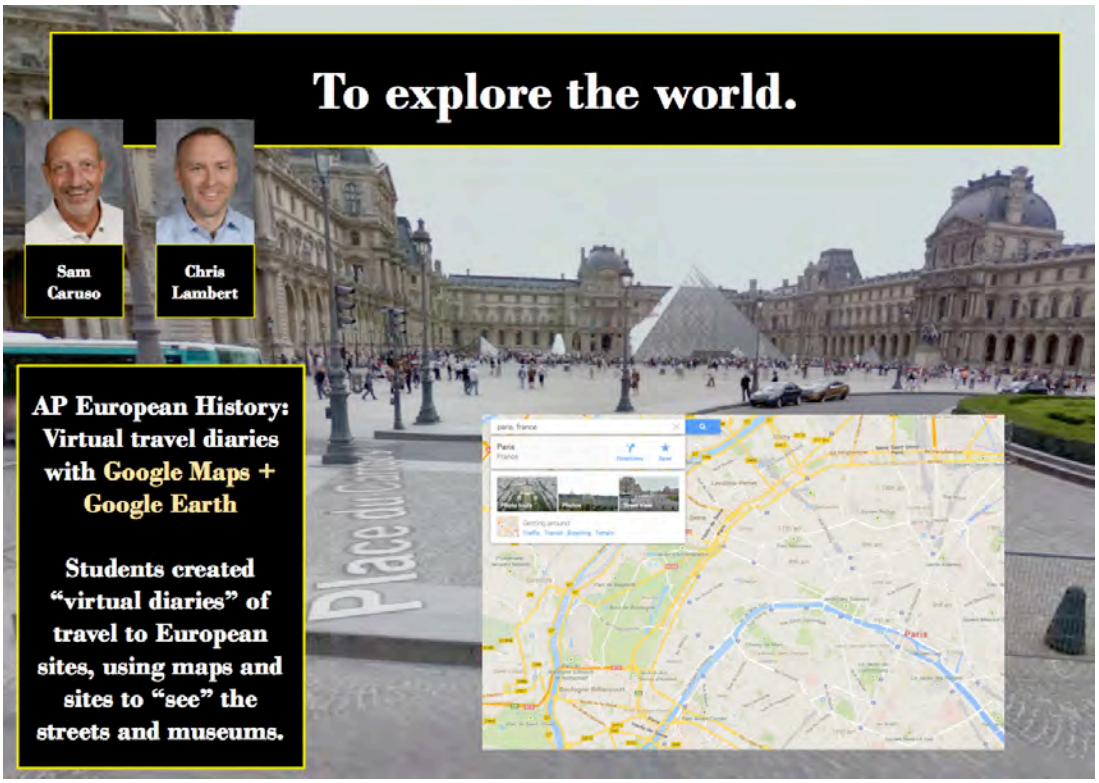


Microsoft Excel + Microsoft Word



Those students earned the ability to direct the Mars Odyssey Spacecraft to photograph a particular section of Mars.

Students use technology . . .

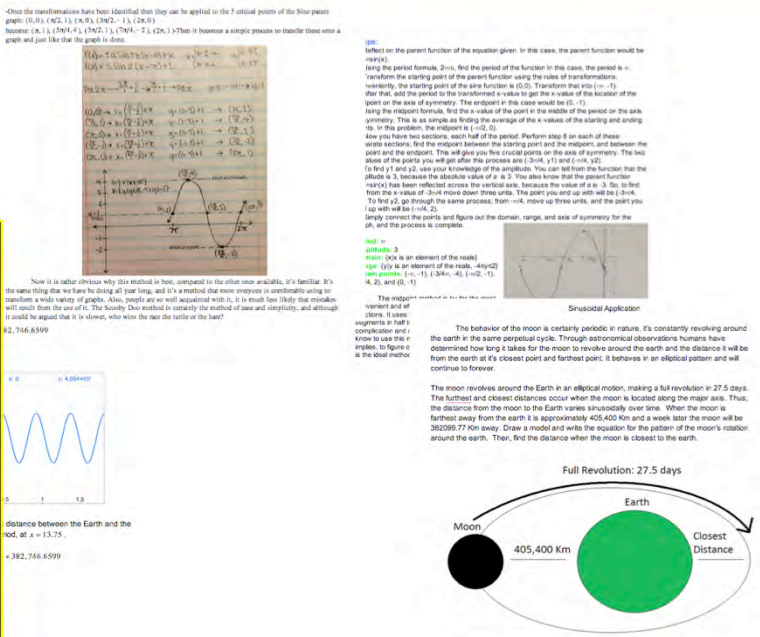


To explain their thinking and teach

Kelly Lantz

Precalculus: Students analyze sinusoidal equations Google Docs + iPod Touch

Student teams competed to name a method to analyze equations that would be used by the class.

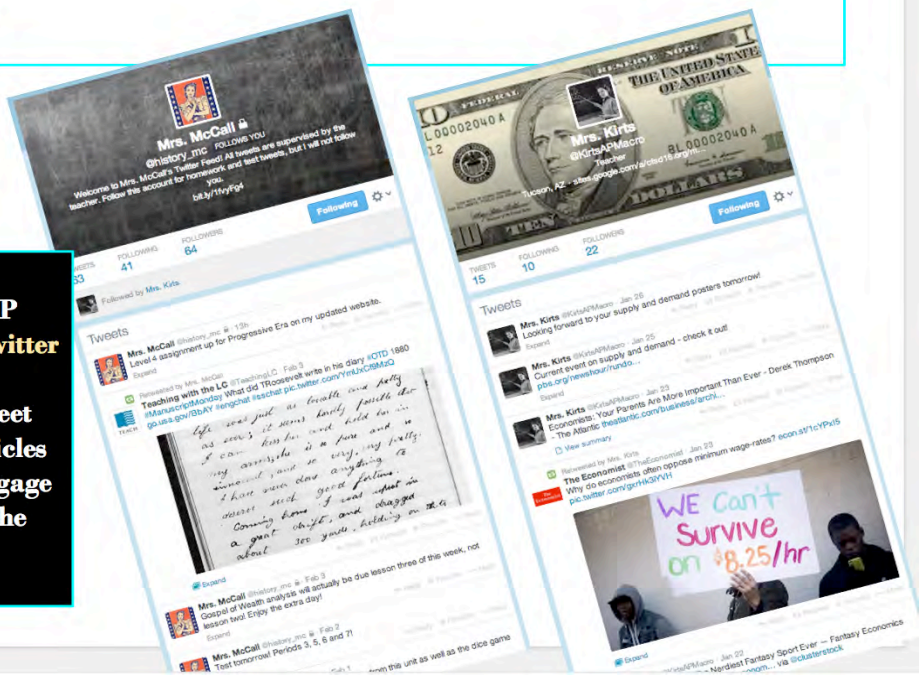


Megan Kirts

Summer McCall

U.S. History + AP Economics: Class Twitter

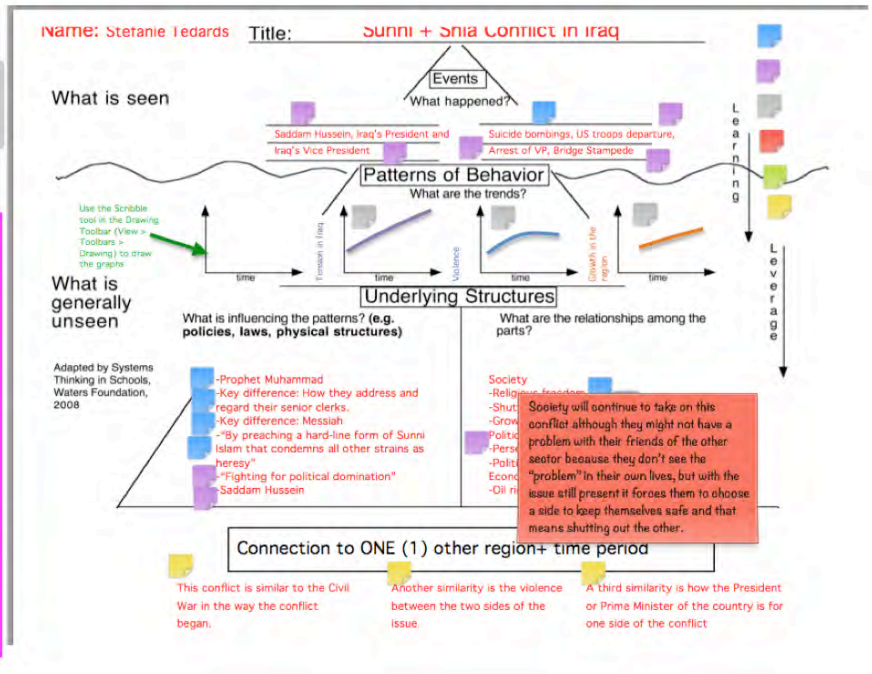
These teachers tweet content-related articles and questions to engage students outside the classroom.



Liz Rodock

Global Issues 9: Systems analysis of the Sunni/Shia Conflict with Microsoft Word + Adobe Reader

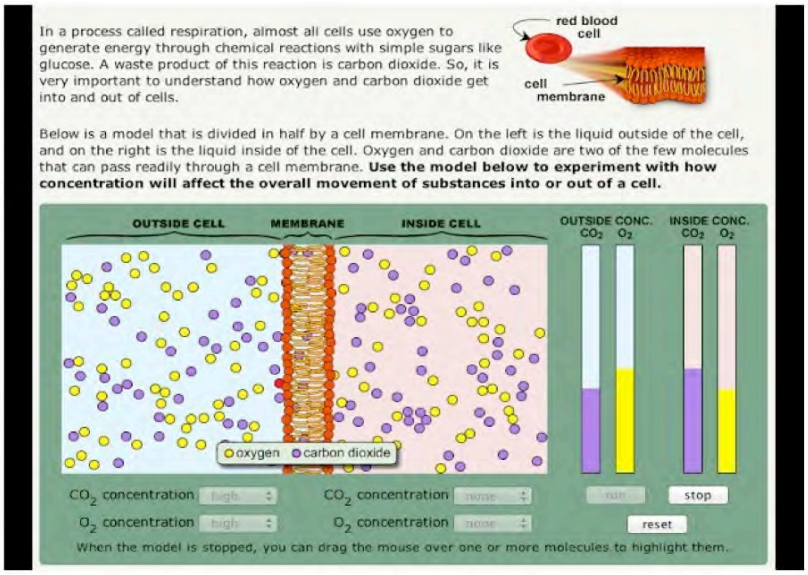
Students analyze a world conflict using systems thinking tools, and elaborate using digital notes.



Terry Fortunato

Biology: Simulating diffusion Molecular Workbench + MacBook Pro

Students made predictions, adjusted parameters, and analyzed atomic behavior using a digital simulation.



Teachers use technology to organize projects and give feedback

Caryn McGee

English 9: Argumentative Writing with Google Docs

Students signed up for topics and submitted their thesis statements for feedback, after a series of lessons on constructing thesis statements. Because student work was accessible to the class, both teacher and students could give timely and meaningful feedback.

PICK A TOPIC WHICH IS EXPLORED IN ONE OF THE DATABASES BELOW

	INFOTRAC: Opposing Viewpoints	CQ Researcher	EBSCO's Points of View
	Browse Issues	Topics/reports from 2013	Browse by Category
	name: tucs90737 word: tucs90737	Username: catalina Password: cqel	Click here, and enter your zip code to access the database.

	Topic (What should be one about....?")	Teacher Approval (Yes, no, see me)	Which database(s) will you use from the three choices?	Thesis Statement
	cer	Yes but add a period to the end of your sentence.	Opposing Viewpoints	Government should give more money to doctors to find the cure for cancer.
	ortion	Yes	Opposing Viewpoints	Teenagers under the age of 17 should have the

CELEBRATE DIGITAL LEARNING DAY!

FEBRUARY 5TH, 2014

DIGITAL LEARNING DAY 2014

In today's interconnected world, the way students learn is increasingly reliant on digital technologies. This doesn't just mean having the newest resources and gadgets, it means fully integrating digital learning throughout the entire educational experience. In order to fully prepare students for success in college and a career, Canyon View embraces digital learning. We are building the wave of innovation this February 5th by showcasing opportunities to learn in an innovative, digital environment.

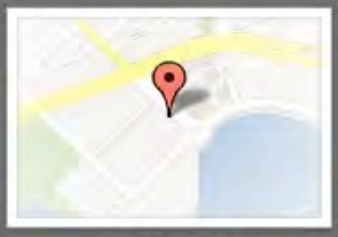
Digital Learning Day 2014

WHEN

Wednesday, Feb. 5th, 7:15am

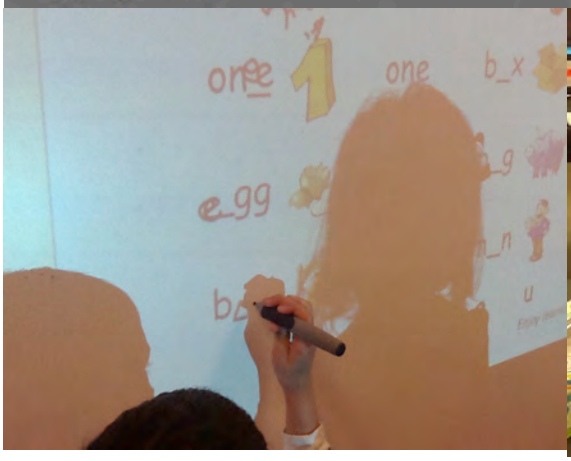
WHERE

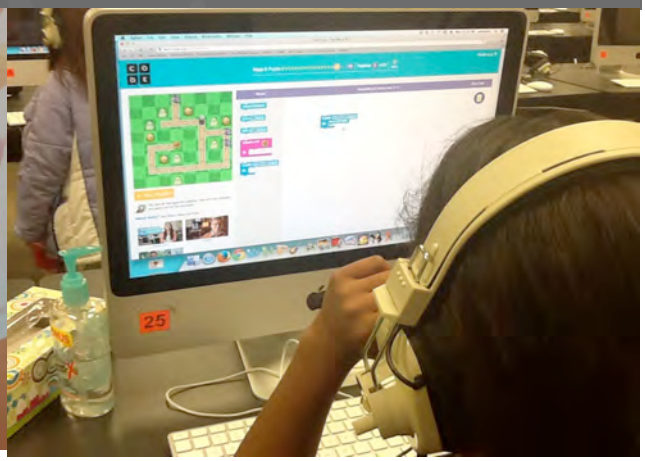
Canyon View Elementary School

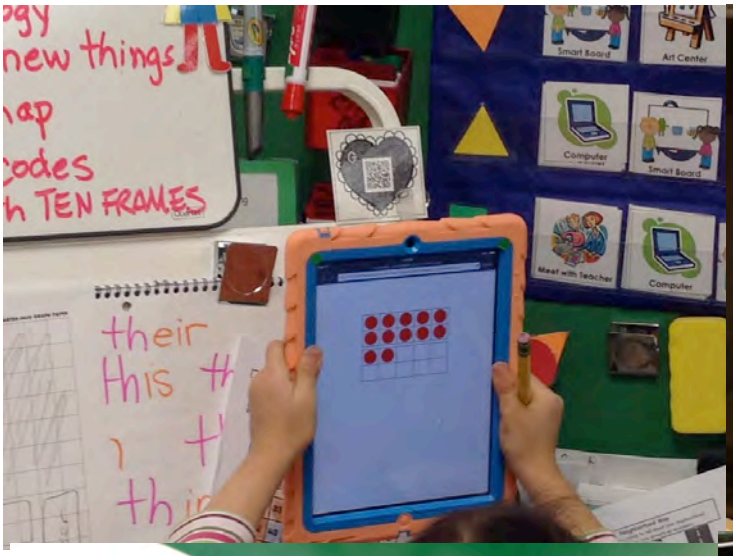


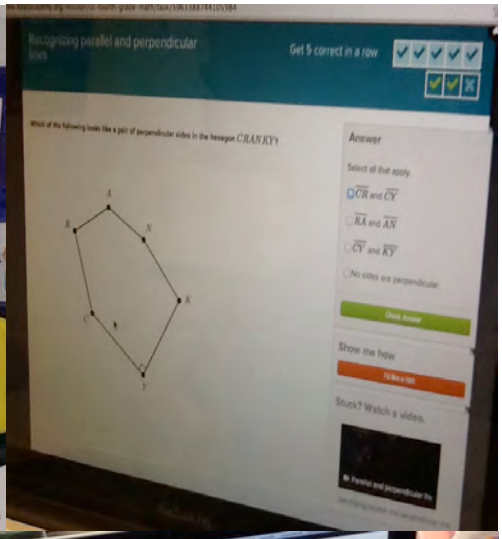
Get Directions

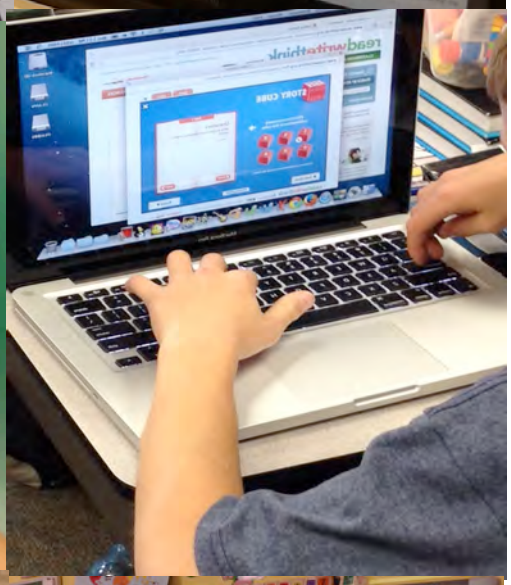
Digital Learning activities take place every day at Canyon View. Feb. 5th is a day to showcase a typical digital day at our school! We will Tweet out and Post Facebook updates with pictures throughout the day of each activity! Follow us @CanyonView1

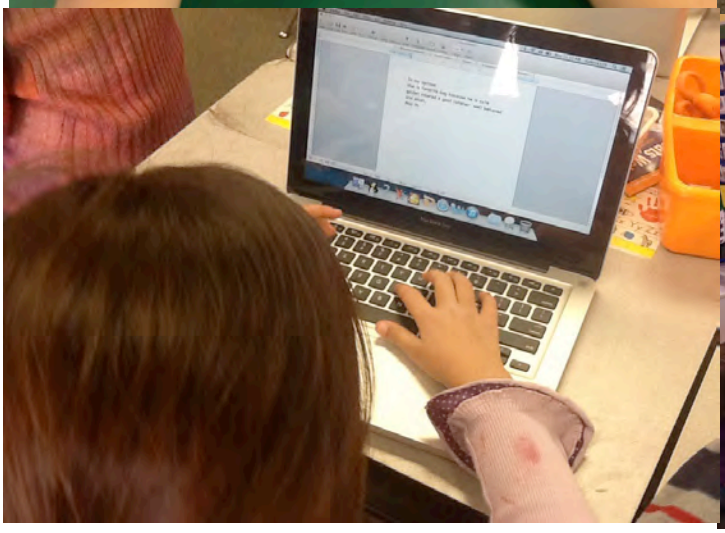





new things
codes
TEN FRAMES
their
Smart Board
Art Center
Computer
Smart Board
Meet with Teacher
Computer


Recognizing parallel and perpendicular lines
Get 5 correct in a row
Answer
Select all that apply
Check Answer
Show me how
Stuck? Watch a video.





If all students are to be afforded new opportunities for 21st century learning and the innovative use of technologies, all teachers must adopt such use systemically. Otherwise, student opportunity is determined by which teacher's classroom a student happens to be assigned. According to the Metiri Group (2013):

> Innovation is fueling the economy of the 21st century. Globalization has created new markets and leveled the playing field for citizens of all nations around the world. As society changes, the skills that citizens need to negotiate the complexities of life also change. Innovative, inventive thinking was once required for only a limited few. Today, and tomorrow, it will be the currency for success in virtually every field. (p. 7).

As the district plans for the future, it will need to consider the role of creativity and innovation from a student-centered perspective as a strategic priority. The survey data show this as a need for attention. Over half of CFSD teachers perceive their assignments and products to be teacher-directed instead of student-directed.

Ensuring the Intended (Written) Curriculum is Taught

A study of high performing school systems around the world concluded that, in every instance, the first step effective leaders took to improve their systems was to clarify "what was non-negotiable" (Mourshed, Chijoke, & Barber, 2010, p. 110). "Ensuring that teachers address the essential content is necessary to implement a guaranteed and viable curriculum…. [since it] is not uncommon for teachers to make idiosyncratic decisions regarding what to cover and what to leave out even within the context of highly structured curriculum" (Marzano, 2003, p. 30). In CFSD the district curriculum is non-negotiable.

Leaders in higher performing schools require that the district's written curriculum is the taught curriculum in every classroom. The carefully aligned, written curriculum defines what teachers will teach and the content and skills that students must master. Principals and teachers understand these learning goals, that they are non-negotiable, and that they apply to all students. District leaders clearly establish this expectation.

In a meta-analysis of research on site-based management, Marzano and Waters (2009) found a negative correlation with student achievement, indicating "an increase in site-based management is associated with a decrease in student achievement (p. 4). However, top-down directives proved no more effective in raising student achievement (DuFour & Marzano, 2011; Fullan, 2007). To resolve this dilemma, effective school districts embrace the concept of "defined autonomy" (Marzano & Waters) or a "loose-tight culture" (DuFour & Fullan, 2013). Leadership teams collaborate to articulate essential student achievement goals and establish a common framework of research-based strategies for achieving those goals (DuFour & Marzano).

In these successful districts, district level staff play an active role in achieving curriculum coherence and alignment (Turner, 2003), though educators have some autonomy within specified parameters, and the unique context of an individual school is recognized. However, district leadership establishes the "common work of schools within the district" which serves as the "glue holding the district together" (Marzano & Waters, 2009, p. 90). Building principals are responsible for the success of their schools and have some flexibility, but are also expected to "lead within the boundaries established by the district's goals" (Marzano & Waters, p. 8). It is the CFSD strategic plan that determines the priorities and resources directed toward this important work.

Benefits and Challenges of Curricular Coherence and Alignment

There are both benefits and challenges in efforts to increase curricular coherence and alignment. When teachers work together to coordinate decisions about curriculum within and between grade levels, the curriculum makes more sense as a whole. Instruction builds on previously learned concepts as students progress through grade levels and all students within a grade level are learning similar material over the course of a year.

A well-aligned curriculum ensures that students are taught the standards (concepts and skills) on district and state assessments. Collaborative work on aligning the curriculum opens up the curriculum to internal review, stimulates dialogue across levels and disciplines about

interdisciplinary approaches to standards, and promotes the sharing of effective instructional practices and strategies.

Instructional coherence promotes student achievement. Newmann, Smith, Allensworth, and Bryk (2001) explain:

> Compared to disconnected short-term experiences, integrated experiences, sustained long enough for successful completion, provide greater clarity about what is required for mastery, and how prior knowledge can be applied to future questions. Students learning to read, for example, are more likely to gain basic skills, and the confidence to tackle more challenging tasks, in settings where all of their teachers assist their reading in a consistent manner. (p. 15)

In contrast, districts or schools lacking a coherent vision for instruction often suffer from "change or improvement strategies that bring attention to a school through numerous program and equipment purchases but fail to build its capacity to improve teaching and learning" (Newman et al., 2001. p. 10). Research points to this problem of too many unrelated, unsustained "improvement" programs – referring to it as the "Christmas tree" approach:

> Programs, training, and initiatives are simply hung on the existing structure and culture of the school like the ornaments of a Christmas tree [where] they dangle fragilely without ever being absorbed into the school's culture. (DuFour, 2001, p. 16)

This incoherent approach to teaching and learning has been found to have a detrimental effect on student learning (DuFour, 2001; Newmann et al, 2001; Turner, 2003). Said another way, great organizations gather momentum over time through their persistent focus and ability to merge resources – the flywheel – while reactive colleagues grasp at straws, falling into the doom loop (Collins, 2001). Too many change programs fail to lead to sustained momentum and intended results. Collins maintains that it is those organizations with clarity of purpose and a relentless focus on producing the best long-term results that will achieve success. "Greatness, it turns out, is largely a matter of conscious choice and discipline" (Collins, 2005, p. 31).
The research makes clear that efforts to increase curriculum coherence and alignment must be intentional and well-organized to be effective. According to the National Center for Educational Achievement (NCEA) (2011), no single program or improvement effort can replace a long-term, systemic approach to teaching and learning. Coordinated and focused efforts across organizational levels – district, school, and classroom – are integral to achieving high performance. That is, a district's coherent written curriculum is one that is *externally* aligned with state and/or national standards. Instructional planning at the school and classroom level is *internally* aligned with the district's curricula through mindful connections of standards, best practices, assessments, and other curriculum related resources provided by the district. Marzano (2007) explicitly references CFSD for their efforts in the design and implementation of a comprehensive curriculum that provides explicit feedback about learning to students and parents.

Examples of continuing district efforts to promote and monitor coherence and alignment of curriculum include the following:

- Collaborative, teacher-driven curriculum and assessment design teams with embedded professional development that has a strong research base
- Development of K-12 curriculum scales/rubrics with measurement topics, standards/benchmarks that define proficiency expectations
- Expanded curriculum framework with learning goals, essential questions and understandings, explanations and examples, and recommendations for 21st century skill building and technology integration to provide clarity and greater understanding of written (intended) curriculum
- Annual plans across subject areas and/or teams
- Unit design, lesson design, and assessment templates with a common language to increase consistency of practice across subjects and grade levels
- A repository of documents and resources to support implementation of curriculum
- Common understanding of rigor /challenge using Webb's Depth of Knowledge (DOK) and alignment of "revised" Bloom to DOK.
- Common assessments to measure academic content standards and 21st century skills
- Field test process for assessments to ensure there is a match between content of the standards, what is assessed, and the criteria for success
- The use of performance-based tasks and assessments that simulate authentic experiences
- Texts and supplemental instructional resources matched to the standards/benchmarks (with an ongoing review of supplemental resources and technology applications)
- Units and lessons shared across the district, when applicable
- Content area measurement topics and 21st century skills included in the district's electronic gradebook
- A standards-referenced report card at grades K-8 to communicate progress in academic content and 21st century skill building
- Ongoing opportunities to review existing curricula and assessments; curriculum is dynamic, not static

Conclusion

The development of coherent and aligned curricula is a fundamental responsibility of the district. CFSD has established a K-12 systematic and systemic process as a means to define, align, and assess curricula for continual improvement. Curriculum alignment assists teachers in making decisions about what is important to teach students. A coherent and aligned system of teaching and learning has been shown to significantly increase student achievement. The ongoing development of a coherent and aligned curriculum that prepares students for college or other post-secondary education has been a focused and purposeful effort in CFSD for almost 20 years. It has been and continues to be a powerful part of our district culture. It is what makes us exemplary, yet unique.

Understandings

- A K-12 systematic and systemic process of reflecting upon and revising curricula to improve teaching and learning of academic standards and 21st century skills is integral to creating coherent and aligned curricula.
- Curricula are designed to produce deep understanding and authentic application of both academic content and 21st century skills.
- The district curriculum is non-negotiable. Standards are communicated to students with clear indicators of proficiency and exemplars.
- The development and implementation of a coherent and aligned curriculum is a collective responsibility and increases student achievement.
- Students will have multiple opportunities to practice standards and get feedback on assignments and other class work, including redos/revisions and retakes.
- Assessment practices drive the instructional cycle from beginning to end.
- Classroom assessments are frequent, rigorous, aligned with academic standards and 21st century skills, and necessary to determine acceptable evidence of student learning.
- In a 21st century education system, technology must be used comprehensively and purposefully for supporting how students learn with innovative teaching and learning practices.

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Focused Professional Learning

A strong emphasis is placed on training staff in areas of most need. Frequent feedback about teaching and learning focuses extensive and ongoing professional development. The support is aligned with the school and district strategic priorities.

Essential Questions

- How do teacher turnover and retention affect our need for professional learning?
- Does our professional learning reflect our learning principles and strategic priorities?

Introduction

Student achievement is highly dependent on the effectiveness of the teacher. Researchers W.L. Sanders and J.C. Rivers found that within grade levels, the greatest factor affecting students' achievement was the effect of the teacher, and that this effect increased over time (as cited by Shannon & Bylsma, 2007). Murnane, Singer, and Willett noted that, "teachers make marked gains in effectiveness during their first years in the classroom" (as cited in Shannon & Bylsma, 2007). This growth and development is fostered through induction and mentoring programs and professional learning throughout their career. Investing in the continual growth and development of all teachers is essential for student achievement as well as the retention and attraction of highly qualified staff who utilize effective teaching strategies.

In CFSD we have a keen knowledge and understanding of the importance of ongoing professional development. Our professional learning opportunities begin immediately after hiring and continue throughout one's tenure in the district. We understand that continuous, on-site, job-embedded professional development is the best hope for changing and/or improving instruction to improve learning. This drives the expectations that all professionals are lifelong learners.

Teacher Experience

Professional learning opportunities build upon a teacher's sense of efficacy, or the teachers' belief in their ability to positively impact student learning. Anita Hoy (2000), a leading researcher on teacher efficacy, suggests that some of the most powerful influences on the development of efficacy are mastery experiences. Additionally, continued learning opportunities to develop and refine practice impact a teacher's sense of efficacy. Observing another professional and feeling the confidence to use that strategy in reaching one's own students is an effective way to build and develop self-efficacy. Additionally, receiving feedback that highlights one's effective teaching behaviors while providing constructive and specific ways to improve develops teacher's efficacy.

To the extent that on-the-job learning occurs and leads to better teaching practices, experience can be construed as a measure of teachers' effectiveness. At the elementary level, this is most evident during the first three years of experience, peaking in the third to fifth year. There is also

evidence to support that positive effects reemerge among very experienced teachers (those with 14 years or more). Estimates of the effect of teacher experience on high school student achievement suggest that experience has a more sustained effect, continuing later into teachers' careers.

According to the Arizona Auditor General's Report, the experience level of the teachers in Catalina Foothills School District has remained stable over the past three years (Figure 54). Our current average experience level is between 11.0 and 11.2 years. This was higher than the experience level reported for other Arizona school districts for the past three years. There has been a decrease in the number and percentage of teachers with twelve or more years of experience while there has been an increase in the number of teachers in their first three years of teaching. Additionally, when new teachers have been hired, they have come to the district with more years of experience than in previous years, affecting the average experience level of the teaching force.

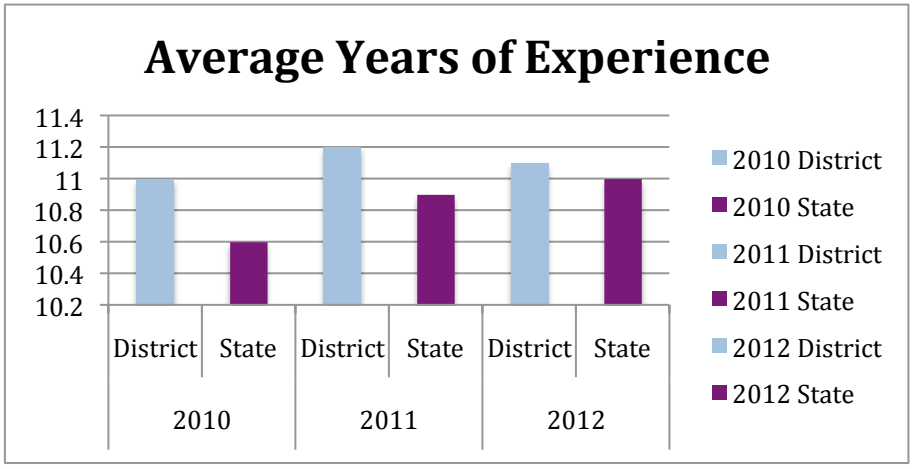

Figure 54. Average years of teaching experience in CFSD for the years 2010-2012

Teacher Retention

Investing resources into the retention of effective teachers increases the likelihood that a high quality teacher will stay in the field. A teaching force that is well trained, engaged in continued professional learning, and committed to the district will result in all students receiving instruction that will increase their achievement.

Figure 55 below depicts the retention rate of teachers for the past three school years. The elementary level has had a slight decrease in the retention rate during this time period decreasing from 87% in 2010 to 83% the following two years. At the middle school level, there has been a decrease in the retention rate of teachers as well from 85% in 2010-11 to 83% the following year and then 78% in 2012-13. The percentage of teachers retained at the high school remained stable, but the rate is lower than both the elementary and middle school level. Seventy-six to seventy-seven percent (76%-77%) of our high school staff have remained in the district over the last three years.

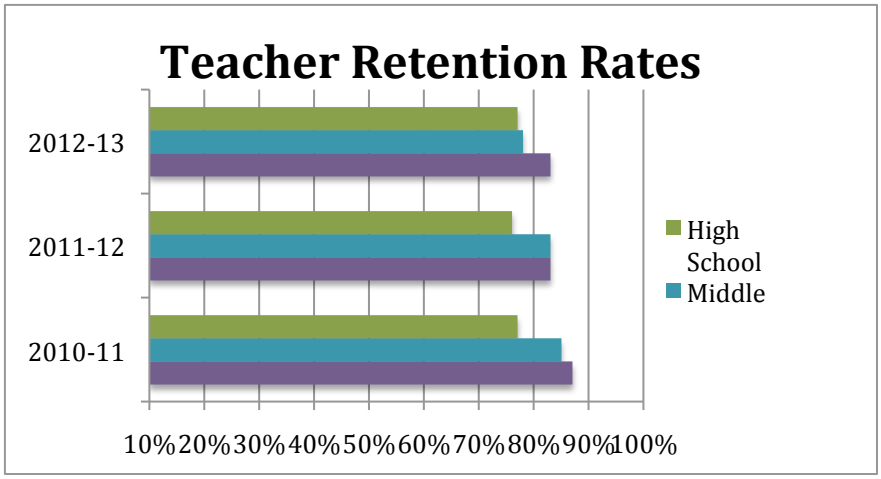

Figure 55. Teacher retention rates in CFSD

Teacher turnover and attrition impact the need for continual professional learning opportunities for teachers. As new teachers enter the system, there is a need to develop a common language and understanding of professional practice within the district. (Refer to this report's section on Frequent Monitoring of Teaching and Learning, p. 118.) Regardless of their experience level coming in, the need to learn the unique systems and programs within the district is essential. This is a process that may take years to accomplish.

Teacher Turnover

Our continued effectiveness is contingent on maintaining an experienced, well developed teaching force. Retaining highly qualified teachers who are committed to their own continual growth and development allows for continuity and a ongoing development of effective practice over time. The impact of teachers leaving the district or profession is an area of concern nationwide. According to Ingersoll et al. (2001), teachers leave a school or district when they encounter environments that lack essential professional supports:

1. Support from school leadership
2. Organizational structures and workforce conditions that convey respect and value for them
3. Induction and mentoring programs for new and experienced teachers

While some factors of retention cannot be controlled (family moves, birth of children, retirement), it is advantageous to increase the retention rate of our teaching force to increase our effectiveness. In CFSD, we have tried to capture the reasons that professionals are leaving the district. Exit surveys are provided to each individual resigning from the district. While many teachers do return their survey, there are always those that do not.

Figure 56 below represents the reasons teachers have left our district. The analysis of the past two years of returned exit surveys indicates that teachers depart from their positions for a variety of reasons. Each year, the highest number of teachers either retired or relocated outside of the

Tucson area, impacting our turnover. Other reasons for leaving include departures for family and maternity reasons, furthering their education, and obtaining other positions both inside and outside of education. A small number of teachers stated that the working conditions were a reason for their departure from CFSD.

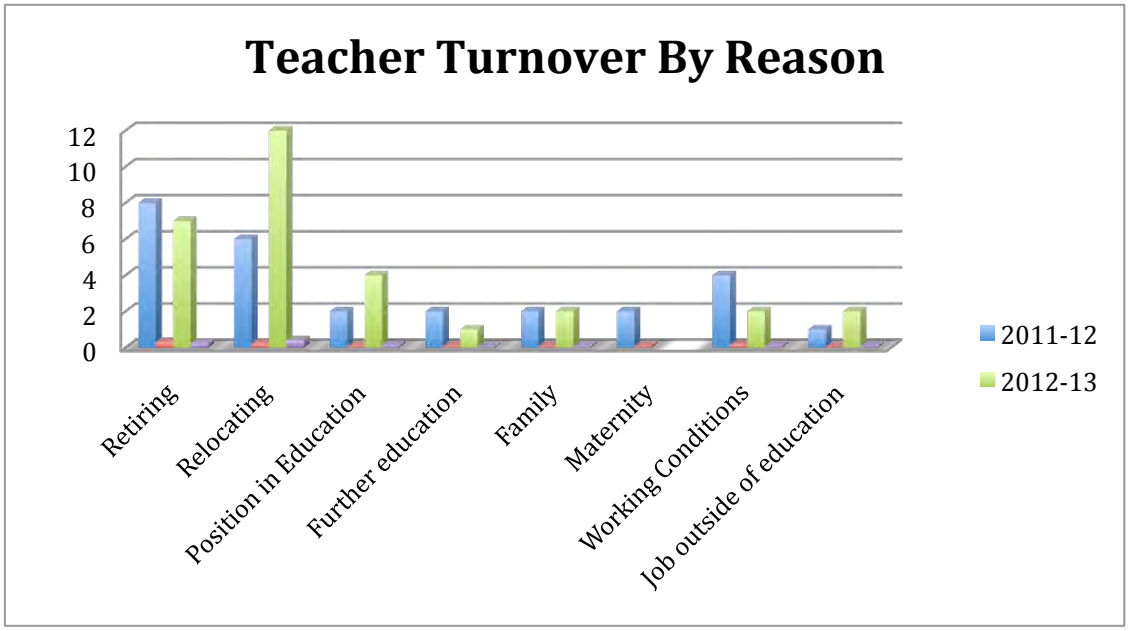

Figure 56. Teacher turnover in CFSD by reason

Recruitment of Teachers

Opportunities for support and continual professional learning also attract teachers. Harvard's Next Generation of Teachers reports that teachers entering the field are attracted to districts that offer specific professional development programs that increase their professional knowledge and skills, rapidly integrate them into the culture of the school, and support their professional growth as successful educators (Johnson, et. al., 2001).

Candidates seeking positions in our schools today are asking for mentoring and opportunities for continued development and growth as a professional. During the hiring process, we communicate and "sell" our district on the varied opportunities for continued professional learning. The hiring process helps to determine if there is an appropriate match between the candidates and the schools in which they will be working. We attempt to provide applicants with experiences that provide a realistic job preview. Applicants interview with an administrator and colleagues with whom they will work. They also teach a demonstration lesson. This process facilitates a relationship between the applicant and his/her potential supervisor and colleagues, leading to a feeling of support and opportunity for the candidate.

Professional Learning in CFSD

The CFSD Professional Development Program provides opportunities for teachers to cultivate strong instructional and assessment strategies to achieve the goal of providing outstanding

academic content and 21st century knowledge and skills to CFSD students. It includes learning opportunities for teachers with different experience levels through training, coaching, site-based and district level learning cadres, and collegial work. It has many facets that address the needs of professionals at all stages in one's career.

Broad categories of professional learning opportunities are discussed on the following pages:

- Probationary Teacher Development
- Teacher Inquiry/Data Team, the Teacher Assessment Program
- Walkthroughs
- District Wide Program Specific Professional Learning
- Site based Professional Learning

Probationary Teacher Development

For each of the past three years, the Catalina Foothills School District has hired between 56-60 teachers. This translates to 16%-17% of our teaching force in the first three years of teaching as reported in the Auditor General's reports for the past three years (Figure 57).

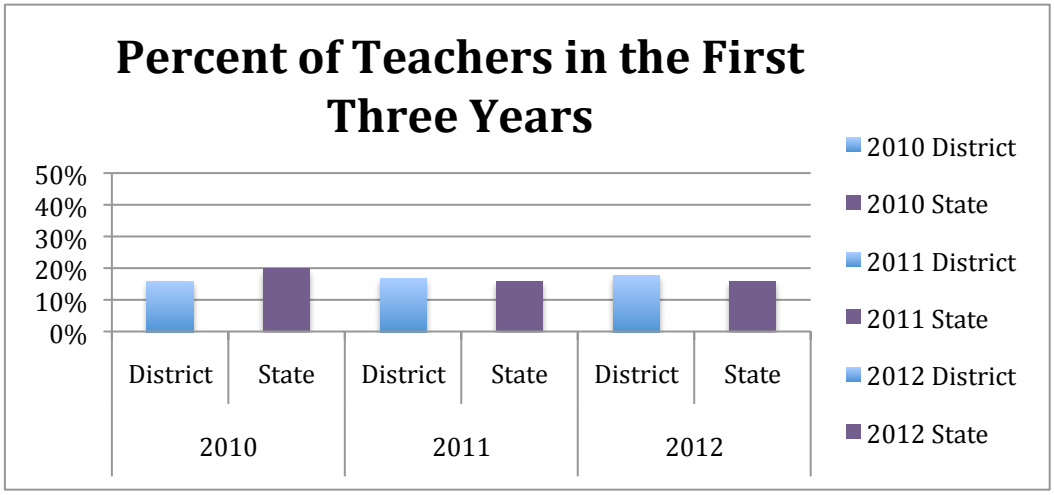

Figure 57. Percent of CFSD teachers in their first three years of teaching

Research by the Consortium for Policy Research in Education, a collaborative effort by University of Pennsylvania, Harvard University, Stanford University, the University of Michigan, and the University of Wisconsin-Madison, demonstrates that carefully designed professional development, if supported and sustained over time and focused on instructional content and materials, can change what happens in classrooms. Researchers found that the impacts on teaching were evident after approximately 30 hours of professional development, and further impacts appeared after approximately 80 hours of professional development.

Teachers new to the district are considered probationary for the first three years of employment. In the first two years of employment in CFSD, teachers receive 36 hours of Studying Skillful Teaching training. This is the teachers' first introduction to CFSD and the professional language and expectations for teaching behaviors. Providing this training to all incoming teachers, regardless of experience in other teaching settings, has been instrumental in creating a common language and focus about teaching and learning. In addition teachers attend four Professional Learning Groups (PLG) a year on specific topics and attend their school-based professional learning opportunities.

There are three parts to the Probationary Teacher Development Program: Professional Learning Groups, Coaching Cycles, and Studying Skillful Teaching.

Studying Skillful Teaching is a practical and interactive course designed to support collaboration, build upon teachers' existing skills and knowledge, and model the ideas being presented. This work is critical to creating and maintaining a common language amongst all teachers and administrators about effective teaching and learning. The Map of Pedagogical Knowledge from *The Skillful Teacher* is built upon a large number of specific teaching behaviors and situations so that it can be a useful tool to self-improvement and professional development (Figure 58). It ties theory directly to practice with examples to illustrate the teaching performance. Studying Skillful Teaching has been a required part of teachers' development since 2006. It is required for every teacher in both year one and year two of employment.

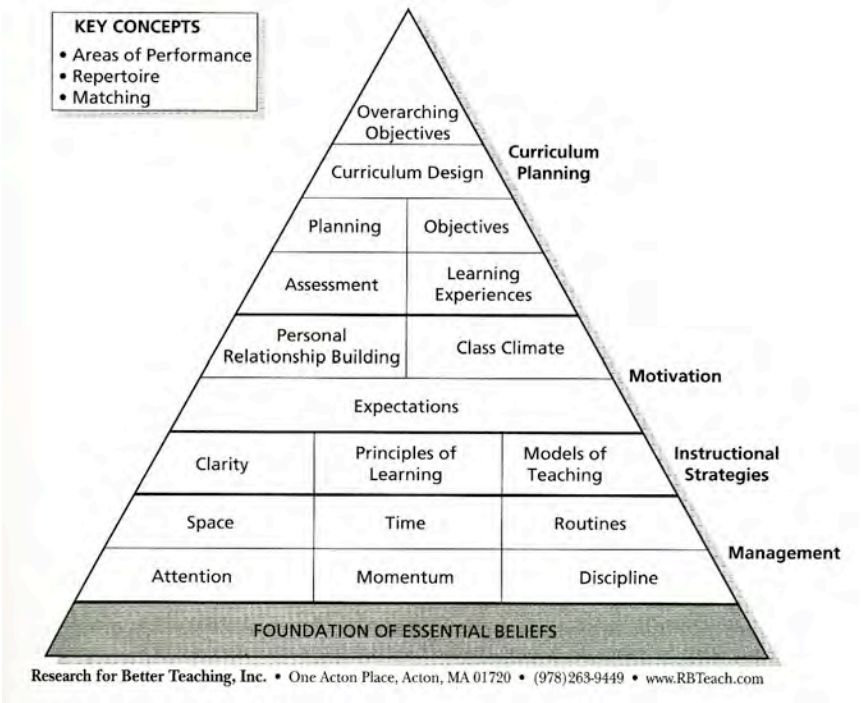

Figure 58. Map of pedagogical knowledge from *The Skillful Teacher*

Professional Learning Groups (PLGs) provide an opportunity for educators to meet to improve their practice by expanding their repertoire of effective instructional strategies that support learning. There are four sessions during each of the first three years of employment for teachers. In each session, participants have multiple opportunities to raise questions and reflect upon their classroom practice. The table below lists the topics for the Professional Learning Groups for the three years that teachers participate (Table 15).

Table 15

Professional Learning Group Topics

Professional Learning Group Topics		
Year One	**Year Two**	**Year Three**
Planning for Instruction	Cooperative Learning	Differentiation
Planning for Cognitive Engagement	Feedback Resilience/Grit Growth Mindset vs. Fixed Mindset	Teacher attitudes/planning for differentiated instruction Readiness/Tiered Lessons
Essential Questions and Understandings	Assessment Design	Curriculum and instruction for differentiated classrooms: anchor activities
Effective Questioning and Depth of Knowledge	Literacy Strategies for Non-fiction texts (Close Reading)	Reflection and celebration of successful differentiation strategies

Coaching Cycles

Coaching cycles provide a structured opportunity for reflection and refinement about the teaching practices essential to student achievement. Each teacher is required to complete two coaching cycles with an assigned coach in the first two years. The coaching cycles include:

- A pre-observation conference to discuss the lesson plan and to collaboratively determine a focus that the teacher would like feedback on from the coach.
- A focused observation by the coach focusing on the identified area in the pre-conference.
- A reflective post conference where the teacher and coach discuss the lesson's strengths and areas for improvement.

In the third year, teachers engage in at least two collegial coaching cycles with a peer. During collegial coaching, two teachers pair up and provide coaching to the partner teacher. In turn, the teacher is coached. This collegial coaching helps to develop teachers' coaching and feedback skills as well as to continue to refine one's own classroom practice.

Teacher Inquiry – Data Teams

Data Teams are school based inquiry teams with the mission of increasing teaching skill, student learning and leadership at the school. Data Teams provide a structure for teachers to specifically identify areas of student need and collaboratively decide on the best instructional approach in response to those needs. Teams are able to identify successful teaching practices that serve as measurable indicators within an accountability system. Every teacher in the district is required to be part of data team. The teams may be content teams, grade level, or vertical team across grades.

The Data Team process includes identifying a compelling skill or standard that students need to know, conducting a pre-assessment on that skill, analyzing the data from the assessment and determining the student need. The team then creates a SMART (specific, measurable, achievable, relevant, and timely) goal to improve student learning and decides upon a high impact teaching strategy to implement. The teachers instruct the students on the identified skill for a specified amount of time and administer a post assessment. The teams meet to discuss the results of the post assessment and to determine if the goal was met or if additional instruction is required. This cycle is then repeated with a new standard or skill identified as a student need. The full process is depicted in Figure 59.

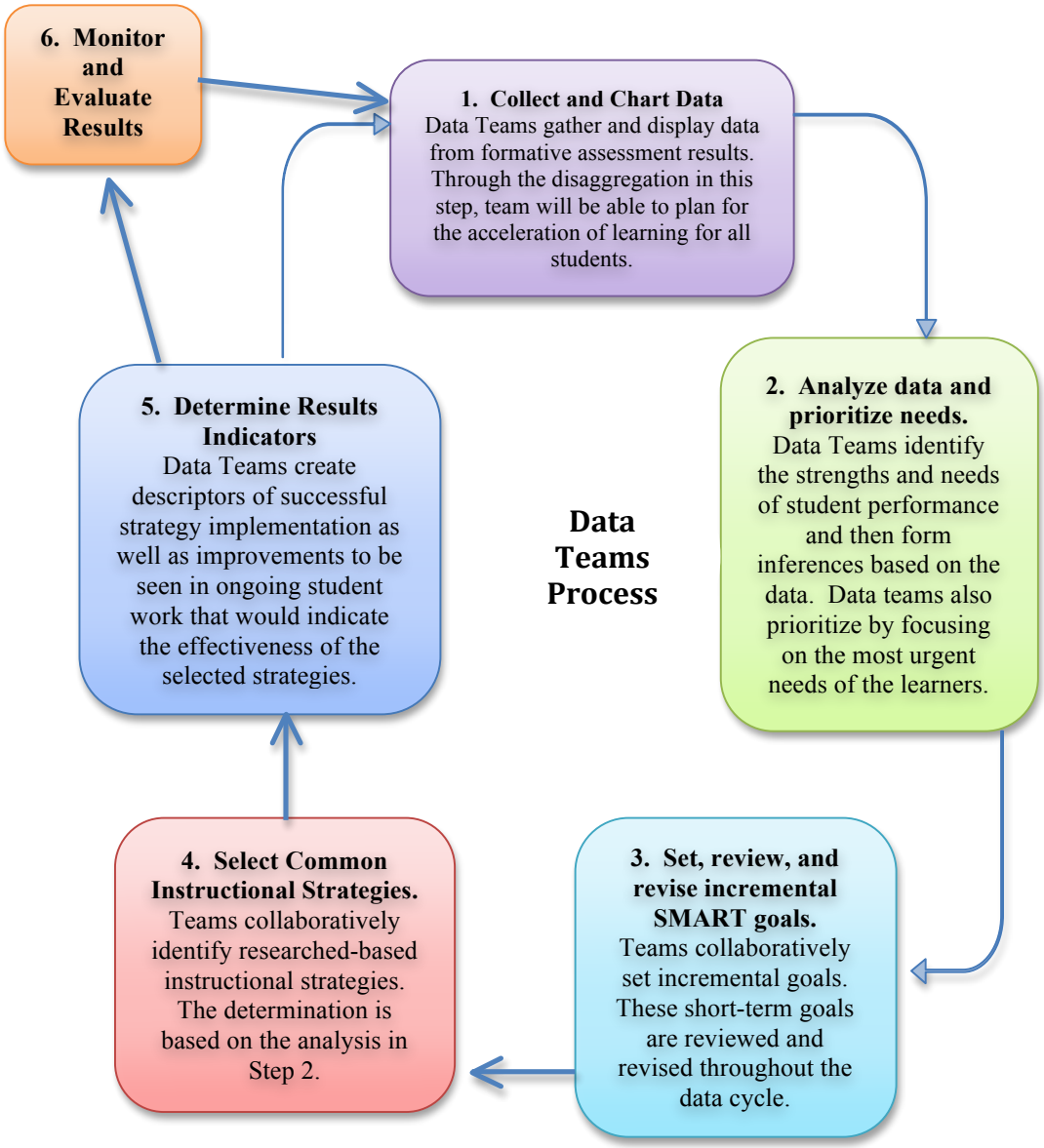

Figure 59. The Data Team Process

The critical component of the Data Teams Process is the collaboration and inquiry of the teachers into the cause data. Cause data is information based on the actions of adults and the strategies used by the teacher to increase learning. There is also a focus on analyzing student work to pinpoint the successes and continued areas of need for student achievement.

A school based leadership team, Data Team leaders, provides oversight of the Data Teams and the process and serve as a monitoring team for the implementation of the process. Through the monitoring of the team leaders:

- Celebrate personal or team success
- Focus on current challenges of the data team

- Review team progress
- Monitor the school improvement plan
- Identify achievement gaps and urgent needs of students
- Identify needs of the team
- Conduct professional development

Teacher Assessment Program (TAP) Training

With the implementation of the new TAP, professional development has been offered during the past two summers for both teachers and administrators. The summer workshops were created to ensure teachers and administrators have the foundational knowledge of TAP. Additionally, the purpose of each workshop was to clearly outline the performance expectations for all teachers, provide a common language to discuss performance, to learn about key strategies to increase student achievement, and to support teachers in becoming more effective in their work. (Refer to this report's section on High Expectations and Accountability, p. 17.)

Table 16 below is a summary of the number of teachers and administrators who participated in the Summer 2013 TAP training sessions.

Table 16

TAP Professional Development

TAP Professional Development: June – October 2013*			
	Total Participants	Teachers	Administrators
Develops Instructional Plans Aligned to Standards	16	9	7
Leading Well Organized, Objective Driven Lessons	31	15	16
Explaining Content Clearly	22	8	14
Providing students with Multiple Ways to Engage with the Content	31	15	16
Checking for Student Understanding and Responding to Student Misunderstandings	24	10	14
Develop Higher Level Thinking and Understanding	27	10	17
Assess Student Progress	25	9	16
Totals	176	76	100

* This training was repeated for two years.

There have been state mandated changes in the teacher evaluation process, making these TAP training sessions an integral piece of qualifying evaluators as "highly qualified." Therefore, administrators are required to attend these summer sessions to be a highly qualified evaluator.

In addition to the summer TAP training sessions, administrators engage in ongoing professional learning during administrative team meetings scheduled twice monthly. Time is dedicated during each meeting for the continued knowledge and skill building using the TAP rubrics. During this time, administrators analyze lessons and practice identifying the articulated teaching behaviors on the TAP rubrics. This practice allows for collaboration with other administrators and a continual development of skills and knowledge in teaching, learning and evaluation. It is also essential in developing inter-rater reliability for the evaluation process.

Ongoing training specific to the TAP instrument will be essential as we fully implement the evaluation requirements of the state. The evaluation of teachers has changed dramatically in the past three years, and there are other expected changes on the horizon. With the high stakes associated with the evaluation of teachers, their development and understanding of the attributes and behaviors of effective teaching, as well as a model of what they look like in practice will allow for them to continue to increase their effectiveness. The TAP training sessions are a critical part in their development in effective classroom practice, which in turn, benefits the students.

Walkthroughs

Frequent and continual observation of classrooms through informal "walkthroughs" provide for a systematic approach for regular "glances" into classroom learning and instruction. They enable administrators, instructional coaches, and department chairs the opportunity to know what is going on in relation to student learning, curriculum and instruction. They provide a way for feedback and reflective dialogue between the observer and the observed. The feedback and dialogue session then leads to modifications in classroom instruction. Walkthroughs can also be used as evidence that professional development and/or coaching is has impact on the classroom instruction.

The Catalina Foothills School District walkthrough instrument is directly aligned to the TAP rubrics. This alignment enables administrators and other observers to provide specific and timely feedback on the teaching and learning behaviors articulated in the document. It allows for this feedback to be used by teachers immediately in practice and then observed and documented during formal observations of classroom practice.

During the 2012-2013 school year, administrators conducted 1,971 classroom observations. These observations provided an opportunity for administrators to provide specific feedback to teachers regarding their implementation of effective teaching strategies. It also allowed administrators to focus their feedback on areas that the teacher identified as an area of desired growth. This frequent observation of classroom performance with specific and timely feedback continues to be an effective way to provide professional learning opportunities for staff.

Figure 60 is a sample graph created on the walkthrough instrument. For each of the rubrics in our TAP document, a similar graph can be created. Graphs can be viewed showing results of walkthrough information as a district, school, individual evaluator, or teacher.

TAP 2013 (692 walkthroughs)
From August 1st 2013 to October 30th 2013
Checklist as Checkbox

Score 3: Effective (Based on 692 walkthroughs)		
2013 Teach 1 Lead Well Organized Objective Driven Lessons Score 3	**Selected**	**%**
☐ 1. Stated learning goal(s) is specific, measurable, and aligned to the CFSD adopted curriculum (standards/ benchmarks and measurement topics). (The teacher conveys what students are learning and what they will know/be able to do by the end of the lesson.)	490	70.8%
☐ 2. Teacher ensures students understand the importance/relevance of learning goal.	354	51.2%
☐ 3. All parts of the lesson are connected to each other and aligned to the learning goal; and, each part efficiently moves students toward achievement of the learning goal. (See Nested Thinking Behind Learning Goals in Appendix).	437	63.2%
☐ 4. Teacher and/or students refer back to learning goal at key points in the lesson.	307	44.4%
☐ 5. Most students interviewed can communicate the lesson objectives/learning goals AND how they are progressing.	338	48.8%

2013 Teach 1 Lead Well Organized Objective Driven Lessons Score 3 Selected

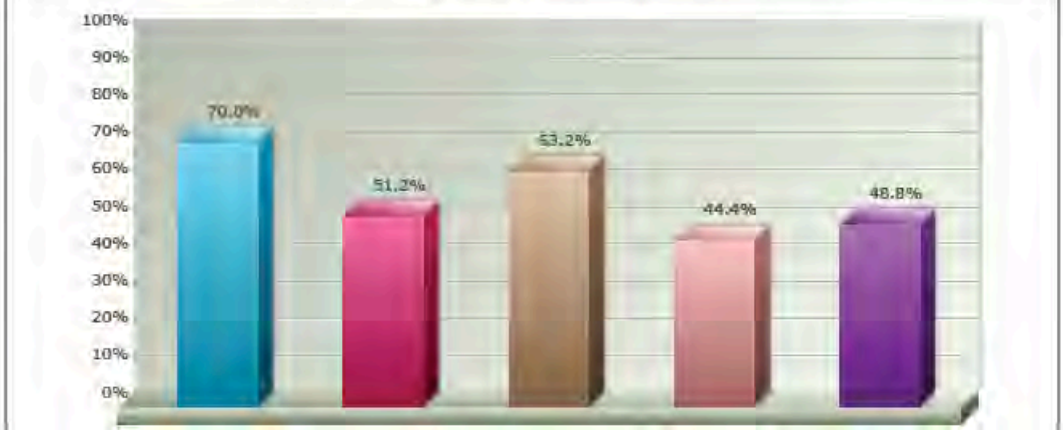

Figure 60. A classroom walkthrough report for "Lead well organized objective driven lessons" at score 3

District Wide Program Specific Professional Development

District strategic priorities determine the need and desire for district wide program specific professional development. During the implementation of our most recent strategic plan, the focus for the district wide professional development included:

- Understanding and implementing the Common Core State Standards
- Comprehensive assessment design
- Student engagement
- Effective use of technology for learning

While our focus has been on the four topical areas listed above, there have been many other professional development offerings for all certified personnel. These opportunities provide staff with the skills and knowledge to contribute to the current district strategic goals and initiatives and provides support as teachers implement specific models or programs at the school level. Table 17 below provides examples of the specific district wide professional development opportunities.

Table 17

District Wide Professional Development Opportunities

District Wide Professional Learning Opportunities
Common Core State Standards (Arizona College and Career Ready Standards) • Common Core Standards Overview – High School and Middle School – 6 teacher leaders • Common Core Standards Content Integration – 6 teacher leaders • Common Core Standards Unpacking and Curriculum Development • Common Core Annual Plan and Unit Development • 6-12 Literacy Unit Plan Development and Text Selection • Towards Greater Focus and Coherence Conference (Common Core Math) • Implementation of the Math Common Core Through Technology • Reading, Writing, and Inquiry: Engaging Kids, Exceeding Standards
Assessment • Developing Engaged Learners Through Authentic Assessment – Assessment Design for the 21st Century (Metiri Group) • Comprehensive Assessment Design (21st Century Skills) • Developing Innovative Performance Assessments/Tasks • Performance Task Academy (October 2012)
Technology • SMARTBoard Train the Trainer Technology Training (Teacher Leadership) • *SMART Camp* - This offered teachers the opportunity to learn how to include student-directed use of SMART boards in their daily lessons and provided teachers with a myriad of strategies to integrate the SMART board use into the content curriculum • *Pima County Technology Camp* (week-long course) was offered over three summers to help teachers develop their knowledge and skills in the area of technology as a tool for student thinking and assessment (150 teachers over 3 years) • Arizona Technology in Education Association Conference • *Think Ahead Technology* (Apple) training provided teachers with strategies about the integration of technology and the content areas, in order to improve student achievement • Teacher Led Technology Professional Development at the sites: Garage Band, SMART Boards, iMovies, interactive teacher websites • Technology Basics as part of the Probationary Teacher Development
World Languages • Thematic Unit and Assessment Design • Spanish Immersion Program Planning • Chinese Immersion Program Planning

• Modified Oral Proficiency Inventory (MOPI)- 30 World Languages Teachers
Science and Math: • U of A Department of Mathematics "Center for Recruitment and Retention of Teachers of Mathematics training (yearly) • Science Inquiry: Teaching Analysis and Argumentation • *Systems Thinking in Science and Social Studies* training offered teachers the opportunity to develop lessons and tools integrating systems thinking with the content areas • National Science Conference (2010-11) - teacher leaders sent to learn effective research-based strategies to enhance student achievement in science • Let's Take a Walk in the PARCC with Math!
21st Century Skills: • Camp Snowball (2011, 2012, 2013)- Systems Thinking Conference (weeklong) • The Highly Engaged Classroom • Systems Thinking Level 1: Developing Critical Thinking Skills (June 2011) • Standing Up to Bullying Conference
Other: • Guided Reading and Balanced Literacy, K-3 • Comprehensive Unit Design • Data Team Leader Training • Responsive Facilitation (Critical Friends) • Cognitive Coaching • National Board Certification Take One, National Board Professional Teaching Standards (NBPTS) • Candidacy, and NBPTS Candidate Support Provider • *Art and Science of Teaching* was provided to refine and enhance knowledge and skills in order to increase student achievement (3 years – replaced *Dimensions of Learning*) • Cyberbullying – CTI webinar • K-8 Grading and Reporting • Extended Studies Clusters for Gifted Education at 3rd Grade • Comprehensive Physical Education and Health • National Council of Teachers of English Conference

The Move on When Reading initiative in the State of Arizona required an emphasis placed on the reading instruction in all K-3 classrooms. These specific learning opportunities have been implemented to meet the needs of teachers and students in K-3 classrooms:

- In August of 2013 all kindergarten and first grade teachers participated in Phonemic Awareness training. This was a specific training to provide classroom teachers the knowledge and skills of how to develop phonemic awareness skills in their students as a prerequisite skill to phonics instruction.
- By the 2015-16 school year, all K-3 teachers will be required to have participated in the Guided Reading/Balanced Literacy professional learning opportunity. During the week-long training, K-3 teachers understand the purpose of each component of the CFSD Reading Model as part of a balanced literacy program. The goal for every K-3 teacher participating in this is to provide consistent and guaranteed reading instruction in all K-3 classrooms.

Metiri Survey

Building the capacity in our teachers to transition to the 21st century requires systematic professional learning opportunities. The dimension of teacher proficiency is critical. We are very interested in understanding teachers' proficiency levels and knowledge and skill in areas that include:

- Knowledge and facility with 21st century skills
- Building 21st century skills in students
- Designing rigorous, authentic curricula
- Differentiated instructional strategies
- Informed use of data and research
- Assessment for learning
- Professional practice and productivity

The Metiri survey, administered in 2013, provides insight into our teacher's level of preparedness in each of the areas listed above. A summary of weighted scores from the teacher and administrator surveys from 2010 and 2013 indicate some growth in scores for teacher proficiency. Specifically, administrators' perceptions about teachers' preparedness increased as well as the overall aggregate score. The teacher scores for the level of preparedness remained the same between the two assessment years (Figure 61).

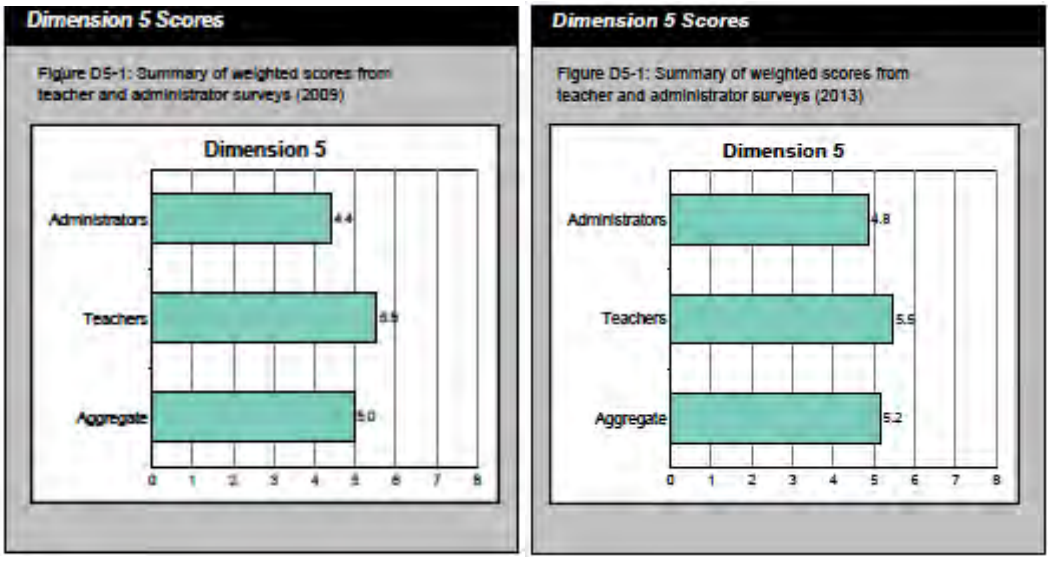

Figure 61. Summary of weighted scores for dimension 5: teacher proficiency

A closer look at the teacher reported level of preparedness to scaffold conceptual learning, Figures 62 through Figure 65 provide teachers' perspectives on their preparedness to scaffold conceptual learning, and similarly, their preparedness to do the same for authentic learning in both 2010 and 2013. Teachers typically report higher levels of comfort with the conceptual

learning, but, for 21st century learning, the latter is critical. In comparing the two years of data, there is very little change in teacher's perceptions of their level of preparedness. However, in 2013, there were lower percentages of teachers feeling comfortable or extremely comfortable in each of the seven areas assessed. In both assessment years, the teachers felt the least comfort in incorporating work and assignments that have an outside audience.

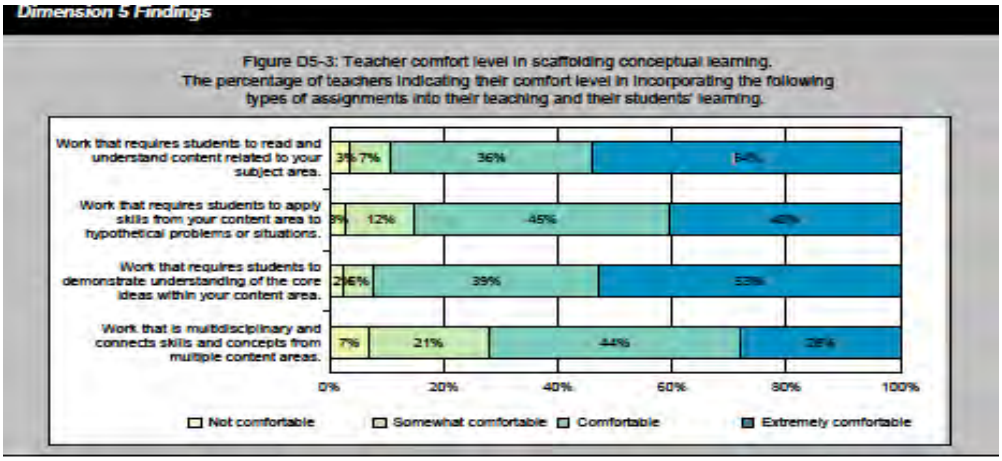

Figure 62. Teacher comfort level in scaffolding conceptual learning in 2010

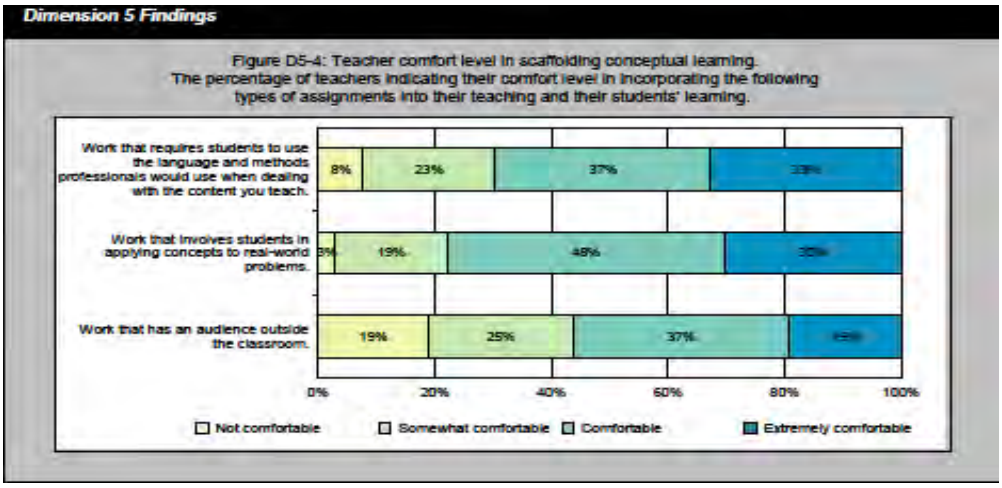

Figure 63. Teacher comfort level in scaffolding conceptual learning 2010

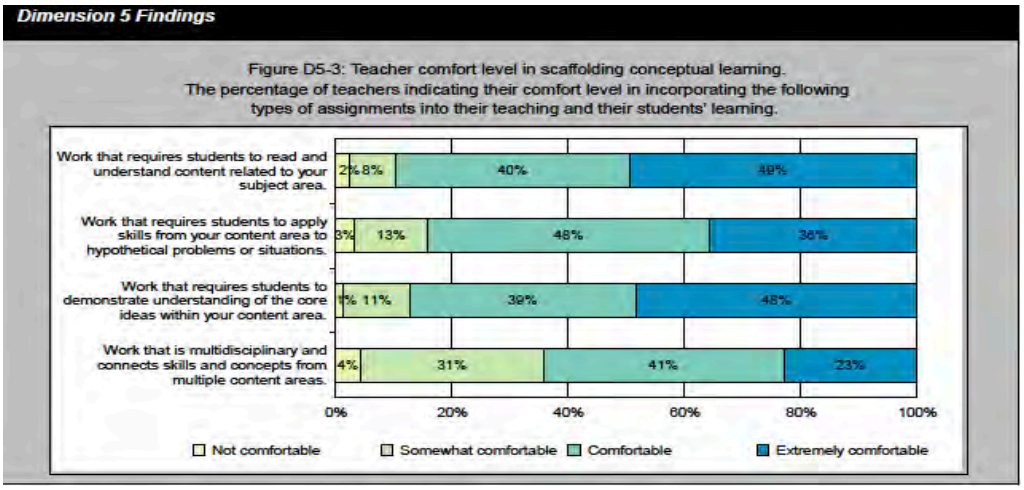

Figure 64. Teacher comfort level in scaffolding conceptual learning in 2013

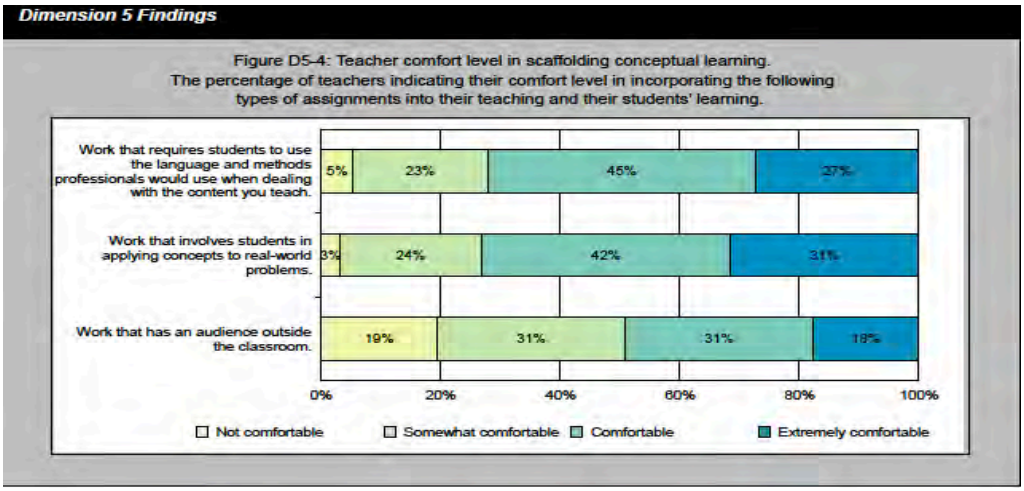

Figure 65. Teacher preparedness in scaffolding conceptual learning in 2013

Authentic learning is key to increasing student engagement and deep understanding of academic concepts. Based on our survey results, additional professional development in these areas will increase teachers' level of comfort and preparedness so that they are comfortable or extremely comfortable in teaching and assessing authentic learning. As we hire new teachers and lose experienced teachers through retirement, this should be a continued area of professional learning for all staff.

Knowledge and Skills/Career Ladder

Knowledge and Skills/Career Ladder is another important part of the CFSD comprehensive system of professional learning and demonstration of knowledge and skills. Teachers may access the CFSD professional development opportunities, including Knowledge and Skills/Career Ladder, throughout the year. Table 18 below depicts the components available to teachers and the compensation for each component if a level 3 or 4 is achieved.

Table 18

Knowledge and Skills and Career Ladder Program 2013-14

Component	Eligibility	Compensation
Classroom Management Plan	Year 1	Level 3: $350
Developing Understandings and Essential Questions	Year 2 or more	Level 3: $400
21st Century Student Achievement Plan	Year 2 or more	Level 3: $1,500 Level 4: $2,000
Educational Technology Student Achievement Plan	Year 2 or more	Level 3: $1,500 Level 4: $2,000
Performance Task/Assessment Design	Year 2 or more	Level 3: $800
National Board Certification Candidacy	Year 5 or more	$3000
National Board Certification Take One	Year 5 or more	$500

Through Knowledge and Skills/Career Ladder state funding, Title II-A federal grant funding and dedicated resources from our district Maintenance and Operation budget, the district's commitment to professional learning has been substantial for the past three years. Table 19 below delineates the total expenditures for professional learning over the past three years. These expenditures encompass teacher contract addenda with stipends for participation in and completion of the Knowledge and Skills/Career Ladder components as well as stipends for curriculum work that included professional development. It does not include funds spent on consultants or travel used for professional learning.

Table 19

Professional Learning Expenditures 2010-2013

Professional Learning Expenditures 2010-2013			
Funding Source	**SY 2010-11**	**SY 2011-12**	**SY 2012-13**
Career Ladder	$515,920.00	$416,355.00	$409,734.00
Title II-A	$48,062.00	$54,897.00	$45, 495.00
M&O Budget	$57,762.00	$25,100.00	$54,679.00
Totals	$621,747.00	$496,352.00	$509,908.00

By June 30, 2015, the state funding for Career Ladder programs will be phased out for CFSD and all participating schools in Arizona. Funding has been decreased for the past four years as the state prepares for this phase out. This loss of funding will create a challenge for CFSD in continuing to provide a comprehensive professional development program that supports student learning, teacher knowledge and skill, and district strategic initiatives without a district long-range professional development plan.

Site Based Professional Learning

Site based professional learning opportunities are provided that align to each school's Continuous Improvement Plan (CIP) as well as the strategic priorities of the district. Early release time is provided to each school for the purpose of providing dedicated time to the continual professional learning of teachers to directly impact student learning and achievement. This early release time is utilized for Data Teams as well as school specific development. Most recently, school based professional development focused on critical thinking, engagement, self-direction, 21st century Skill development, TAP rubric understanding, Arizona College and Career Readiness Standards, mathematical practices, and specific technology training. Additionally a team of teachers and administrators from two elementary schools participated in the Special Education Achieving in Mathematics (SEAS) training provided by the Arizona Department of Education. As part of the training commitment, the team returned to the site and provided training for their staff on the mathematical concepts learned. Each school determines the areas of greatest need and is responsible for planning and facilitating professional learning opportunities for their staff. District personnel are available for consultation and assistance in planning and facilitating professional learning with the school teams.

Conclusion

High-performing schools and districts place a high priority on ensuring that school professionals are part of a community that is committed to learning. Professional learning improves classroom practice by empowering teachers to make changes in their everyday instruction so that students continue to achieve higher levels of proficiency. As the needs of our students and teachers continually change, the need to provide ongoing support and professional learning opportunities is recognized. This ongoing cycle promotes continual, lifelong learning among all professionals.

Understandings

- Professional learning anticipates that lasting change will be a slow process.
- Professional learning relies on internal expertise and expects teachers to be active participants.
- Professional development must be continuous and ongoing, involving follow-up support for further learning, including support from sources external to the school that can provide necessary resources and outside perspectives.
- Professional development provides learning opportunities that relate to individual, school or district needs.

- Professional development provides opportunities to engage in developing a theoretical understanding of the knowledge and skills to be learned. It emphasizes the “why” as well as the how of teaching, articulating a theoretical research base.
- Developing the capacity of the professionals in our schools for improving student and teacher learning will have a positive effect on the overall learning of students.

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Frequent Monitoring of Teaching and Learning

Monitor progress, the quality of student work, and degree of implementation of teaching and learning strategies through a steady cycle of multiple data sources. Teaching is adjusted based on frequent monitoring of student progress and needs. A regular, systematic review of progress through the use of data provides a focus for celebrating successes and improving instructional programs.

Essential Questions

- What is the district vision for quality instruction?
- How do we know that our instruction reflects evidence- and research-based practices?
- What interventions and extensions are developed and implemented to improve instruction for all groups of students?
- How do student achievement results influence change in school conditions and strategies for improving achievement?

Introduction

A significant characteristic of high-performing schools is quality teaching in every classroom. Operationally, this means that variability in teacher quality within a school is quite low – every teacher uses effective instructional strategies (Marzano, 2013). One of the hallmarks of school systems around the world that produce the greatest gains in student learning is that they monitor and minimize the variability of instruction in their classrooms (Barber & Mourshed, 2007).

Monitoring is broadly defined as "analyzing what we are doing against the results we are getting (Schmoker, 1996, p. 6). It requires regularly reviewing and refining the structures and processes that most directly contribute to the results we are getting. Measures used in monitoring provide feedback to the teacher and learner and those who are responsible for ensuring continual progress in learning.

Monitoring teaching and learning requires paying attention to both student learning results and teaching effectiveness. Learning is monitored through multiple data sources such as test scores, student developed products, performances, and other evidence of achievement. Teaching is monitored and supervised by principals for program fidelity and teacher evaluation, and by teachers themselves as they reflect on their practices. Information about the effectiveness of instructional strategies, processes, educational programs, and materials is gathered from a variety of sources that reveal student learning (e.g., common assessments, observations, examination of student work). Assessment results are used for planning instruction for individual students as well as for school-wide decision making and planning. Classroom and school practices are modified based on data from the collections of evidence of student learning.

Effective monitoring is non-threatening and occurs frequently. It provides continuous feedback for the purpose of improvement, not for making major decisions about a student's future or a teacher's career. Feedback used for improvement allows teachers and leaders to make procedural

corrections, re-teach, and encourage student efforts, as well as change practices. Errors are viewed as learning opportunities and should lead to additional instruction and practice opportunities (Hattie, 2012).

Communicating student achievement through effective grading and reporting practices is an aspect of monitoring learning and teaching. Providing students with information regarding their performance and providing them opportunities to assess their own learning help students to internalize learning standards and to take responsibility for their learning.

Monitoring Teaching for Effective Instruction

Adopting a broad but common framework for classroom instructional design and planning, using common instructional language and consistently using research-based instructional strategies in schools are hallmarks of high-performing school districts.

Waters & Marzano, 2006

Quality teaching is clearly important for increasing student achievement. In fact, research suggests that improving the quality of classroom instruction produces a far greater benefit than other policy interventions, such as lowering class size (Hattie, 2009, 2012). However, while we know that high-quality instruction is important, it is difficult to improve and monitor if there is no definition of what defines "high quality," and those practices have not been identified. Administrators and teachers have wide-ranging definitions of what constitutes acceptable and excellent professional practice. Without agreed-upon definitions, teacher growth and effectiveness with their students is difficult to consistently monitor over time. If quality instruction in every classroom is to be the focus of systemic and continuous improvement efforts, the district and its schools must define "quality" and come to a shared understanding or common language. According to Marzano, Toth, and Schooling (2010):

> A common language/model of instruction provides a framework for a way to talk about instruction that is shared by everyone…at the district or school level. Principals and teachers should be able to use a common language of instruction to converse about effective teaching, give and receive feedback, collect and act upon data to monitor growth regarding the reasoned use of the strategies identified in the framework, and align professional development needs against the framework. (p. 5)

A common language of instruction, then, provides the foundation for instructional excellence and coherence. CFSD's common language of instruction is grounded in high-yield research-based practices that lead to higher student achievement. These practices are reflected in a robust *Teaching for Learning Framework* that identifies key indicators revealed by research for effective teaching and links them to CFSD's walkthrough observation instrument. (Refer to this report's section on High Expectations and Accountability, p. 17.) The framework is a set of rubrics with performance indicators and a clearly defined continuum of implementation. The rubrics were designed to:

- Communicate a clear vision as to how instruction needs to be addressed in each classroom.

- Reflect the complexity of the teaching/learning process.
- Provide teachers with feedback about their pedagogical strengths and weaknesses based on multiple sources of data, including student achievement data.
- Use real-time data to fairly and credibly differentiate teachers based on their effectiveness in advancing student learning.
- Provide targeted, aligned, and differentiated professional development to help teachers improve their instruction.

A shared understanding of quality instruction is developed based upon the common language of instruction articulated in the *Teaching for Learning Framework*. According to Marzano (2010), "A well-articulated knowledge base is a prerequisite for developing expertise in any systematic way…" (p. 217).

In addition to a well-articulated knowledge base, the next critical strategy is for teachers to engage in deliberate practice using the common instructional language – discussing how and why various strategies work more effectively than others, and with whom and when to use the best strategy or combination of strategies (Marzano, 2010). This occurs through a variety of structures and processes such as a three-year induction program with instructional coaching and Professional Learning Groups (PLGs), professional development on research-based practices (e.g., Studying Skillful Teaching, Classroom Instruction that Works), observations and feedback using CFSD's walkthrough instrument, comprehensive curriculum and assessment development processes, job-embedded professional development, participation in Career Ladder/Knowledge & Skills components, collegial coaching, Data Teams. (Refer to this report's section on Focused Professional Learning, p. 97.)

A major component of this kind of deliberate practice involves frequent feedback against the district's [common] instructional framework (*Teaching for Learning Framework*) (Marzano, et al., 2010). This can come from various forms of self-assessment, mentoring, instructional coaching, and principal/supervisor feedback, which enable teachers to make adjustments in their teaching. The *Teaching for Learning* rubrics used in CFSD define the district's common language of instruction and provide a viable means for teachers and administrators to celebrate and replicate effective teaching as well as provide a means for improvement.

Having a comprehensive language of instruction communicates the message that the district is serious about good teaching, talks about teaching in this way, expects everyone to think about teaching in this way, and to use this "language" to examine strengths and weaknesses. In this way, CFSD is a place where one gets better at teaching.

The district used the professional literature (e.g., *The Skillful Teacher*, *The Art & Science of Teaching*, *The Highly Engaged Classroom*, *Dimensions of Learning*, *Understanding by Design*) and the work of many researchers to create the common language of instruction in the *Teaching for Learning Framework* (Hattie, 2009, 2012; Marzano, 2010; Marzano, 2009; Marzano, 2007; Marzano & Pickering, 2011; Marzano, Marzano, & Pickering, 2003; Marzano, Pickering, &

Pollock, 2001; Marzano, 1992; McTighe & Wiggins, 2013; Saphier, Haley-Speca, Gower, & Platt, 2008; Stiggins, 2005; Tomlinson, 2001, 2007; Wiggins & McTighe, 2005).

The most comprehensive effort to date to synthesize the research on teacher and school effectiveness is impressive in its scope. In his 2009 book, *Visible Learning*, John Hattie synthesized the findings from over 800 meta-analyses involving over 52,000 students and over 145,000 effect sizes to rank 138 factors that have significant correlations with student achievement (Marzano, 2013). In 2012, Hattie updated his synthesis to include 115 additional meta-analyses involving 7,518 additional studies and 13,428 additional effect sizes. These additional findings resulted in the addition of 12 factors to his original list of 138 for a total of 150 ranked factors. Some of those factors are outside of a school's control. Table 20 shows those factors from Hattie's list of 150 that fall outside a school's control.

Table 20. *Hattie's Factors Outside of the School's Control*

Rank	Factor
20	Prior achievement
39	Pre-term birth weight
44	Home environment
45	Socio-economic status
51	Parental involvement
59	Self-concept
81	Creativity related to achievement
82	Attitude to mathematics/science
84	Ethnicity
101	Lack of illness
119	Personality
122	Family structure
133	Gender
141	Ethnic diversity of students
147	Welfare policies
149	Television
150	Mobility

While the factors in Table 20 are outside of a school's control, many important factors can be strongly influenced by teachers and schools. For example, consider the top one-third (the top 50) of Hattie's factors listed in Table 21. Those not shaded can be influenced by schools.

Table 21

Hattie's Top 50 Factors

Rank	Factor
1	Self-reported grades/Student expectations
2	Piagetian programs
3	Response to intervention
4	Teacher credibility

5	Providing formative evaluation
6	Micro-teaching
7	Classroom discussion
8	Comprehensive interventions for learning disabled children
9	Teacher clarity
10	Feedback
11	Reciprocal teaching
12	Teacher-student relationships
13	Spaced vs. mass practice
14	Meta-cognitive strategies
15	Acceleration
16	Classroom behavior
17	Vocabulary programs
18	Repeated reading programs
19	Creativity programs on achievement
20	Prior achievement
21	Self-verbalization and self-questioning
22	Study skills
23	Teaching strategies
24	Problem-solving strategies
25	Not labeling students
26	Comprehension programs
27	Concept mapping
28	Cooperative vs. individualistic learning
29	Direct instruction
30	Tactile simulation programs
31	Mastery learning
32	Worked examples
33	Visual-perception programs
34	Peer tutoring
35	Cooperative vs. competitive learning
36	Phonics instruction
37	Student-centered teaching
38	Classroom cohesion
39	Pre-term birth weight
40	Keller's Mastery Learning (PSI)
41	Peer influences
42	Classroom management
43	Outdoor/adventure programs
44	Home environment
45	Socio-economic status
46	Interactive video methods
47	Professional development
48	Goals
49	Play programs
50	Second/third chance programs

As indicated in Table 21, schools and teachers within those schools can influence 46 (92%) of the top 50 factors. With this vast research base regarding factors that influence student achievement, schools and teachers can take dramatic steps to increase their effectiveness. However, as previously stated, factors cannot be addressed in a random manner if a school is to become a high-performing school. Some factors may be prerequisites to or interrelated with others. Table 22 shows the factors that are related to the quality of teaching at or above the hinge-point of 0.40.

Table 22

Hattie's Factors Related to the Quality of Teaching in the Classroom At or Above the Hinge-Point

Rank	**Factor**
4	Teacher credibility
5	Providing formative evaluation
6	Micro-teaching
7	Classroom discussion
9	Teacher clarity
10	Feedback
13	Spaced vs. mass practice
21	Self-verbalization and self-questioning
23	Teaching strategies
27	Concept mapping
29	Direct instruction
30	Tactile simulation programs
32	Worked examples
34	Peer tutoring
35	Cooperative vs. competitive learning
46	Interactive video-methods
47	Professional development
48	Goals
49	Play programs
52	Small-group learning
53	Questioning
57	Quality of teaching
65	Cooperative learning

Hattie (2012) claims that almost all interventions, programs, or practices can make a difference to student learning because most often the bar is set at zero. With the bar set at zero everyone and everything can make a difference. "Setting the bar at zero means that we do not need any changes to our system! We need only more of what we already have – more money, more resources, more teachers per students, more . . ." (p. 2). Instead, he recommends that educators be far more discriminating when selecting improvement strategies or interventions. To be considered worthwhile, a strategy or intervention needs to show an improvement in student learning of at least an average gain – an effect size of at least 0.40. Hattie refers to this gain as the hinge-point for identifying what is and what is not effective, and calls on all of us to utilize

the vast research base on the factors that influence student achievement and to optimize the positive impacts we have on student learning, evaluating those effects with evidence. (Refer to this reports' section on Focused Professional Learning, p. 97, for more information on the hinge-point and effect size.)

Monitoring Student Learning

Monitoring student learning requires a match between the standards/learning goals and the purposes for which the measurement results will be used. Bernhardt suggests several reasons for measuring student learning:

- Making sure students do not "fall through the cracks"
- Assessing individual or group achievement
- Diagnosing learning problems
- Certifying or graduating students
- Guiding curriculum development and revision
- Improving instruction
- Being accountable
- Understanding which programs are getting the results we want
- Knowing if we are achieving our standards
- Knowing how we compare to others in the nation. (as cited in Shannon & Bylsma, 2007, p. 88)

Quality assessment standards, according to Stiggins (2005), include six criteria to ensure they produce accurate results:

- The intended user(s) and use(s) of the assessment are clear.
- The valued student learning goal(s) are clear and appropriate.
- A proper assessment method has been selected.
- The assessment measures achievement using enough high quality exercises and scoring procedures.
- Relevant sources of bias have been minimized.
- Results are communicated effectively. (p. 362-364)

Sample measurement tools include:

- Classroom observations or anecdotal records
- Portfolios of student work

- Teacher-made tests and rubrics
- Grades
- Criterion-references measures (often developed by state or district)
- Authentic and performance assessments
- Norm-referenced large-scale tests (Shannon & Bylsma, 2007, p. 89)

Formative assessments, or assessment *for* learning, are an integral part of continual school improvement and increased student learning. Assessment *of* learning is a summative assessment and is typically used to determine students' grades or final achievement levels. Stiggins (2005) explains that assessments "must help us accurately diagnose students' needs, track and enhance student growth toward standards, motivate students to strive for academic excellence, and verify student mastery of required standards" (p. 15), not judge or sort students.

Students also have a role in assessing and monitoring their own learning. Students' involvement in assessment has potential to increase their understanding of the learning goals and to develop their ability to evaluate their own academic progress. According to Stiggins (2005):

> Students who participate in the thoughtful analysis of quality work to identify its critical elements or to internalize valued achievement goals become better performers. When students learn to apply these standards so thoroughly that they can confidently and competently evaluate their own and each others' work, they are well on the road to becoming better performers in their own right. (p. 29)

Hattie's (2012) synthesis of the research into 150 factors that correlate with student achievement confirms Stiggins' assertion. Self-reported grades, which ranks 1/150 and has an effect size of 1.44, is the highest recorded influence in the study. This factor suggests that students predict their performance – usually accurately – based on their past achievement. If these predictions are too low then limits will be set on what is achievable. Student reflection of their performance alone makes no difference, according to Hattie. He believes:

> Emphasizing accurate calibration is more effective than rewarding improved performance. The message is that teachers need to provide opportunities for students to be involved in predicting their performance; clearly making the learning intentions and success criteria transparent, having high, but appropriate, expectations, and providing feedback at the appropriate levels is critical to building confidence in successfully taking on challenging tasks. (p. 53).

Table 23 shows the rank and factors related to assessment and grading.

Table 23

Hattie's Factors Related to Grading and Reporting

Rank	**Factor**
1	Self-reported grades/Student expectations

9	Teacher clarity
10	Feedback
15	Acceleration
31	Mastery learning
40	Keller's Mastery Learning (PSI)
47	Professional Development
48	Goals

Communicating Student Learning

Communicating student achievement often occurs in the form of grades and report cards that are issued periodically (at the quarter, trimester, and semester in CFSD). Assessment and school improvement experts assert that grading and grade reporting should be aligned in a standards-based system (more correctly labeled "standards-referenced). They emphasize that the purpose of grading is communicating student learning; and therefore, grading must communicate the learning accurately. According to research, grading has no value as punishment. Reducing a grade for absences, tardiness, or an infraction of the rules is not consistent with standards-referenced grading. If students learned the content or met the standards, their grades and report cards should reflect their learning and not reflect other personal topics such as behavior, attitude, etc. (Guskey & Jung, 2013; Guskey & Bailey, 2001; Marzano, 2006; Stiggins, 2005).

Frequent and effective monitoring requires communicating student progress more often than the formal grading periods. Implementing a coherent grading and reporting system requires developing a consensus among educators. District and school policies need to be developed to reflect the underlying principles of all students learning to high standards, fair and equitable treatment of all students while they are learning, appropriate grading practices, and accurate communication of student achievement.

Stiggins (2005) gives the "bottom line" for developing sound grading practices. "Grades must convey as accurate a picture of a student's real achievement as possible. Any practice that has the effect of misrepresenting actual achievement of agreed standards is unacceptable." He summarizes guidelines to help prevent grading problems:

- Grade on achievement of pre-specified targets only, not intelligence, effort, attitude, or personality.
- Always rely on the most current information available about student achievement.
- Devise grades that reflect achievement status with respect to preset targets rather than improvement.
- Decide borderline cases with additional information on achievement.
- Keep grading procedures separate from punishment.
- Change all policies that lead to miscommunication about achievement.
- Advise students of grading practices in advance.
- Add further detail to grade report when needed.

- Expect individual accountability for learning, even in cooperative environments.
- Give credit for evidence of extra learning – not for doing extra work [e.g., "extra credit] if it fails to result in extra learning. (p. 304)

Report cards are the primary means of communicating the results of student performance. Some researchers suggest augmenting the traditional report card to include more precise information regarding achievement. Letter grades are abstract; too often a wide-range of topics is condensed into a single grade, and, thus, obscures specific achievement information.

Building on the premise that the main purpose of grades is to communicate achievement, O'Connor (2009) distinguishes between the concepts and practices of marking, grading, and reporting. He stresses the importance of using precise definitions of terms. "Marking," or scoring, according to O'Connor, is evaluation of specific pieces of student work or performance and may use a variety of symbols (e.g., letter grades, plus/minus). "Grading" is a summary of student work that is reported at prescribed intervals and must communicate the more recent and most consistent quality of student work. "Reporting" is the communication of factors that may include factors other than the student's "achievement," (e.g., attitude, behavior, and extenuating conditions).

K-8 Standards-referenced Report Card

CFSD uses standards-referenced report cards at the elementary and middle school levels. In standards-referenced grading and reporting systems, grades/scores reflect what students know and can do relative to the Catalina Foothills School District curriculum. The purpose of the district's standards-referenced grading system is to measure a student's performance and product against defined grade-level expectations. Meeting the standard (3) means that a student has demonstrated that he or she has learned the required skills and concepts.

The report card lists the essential categories/domains (measurement topics) for each subject area. Students receive indicators of progress based on a four-point rubric to show how well they are performing in those areas. At middle school, students will also receive an overall score for each subject. Standards-referenced grade/scores help teachers plan their instruction so they can challenge and support all students. They help parents know the academic areas in which a student meets or exceeds the standard, needs challenge, or needs support. For each marking period, the teacher will indicate how well a student is progressing using the following scale (Table 24):

Table 24

Scale and Descriptors for Rubric Scores

Rubric Score	Descriptor
4.0	Exceeds the Standard (Advanced)
3.0	Meets the Standard (Proficient)
2.0	Approaching the Standard (Basic)
1.0	Does Not Meet the Standard (Below Basic)

The standards-referenced grading system separately assesses the influence of positive and consistent work habits, effort, and participation. Students will receive a grade/score for development and growth in Personal & Social Responsibility (Work completion/Effort, Class Participation, and Behavior/Conduct), CFSD's 21st century skills (Critical/Creative Thinking), and the Educational Technology standards.

Scores on the report card can provide useful information because they indicate where the student is performing at a particular point in time and what needs to be done to improve or advance to the next level of the rubric continuum. It is important to remember that grades/scores are the result of a number of factors (tests, assignments, presentations, discussions, observations, simulations, projects, etc.), and some knowledge and skills may not be attained until at or near the end of a school year. The goal is to identify, for every student, the next appropriate "stretch" to move students toward higher levels of learning. Figure 66 is a snapshot of one section of the elementary report card.

MATHEMATICS TERM	T1	T2	T3
Counting and Cardinality			
Operations and Algebraic Thinking			
Number and Operations in Base Ten			
Number and Operations: Fractions			
Measurement and Data			
Geometry			
Standards for Mathematical Practice (Problem Solving, Reasoning, etc.)			
21ST CENTURY SKILLS / TECHNOLOGY / PERSONAL & SOCIAL RESPONSIBILITY			
Tech: Creativity and Innovation			
P&SR: Class Participation			
P&SR: Behavior			
Teacher Comment: Optional			

SOCIAL STUDIES TERM	T1	T2	T3
Cultural Diversity and Interactions			
Spatial Thinking and Use of Charts, Maps, and Graphs			
Reciprocal Impact of Geography on People and Events			
Economic Philosophies and Systems			
Economic Decision-Making and Personal Finance			
Rights, Responsibilities, and Participation in the Political Process			
Government Symbols, Structures, Laws, and Documents			
Individuals, Groups, and Events That Shaped History			
Patterns of Change Over Time			
Current Events and the Modern World			
Critical and Creative Thinking			
Research Skills for History			
21ST CENTURY SKILLS / TECHNOLOGY / PERSONAL & SOCIAL RESPONSIBILITY			
Leadership			
Self-direction			
Tech: Communication and Collaboration			
P&SR: Class Participation			
Teacher Comment: Optional			

Figure 66. Snapshot of the mathematics and social studies sections on the elementary report card CFSD students and parents have access to the Parent Internet Viewer (PIV), a password-protected website, to review grades/scores. Parents are encouraged to talk to their child's teacher about specific questions concerning grades/scores.

In relation to grading, O'Connor and other assessment experts explain that formative and summative assessments should be treated differently. Formative assessment is primarily to provide information so teachers can adjust their teaching and students can improve their performance. Formative assessments provide feedback, specific advice on how each student can improve. Formative assessment, therefore, needs to be "risk-free," meaning it should not be included in final grades. In fact, not all "practice" needs to be scored or graded.

Grading is difficult and complex (Marzano, 2006; O'Connor, 2009; Stiggins, 2005). Many reporting systems are inadequate and often lead to confusion and misinterpretation. Some practices work to the detriment of students. The primary goal of grading and reporting is communication. Regardless of the format, its purpose is to provide high-quality information about student learning.

Monitoring Teaching and School Processes

According to Bernhardt, monitoring school and classroom processes requires collecting information on actual practices and examining progress toward school goals. Conditions that schools and teachers can influence include instructional and learning strategies, instructional time and location, organization of instructional components, assessments, philosophies and strategies of classroom management, and personal relationships among students and between students and teachers (p. 96). To this end, differentiation and Response to Intervention (RTI) have surfaced as areas of need that require our attention.

Differentiation

The teacher's overriding moral purpose is to meet the needs of students, even when it conflicts with personal preferences.

Lorna Earle (2003)

Differentiation is an approach to teaching that advocates active planning for student differences in classrooms. Carol Ann Tomlinson, a known expert on differentiation states, "The idea of differentiating instruction to accommodate the different ways that students learn involves a hefty dose of common sense, as well as sturdy support in theory and research education." (Tomlinson, et al., 2010). She suggests that in a differentiated classroom it is understood that:

- Students differ as learners in terms of background experience, culture, language, gender, interests, readiness to learn, modes of learning, speed of learning, support systems for learning, self-awareness as a learner, confidence as a learner, independence as a learner, and a host of other ways.

- Differences profoundly impact how students learn and the nature of scaffolding they will need at various points in the learning process.
- Teachers have a responsibility to ensure that all of their students master important content.
- Teachers are required to understand the nature of each of their students, in addition to the nature of the content they teach.
- A flexible approach to teaching "makes room" for student variance.
- Teachers should continually ask, "What does this student need at this moment in order to be able to progress with this key content, and what do I need to do to make that happen?"

To teach most students effectively, teachers must take into account *who* they are teaching as well as *what* they are teaching. The goal of the differentiated classroom is to plan actively and consistently to help each learner move as far and as fast as possible along a learning continuum.

In order to effectively differentiate, a teacher must hold the following beliefs about classroom practice that attend to the needs of individual learners:

- Every student is worthy of dignity and respect.
- Diversity is both inevitable and positive.
- The classroom should mirror the kind of society in which we want our students to live and lead.
- Most students can learn most things that are essential to a given area of study.
- Each student should have equity of access to excellent learning opportunities.
- A central goal of teaching is to maximize the capacity of the learner.
- Student differences matter and effective teachers attend to those differences thoughtfully and proactively.

According to Tomlinson (2003):

> Differentiated instruction is responsive instruction. It stems from a teacher's solid and growing understanding of how teaching and learning occur, and it responds to varied learners' needs for more structure or more independence, more practice or greater challenge, a more active or less active approach to learning and so on. Teachers who differentiate instruction are quite aware of the scope and sequence of curriculum and are also aware that the students in their classrooms begin each school year spread out along a continuum of understanding and skill. These teachers' goal is to maximize the capacity of each learner by teaching in ways that help all learners bridge gaps in understanding and skill and help each learner grow as much and as quickly as he or she can. (p. 2)

Tomlinson (2003) discusses four student traits that teachers must address to ensure effective and efficient learning. Those traits include readiness, interest, learning profile, and affect.

- *Readiness* refers to a student's knowledge, understanding, and skill related to a particular sequence of learning. It is influenced by a student's prior learning experiences, attitudes about school and habits of mind.
- *Interest* refers to those topics that spark curiosity and passion in a learner. They invite students to invest their time and energy in pursuit of knowledge and deep understanding. While students come to school with many areas of interest, it is the school's responsibility to develop undiscovered interests in students.
- *Learning Profile* refers to how students learn best. Many student factors contribute to a student's learning profile: learning style, intelligence preference, culture, and gender.
- *Affect* refers to how students feel about themselves, their work, and the classroom itself. Attending to students' emotions and feelings as well as to their cognition is at the center of the differentiated classroom.

Along with the four student traits, there are four classroom elements that teachers can modify in response to variations among students. Those classroom elements include content, process, product, and learning environment.

- *Content* refers to what teachers teach and how students gain access to the curriculum and materials to build their knowledge. Teachers need to be clear on what is truly essential about a given learning sequence and allow students to focus on and build on the essential information, ideas and skills of a lesson or unit.
- *Process* refers to how a student makes sense of, or comes to understand, the information, ideas, and skills that are essential in the lesson. Effective process ensures that students grapple with, apply, or make meaning of the information, ideas, and skills essential to the lesson.
- *Product* refers to the assessment or demonstrations of what students have come to know, understand and be able to do as a result of the lesson. A product is the student's opportunity to demonstrate learning. It is the teacher's evidence of a student's ability to organize and use the knowledge, information, and skill of the unit or lesson. Effective products hold students accountable for using the foundational information, understandings, and skills.
- *Learning Environment* refers to the operation and the tone of the classroom. It affects everything in the classroom. It includes concrete operations of the classroom as well as the more abstract classroom tone.

Table 25 is a grid that includes nine ways for differentiating based on student needs. They include the student traits as well as the classroom elements that teachers can modify to respond to student needs.

Table 25

Examples of Differentiation Based on Student Need

Examples of Differentiation Based on Student Need			
	Readiness	Interest	Learning Profile
Content	• Materials at varied readability levels • Spelling assigned by proficiency • Alternate presentation methods • Targeted small group instruction • Front-loading vocabulary • Highlighted texts	• Range of materials that apply key ideas and skills to a variety of real world situation • Teacher presentation designed to link to student interests.	• Varied teaching modes (e.g., verbal, visual, rhythmic, practical) • Video or audio notes for students who learn better with repeated listening.
Process	• Tiered activities • Mini-workshops • Flexible use of time • Learning contracts • Varied homework assignments • RAFT options	• Expert groups • Interest centers • Supplementary materials based on student interests • Jigsaw • Independent studies • Interest-based application options • RAFT options	• Choice of working conditions (e.g., alone or with a partner) • Tasks designed around intelligence preferences • RAFT options • Blogs and vlogs to share ideas.
Product	• Tiered products • Personal goal setting • Varied resource options • Check-in requirements based on student independence • Providing samples of good work at varied levels of complexity.	• Use of student interests in designing products • Design a Day options • Use of contemporary technologies for student expression	• Complex instruction • Varied formats for expressing key content • Varied working arrangements • Varied modes of expressing learning

Source: Tomlinson, C. (2010). Leading and managing a differentiated classroom. Alexandria, VA: ASCD.

Experts (Anderson, 2007; Rock, Gregg, Ellis, & Gable, 2008; Tomlinson, 2000) agree that the following statements represent the guiding principles to support differentiated classroom practices:

- Focus on the essential ideas and skills of the content area, eliminating ancillary tasks and activities.

- Respond to individual student differences (such as learning style, prior knowledge, interests, and level of engagement).
- Group students flexibly by shared interest, topic, or ability.
- Integrate ongoing and meaningful assessments with instruction.
- Continually assess; reflect; and adjust content, process, and product to meet student needs.

Lorna Earl, in *Assessment as Learning*, reflects:

> Differentiation is making sure that the right students get the right learning tasks at the right time. Once you have a sense of what each students holds as 'given' or 'known' and what he or she needs in order to learn, differentiation is no longer an option. It is an obvious response (as cited in Tomlinson, 2010, p. 3).

In CFSD, we have identified differentiation as an important and critical skill for our teachers to have and practice in the classroom. In our TAP document, we specifically address the idea of differentiation in our *Teaching for Learning Framework* Teach 3 rubric: Engage Students at all Levels in Rigorous Work. The expectation within that rubric at the effective level states, "The teacher differentiates instruction, proactively, to make the lesson accessible to all students (including ELL, gifted, special education, 504 etc.) (Teacher Assessment Program, p. 21)."

Additionally, within that rubric we define differentiation as consisting of the efforts of teachers to respond to variance among learners in the classroom. Whenever a teacher reaches out to an individual or small group to vary his or her teaching in order to create the best learning experience possible, that teacher is differentiating instruction (Tomlinson, 2001).

Our TAP instrument then makes the distinction between proactive and reactive (improvising) differentiation to add clarity to the expectation. As stated in our TAP document, proactive differentiation is when the teacher proactively plans a variety of methods to meet varied student needs. Where a traditional lesson changes reactively (improvising) when learning is not occurring as planned, a differentiated lesson is proactively planned so that student needs are anticipated before the lesson occurs (Tomlinson, 2001).

Below is a concept map of effective Differentiated Instruction. It is the map that we have provided to teachers as part of our TAP instrument. It 'unpacks' the concept of differentiation by showing the key elements in the concept and relationships among those elements. Someone who practices 'defensible differentiation' attends to all of the elements and understands the impact that one element has on all of the others. No one—no matter how good a teacher—can be perfect in all aspects of the model all of the time. The goal is not perfection, but rather to continue deepening one's understanding of the elements and to continue expanding one's capacity to plan and teach with the elements in mind (Figure 67).

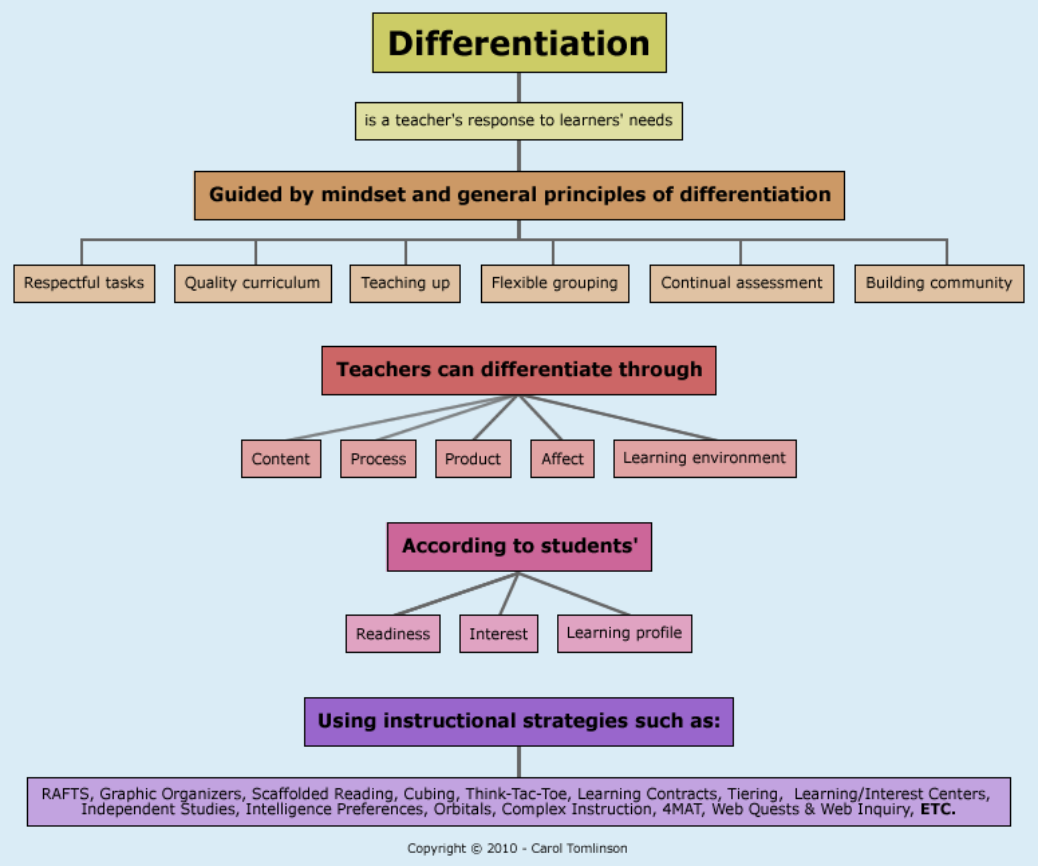


Figure 67. Tomlinson's Differentiation Model
(Source: Institutes on Academic Diversity in the Curry School of Education at the University of Virginia http://differentiationcentral.com/model.html)

Teachers in CFSD are at varied proficiency levels in their ability to proactively differentiate instruction to meet the needs of their students. While the topic of differentiation is introduced and studied in year three of Professional Learning Groups, it is very complex and may take years to fully understand and implement well.

The 2013 Metiri Survey assessed Dimensions21 (D21). D21 provides insights into the elements required to translate 21st century learning into action. Dimension 5: Teacher Proficiency, directly addresses the topic of differentiation in our schools. In the survey, principals were asked to evaluate teachers' level of preparedness related to 21st century learning. In the area of differentiated instructional strategies, specifically, teachers' skill level in engaging students in learning through a variety of teaching and organizational strategies tailored to the needs of individual students, 71% of the principals responded that *few teachers* were prepared to do so while 29% of administrators felt that most of the teachers were prepared to differentiate. In 2010, the principal responses were reversed. Sixty percent (60%) of the principals responded that *most teachers* were prepared for differentiation and only 30% responded that few teachers were prepared to implement differentiated learning strategies (Figure 68 and Figure 69).

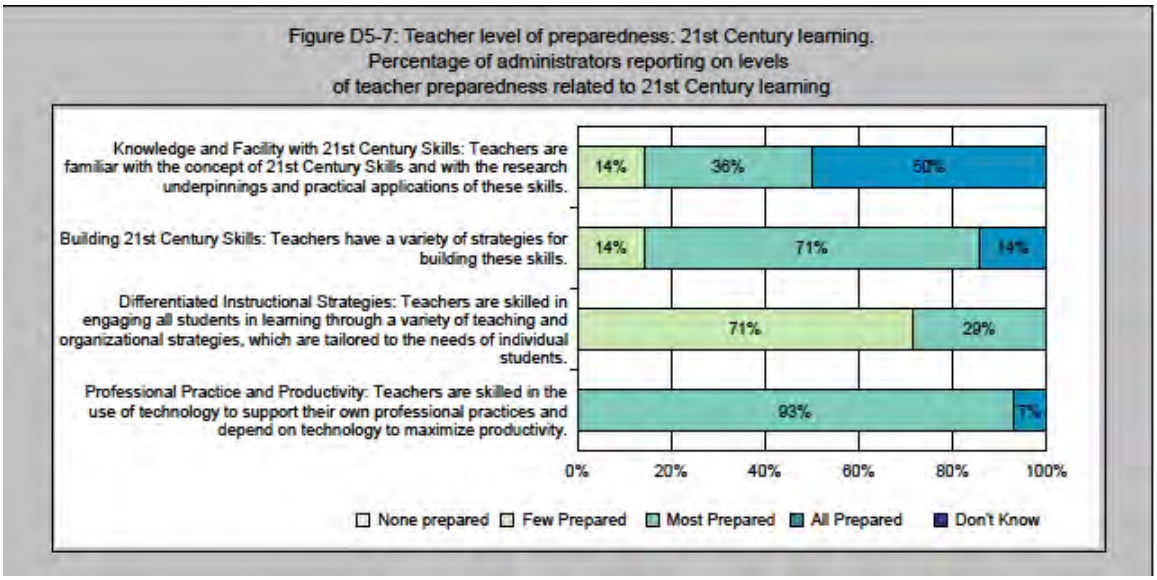


Figure 68. Level of teacher preparedness related to 21st century learning 2013

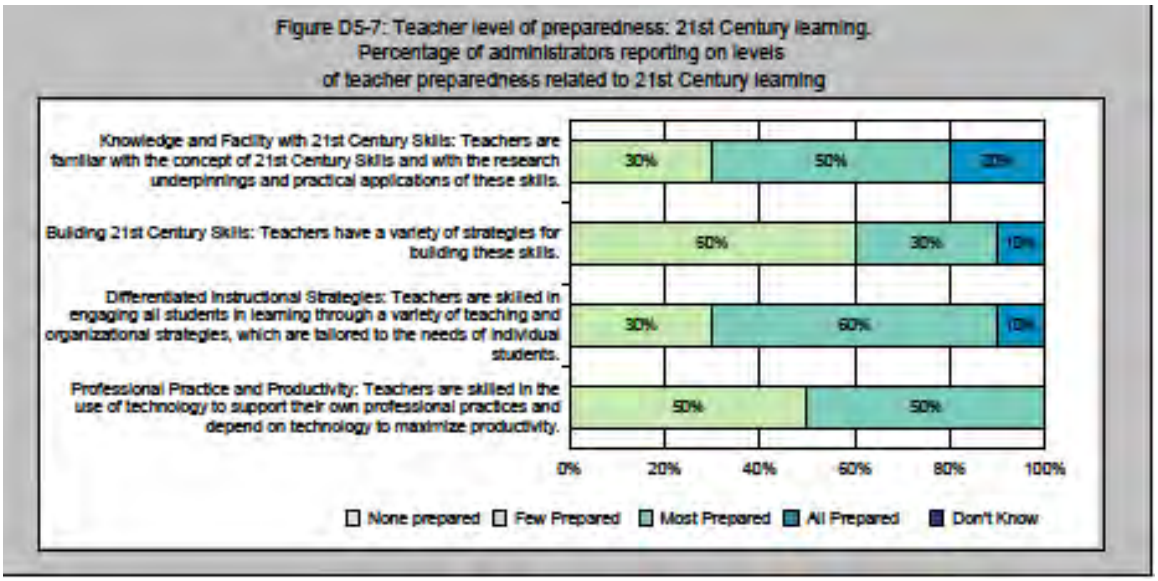


Figure 69. Level of teacher preparedness related to 21st century learning 2010

There was a variance in administrator perceptions from 2010 to 2013.

This dimension on teacher proficiency is one of the most critical. The responses from our principals indicate that the level of preparedness of our teachers in differentiating instructional strategies needs to be an area that is addressed through continued professional learning opportunities at both the district and site based level.

Differentiation is a philosophy, or way of thinking about teaching and learning. Learning to differentiate instruction well requires rethinking one's classroom practice and results from an

ongoing process of trial, reflection, and adjustment in the classroom itself. Most teachers do pay attention to student variation and respond to it in some way. However, very few teachers proactively plan instruction to consistently address student differences in readiness, interest, and learning profile. Effective differentiated instruction is inseparable from a positive learning environment, high quality curriculum, assessment to inform teacher decision- making, and flexible classroom management.

Proactive differentiation is an area of needed continued development for the teachers in CFSD. It is the key to moving students as far and as fast as they can go in their learning.

Response to Intervention (RTI)

RTI is aimed at assisting all students in their educational and social development. According to the National Association of State Directors of Special Education (NASDSE) (as cited in Hall, 2008) a comprehensive definition of the components of RTI is:

> Response to Intervention (RTI) is a practice of providing high quality instruction and interventions matched to student need, monitoring progress frequently to make decisions about changes in instruction or goals and applying child response data to important educational decisions. It involves targeting specific areas in which students are struggling and applying increasingly intensive research-proven interventions until the threat of learning is alleviated. (p. 17)

It also involves documentation of how students respond to scientifically proven interventions when those interventions are delivered in a multi-tiered format (Bender & Shores, 2007, Kame'enui, 2007).

Implementation of RTI in a school involves a deep understanding and commitment to a set of beliefs about students and learning:

- Preventive action is better than a wait-to-fail approach.
- Early intervention is more effective than later remediation.
- Universal screening helps prevent students from falling through the cracks.
- Tiers of instruction are available to meet the needs of all learners.

While RTI is not a special education initiative, a publication by NASDE titled, *Response to Intervention: Policy Considerations and Implementation* (2006) lists eight core principles of RTI. Those principles shown in Table 26 below include:

Table 26

Eight Core Principles of Response to Intervention

I.	We can effectively teach all children.
II.	Intervene early.
III.	Use a multi-tier model of service delivery.
IV.	Use a problem-solving model to make decisions within a multi-tier model.
V.	Use scientific, research based validated intervention and instruction to the extent possible.
VI.	Monitor student progress to inform instruction.
VII.	Use data to make decisions. A data-based decision regarding student response to intervention is central to RTI practices.
VIII.	Use assessment for screening, diagnostics, and progress monitoring.

Source: Batsche, et. al. (2006). *Response to Intervention: Policy Considerations and Implementation*.

RTI is a multi-tier approach to the early identification and support of students with learning and behavior needs. The process begins with high-quality instruction and universal screening of all children in the general education classroom. Struggling learners are provided with interventions at increasing levels of intensity to accelerate their rate of learning. Progress is closely monitored to assess both the learning rate and level of performance of individual students. Educational decisions about the intensity and duration of interventions are based on individual student response to instruction. RTI is designed for use when making decisions in both general education and special education, creating a well-integrated system of instruction and intervention guided by child outcome data.

For RTI implementation to work well, the following essential components must be implemented with fidelity and in a rigorous manner:

- *High-quality, scientifically based classroom instruction.* All students receive high-quality, research-based instruction in the general education classroom.
- *Ongoing student assessment.* Universal screening and progress monitoring provide information about a student's learning rate and level of achievement, both individually and in comparison with the peer group. These data are then used when determining which students need closer monitoring or intervention. Throughout the RTI process, student progress is monitored frequently to examine student achievement and gauge the effectiveness of the curriculum. Decisions made regarding students' instructional needs are based on multiple data points taken in context over time.
- *Tiered instruction.* A multi-tier approach is used to efficiently differentiate instruction for all students. The model incorporates increasing intensities of instruction offering specific, research-based interventions matched to student needs. Within an RTI process, instructional strategies and interventions are based on what research has shown to be effective with students. Using evidence-based practices ensures better results for students.

- *Progress monitoring is a constant checking of student progress with whatever evidence-based instruction is being used.* Progress monitoring helps pinpoint where each individual student is having difficulties. Progress monitoring is a method of keeping track of children's academic development and requires frequent data collection (i.e., weekly). Interpretation of the data is conducted at regular intervals, and changes to instruction are made based on the interpretation of child progress.
- *Parent involvement.* Schools implementing RTI provide parents information about their child's progress, the instruction and interventions used, the staff who are delivering the instruction, and the academic or behavioral goals for their child.

In CFSD, Dynamic Indicators of Early Literacy Skills (DIBELS) is used as the universal screening assessment at the elementary level. DIBELS are a set of procedures and measures for assessing the acquisition of early literacy skills from kindergarten through sixth grade. They are designed to be short (one minute) fluency measures used to regularly monitor the development of early literacy and early reading skills.

DIBELS are comprised of seven measures to function as indicators of phonemic awareness, alphabetic principle, accuracy and fluency with connected text, reading comprehension, and vocabulary. DIBELS were designed for use in identifying children experiencing difficulty in acquisition of basic early literacy skills in order to provide support early and prevent the occurrence of later reading difficulties.

After given these measures, students are categorized into three performance levels; benchmark, strategic, and intensive. The cut points for each of these categories of risk indicate a level of skill below which a student is unlikely to achieve subsequent reading goals without receiving additional, targeted instructional support. Students with scores below the cut point for risk are identified as likely to need intensive support. Intensive support refers to interventions that incorporate something more or something different from the core curriculum or supplemental support. Intensive support might entail:

- Delivering instruction in a smaller group
- Providing more instructional time or more practice
- Presenting smaller skill steps in the instructional hierarchy
- Providing more explicit modeling and instruction, and/or providing greater scaffolding and practice

Between a benchmark goal and a cut point for risk is a range of scores where the student's future performance is harder to predict. These students are categorized as strategic. To ensure that the greatest number of students achieve later reading success, it is best for students with scores in this range to receive carefully targeted additional support in the skill areas where they are having difficulty, to be monitored regularly to ensure that they are making adequate progress, and to receive increased or modified support if necessary to achieve subsequent reading goals. This type of instructional support is referred to as strategic support (Dynamic Measurement Group, 2010).

Progress monitoring is a key component of providing differentiated and individualized reading instruction. Student performance and development of literacy skills should be monitored frequently for all students who are at risk of reading difficulty. The assessment used to monitor progress should align with the instructional priorities of the supplemental reading instruction. The data gathered during progress monitoring can be used in the instructional decision making process (Dynamic Measurement Group, 2010).

In the state and in CFSD, the Move on When Reading (MOWR) initiative has put a focus on early intervention for grades K-3. For this reason, performance on the DIBELS assessment is tracked and used to determine placement into the Title I/Read Strong program. Students scoring in the "well below benchmark" category are the highest priority for additional outside reading support in the Title I/Read Strong program. Students scoring strategic may qualify for the Title I/Read Strong program, but they are not the highest priority students. They receive additional support in the classroom as well as through computer based reading programs.

Figures 70-74 depict a historical perspective of the beginning and end of year DIBELS assessment with the percentage of students falling into each performance category.

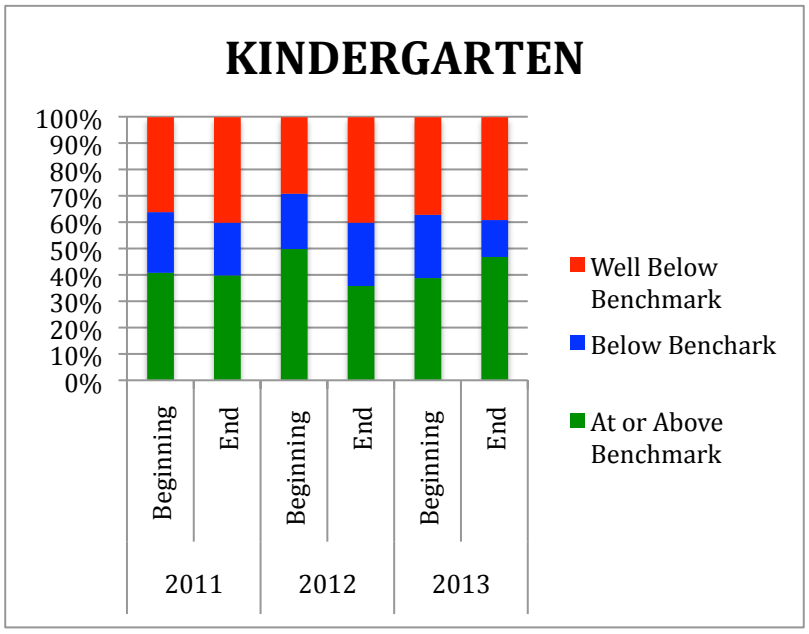


Figure 70. Historical kindergarten data for DIBELS

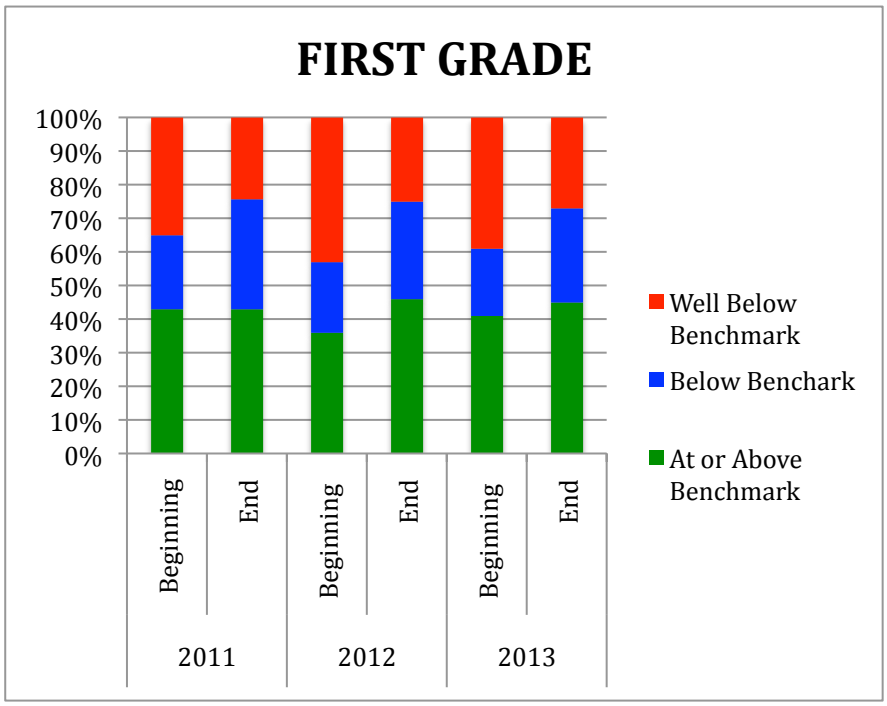


Figure 71. Historical first grade data for DIBELS

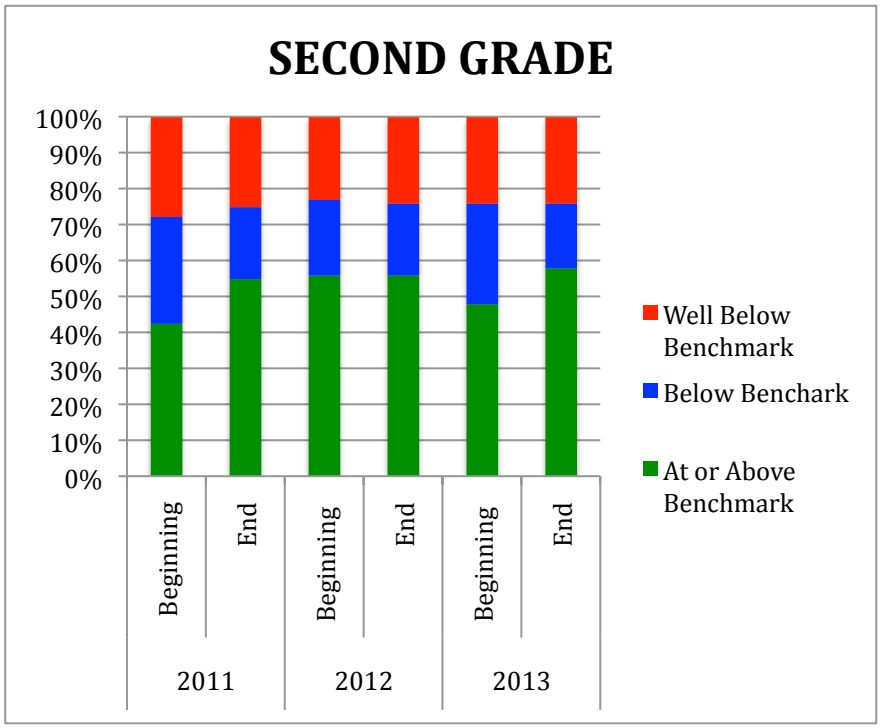


Figure 72. Historical second grade data for DIBELS

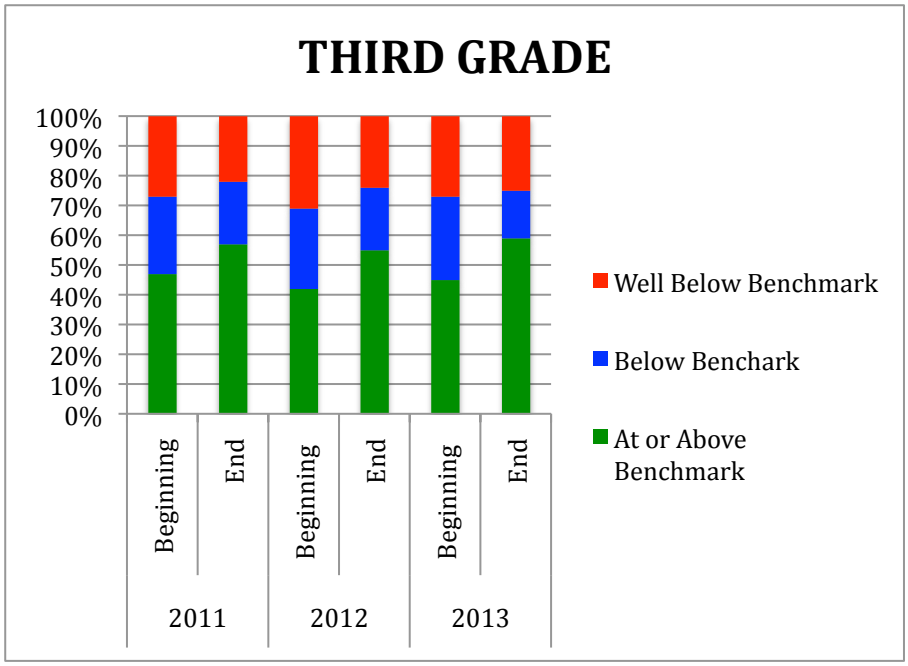


Figure 73. Historical third grade data for DIBELS

According to Buffum and Torgeson, RTI is a set of interventions that are typically presented as a "pyramid of interventions," beginning with high-quality instruction and frequent progress monitoring for all students and incorporating progressively more intensive tiers of interventions intended for smaller number of students who demonstrate increasing difficulty in a academic or behavioral area (as cited in Bender, 2009). Figure 74 is an example of a pyramid of interventions.

Figure 74. Pyramid of interventions

Tier 1: High-Quality Classroom Instruction, Screening, and Group Interventions

Within Tier 1, all students receive high-quality, scientifically based instruction provided to ensure that their difficulties are not due to inadequate instruction. This core instruction should meet the needs of about 80% of the students in the classroom or school population. All students are screened on a periodic basis to establish an academic and behavioral baseline and to identify struggling learners who need additional support. Students not showing adequate progress are moved to Tier 2.

Tier 2: Targeted Interventions

Students identified as being "at risk" through universal screenings receive supplemental instruction during the school day in the regular classroom. This tier typically represents the needs of approximately 15% of the classroom or school population. During that time, student progress is closely monitored. The targeted instruction for this group of students is more intensive than the instruction presented to the whole class. These services and interventions are provided in small-group settings in addition to instruction in the general curriculum. Students showing significant progress are generally exited from classroom interventions and are returned to the general classroom program in Tier 1. Students who continue to show too little progress at this level of intervention are then considered for more intensive interventions as part of Tier 3.

Tier 3: Intensive Interventions and Comprehensive Evaluation

At this level, students receive individualized, intensive interventions that target the students' skill deficits. This represents about 5% of students within a classroom or school population. This intensive instruction is delivered in small groups (3-5 students) and is presented outside of the classroom by another teacher. Students who do not achieve the desired level of progress in response to these targeted interventions are then referred for a comprehensive evaluation and considered for eligibility for special education services The data collected during Tiers 1, 2, and 3 are included and used to make the eligibility decision.

RTI has been known to work for almost all struggling students. Research has consistently shown that intensive supplemental instruction for relatively brief periods of time can alleviate the academic and behavioral problems when students are struggling academically and can put them back on track toward long term success (Bender, 2009). Particularly in the area of reading, research has demonstrated convincingly that students struggling in reading will benefit from a supplemental, phonemically based, explicit reading instruction, and that the academic growth resulting from those interventions will be maintained over time (Bender, 2009).

RTI has benefits to many areas of school improvement. RTI redesigns both general education and special education practices. Schools grapple with providing high quality instruction for specific groups of students who exhibit learning difficulties, English Language Learners (ELLs) as well as students already diagnosed with a specific learning disability and other groups. While research on the use of RTI with ELL students is somewhat limited, there is a growing body of research indicating that RTI is highly effective for these students (Linan-Thompson et. al., 2007). In many cases, the implementation of RTI practices eliminates the ELL student's difficulty.

In CFSD, we are at the very beginning stages of understanding RTI for future implementation as a component of a comprehensive school improvement effort. At the elementary and middle school levels, school teams have been established and have engaged in three days of professional learning and planning for the implementation of RTI at the site level beginning in the 2014-15 school year. These three days have provided school teams with information, resources and time to plan for the implementation of RTI on a small scale (one or two grade levels) to ensure success. The school teams are using the book, *Implementing Response to Intervention: A Principal's Guide* by Susan L. Hall (2008).

In her book, Hall makes recommendations about planning for the implementation of RTI. A few of the recommendations that the school teams are using during their planning include:

- Involve the RTI team in the planning and implementation of RTI.
- Limit the number of grade levels for the initial year. It is far better to begin with a small number of grade levels (1-2) than risk poor implementation school wide.
- Start with the lowest grade level and work up in the following years.
- Decide on goals for year one.
- Add an intervention block into the master schedule for the targeted grade levels.
- Expect classroom teachers to provide intervention instruction.

At the high school, no formal training has been provided. However, RTI is not a new term to the high school administration and teachers. There is a team that is currently researching RTI at the high school level. They are conducting a book study to begin planning for implementation. Implementing RTI at the high school level is much more complex than implementing it at the elementary or middle school level. There was a conscious decision made not to include the high school in the three days of professional learning and planning sessions because of the complexities. A similar training for the high school administration and staff will be necessary as RTI becomes a district expectation and school improvement component.

As with any initiative, the magnitude of the implementation of RTI effort lies in the quality of work as well as the significant leadership and strategic planning skills needed. To make RTI work, the staff must be committed to the idea. They must believe that the current level of student performance is too low and have the desire to make the necessary changes to their instruction to increased student performance. The RTI teams, with the site principal, will be instrumental in leading the RTI initiative at their site. Their planning and communication with each school staff will facilitate the implementation and future success of the initiative.

Research supports, and we anticipate that it will take three full years to fully implement RTI and up to five years to see the full impact of the new practices on student achievement scores. The hardest part of the implementation is teaching the staff to improve the quality of instruction and learn how to intensify instruction when student progress is insufficient. RTI must be seen as a framework for decision-making and not a model to follow lock step. It is a schema for thinking about an instructional delivery model.

According to Torgesen, research findings show that when interventions are early and effective, all but 1-4% of students reach average academic achievement (as cited in Hall, 2008). Kindergarten and first grade students will achieve success the quickest. Progress is slower in grades 2 and 3, and even slower in fourth, fifth, and sixth grade. For middle school students, one can expect to increase the number of students at benchmark by 10% each year. This percentage is even less for high school students.

Like differentiation, RTI is a complex framework that takes several years to reach proficiency with. Providing schools with the training, resources and time to plan for the effective implementation of RTI at their site has been the beginning of a journey. As stated, RTI takes three years to implement well and with fidelity, and another two years to see the academic gains associated with providing interventions. This is an area that will continue to be a focus at each site over the next three to five years.

Data Measures of Performance

Students in grades 3-8 take the AIMS (Arizona's Instrument to Measure Standards) each spring. The AIMS is a test that combines AIMS test questions and questions from the Stanford 10, nationally normed on a representative sample of students nationwide in reading/language arts and mathematics. The test assesses reading and mathematics for students in grades 3-8, writing in grades 5, 6, and 7, and science in grades 4 and 8. The test was designed to measure how well students have mastered Arizona's grade-by-grade performance objectives and to allow parents to compare their children's academic progress to their peers across the nation. Thus, the AIMS is both standards-referenced, measuring students' knowledge against the Arizona Academic Standards, and norm-referenced, comparing students' knowledge against students nationwide.

Students in the 10th grade take the high school AIMS test (AIMS HS) that is another form of the AIMS we have been giving since 2000. It is a criterion-referenced test with questions based on the Arizona Academic Standards. It assesses the three content areas of reading, writing, and mathematics and is administered to students annually in the winter and spring. It is again administered in the fall of each year to students in grades 11 and 12 who have not yet met or exceeded the standard (passed) in one or more content areas. Students must pass the reading, writing, and mathematics content areas of AIMS HS to graduate from high school. Students have at least five opportunities to pass AIMS HS.

Both the AIMS (Grades 3-8) and AIMS HS included tests of reading and mathematics, which consisted of multiple-choice items. There have been three years of data for the new writing test. Similar to past years, the test included an extended response to a writing prompt, but also included multiple-choice items. The extended response is scored with an official scoring guide, a holistic rubric based on the Six Traits of Writing.

Students in grades 2 took the Stanford 10, a national norm-referenced assessment. Students in grade 9 took the Stanford 10 and the AIMS Science. The Stanford 10 test measures reading/language arts and mathematics. AIMS Science measures general understanding of science content, the inquiry process, and problem-solving skills with an emphasis on life science (CFSD HS biology).

What Happened to AYP & No Child Left Behind (NCLB)?

The Elementary and Secondary Education Act (ESEA) was reauthorized in 2001 and then became known as No Child Left Behind (NCLB). ESEA reauthorization in the near future remains unlikely and the goal of 100% proficiency in 2014 is coming quickly.

Recognizing that state accountability and reform have changed significantly since the passage of NCLB, the U.S. Department of Education invited states to apply for ESEA flexibility (waivers) in exchange for state leadership in meeting key principles. Arizona submitted a proposal in February 2012 and the ESEA Flexibility Request was conditionally approved for SY 2013 flexibility. Arizona submitted the 2014 ESEA application in September 2013.

What does an ESEA waiver mean for Arizona and local districts? AYP determination requirements were eliminated and the following principles are in effect:

1. Adopting college- and career-ready standards and aligned assessments.
    - Arizona adopted the 2010 Arizona College and Career Readiness Standards and joined the assessment consortia, PARCC.
    - Arizona was awarded a Race to the Top grant for $25 million.
    - Arizona must meet a timeline for full implementation of the common core standards in English Language Arts and Mathematics.
2. Developing and implementing a system of differentiated recognition, accountability, and support.
    - Set ambitious but achievable AMOs in reading and math, extending proficiency to 2020 instead of 2014 (see below). All traditional subgroups from NCLB apply with a new subgroup added – the bottom quartile (BQ). Similar to the previous AMOs, the new AMOs increase each year until 100% proficiency is reached in 2020.

      The bottom quartile (BQ) was added as a new subgroup in 2012. This group is identified each academic year based on prior year performance in Reading and Mathematics. This information is critical for teachers to have when students start the school year, so that they can target academic interventions to bring those students back on track to college- and career-readiness.
    - College- and career-ready goal by grade 10 forms the basis for ADE's student growth targets.
    - Identify Title 1 reward, focus, and priority schools.
    - Identify Title 1 and Title I eligible schools with a graduation rate of less than 60% over a number of years as either Focus or Priority.

Table 27

Arizona 2012-2020 Annual Measurable Objectives for AIMS Proficiency by Grade and Subject

Arizona 2012-2020 Annual Measurable Objectives (AMOs) for AIMS Percent Proficiency by Grade and Subject

Grade	Subject	*2011 Baseline Percent Proficiency*	2012	2013	2014	2015	2016	2017	2018	2019	2020
3	Mathematics	*69*	72	76	79	83	86	90	93	97	100
	Reading	*77*	80	82	85	87	90	92	95	97	100
4	Mathematics	*66*	70	74	77	81	85	89	92	96	100
	Reading	*76*	79	81	84	87	89	92	95	97	100
5	Mathematics	*64*	68	72	76	80	84	88	92	96	100
	Reading	*80*	82	84	87	89	91	93	96	98	100
6	Mathematics	*61*	65	70	74	78	83	87	91	96	100
	Reading	*82*	84	86	88	90	92	94	96	98	100
7	Mathematics	*63*	67	71	75	79	84	88	92	96	100
	Reading	*83*	85	87	89	91	92	94	96	98	100
8	Mathematics	*56*	61	66	71	76	80	85	90	95	100
	Reading	*73*	76	79	82	85	88	91	94	97	100
10	Mathematics	*63*	67	71	75	79	84	88	92	96	100
	Reading	*79*	81	84	86	88	91	93	95	98	100

To derive the annual targets, Arizona calculated the difference between the average statewide proficiency on AIMS in the 2010-11 school year and 100% in 2020. That difference was divided into equal increments to reach 100% proficiency in 2020. These AMOs were set for each grade, separately for mathematics and reading.

3. Developing and implementing a system of teacher and principal evaluations that include valid and reliable measures in determining performance levels of students, including data on student growth.

Arizona's A-F Accountability System

The A-F Letter Grade System was signed into law in 2010. It was created to provide clear, easy-to-understand information about the overall academic performance of schools and districts/charter holders. The formula used to calculate the A-F Letter Grade is based on a point system that weights academic outcomes and academic growth equally. The schools are held accountable for the students for a full academic year (FAY), which is defined as enrollment within the first 10 days of a school's calendar year and continuous enrollment up to the first day of state-mandated AIMS testing. There are 200 points possible – 100 for academic outcomes and 100 for academic growth. A profile is developed for each district and school and a letter grade is then assigned based on the number of points received. Accountability requirements for Arizona's A – F Letter Grade System are as follows:

ARS 15-241

- Student-level performance indicators
- Model based on statutory requirements of half growth and half academic outcomes
- Other indicators of school performance

Annual Measurable Objectives (AMOs)

- Test 95% of all students
- Academic outcomes of subgroups
- Annual increase in proficiency for all AZ students

95% Tested Policy

The 95% tested policy that was implemented in 2012 carried over for the 2013 letter grades. It is a single, school-wide measure based on:

- AIMS and AIMS A for students tested in Grades 3-8 and Grade 10
- Both full academic year (FAY) and non-FAY students
- Tested = students with a valid test record AND an enrollment record showing enrollment on test date for high schools or the first day of the testing window for 3-8
- Enrolled = students enrolled in the school on test date or the first day of the testing window

In order to earn a letter grade of "A," a school had to have a percentage of 95% or higher for percent tested. For 2013, any school that tested less than 95% was considered "not met" for AMOs and ineligible for Reward status. All CFSD schools met the 95% tested policy.

Components of the A-F Letter Grade Profile

Figure 74 is a visual representation of the traditional A-F Letter Grade Profile. It shows the breakdown of the A-F letter grade components.

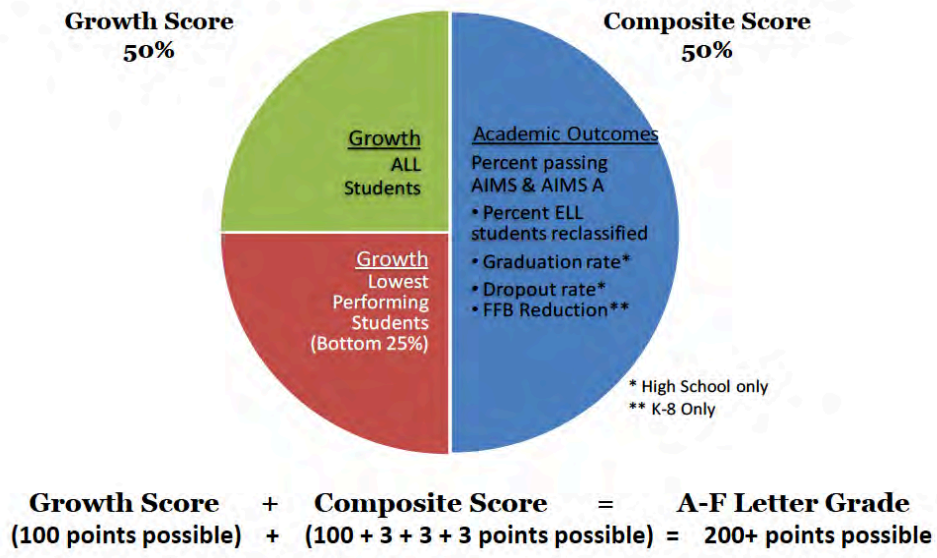


Figure 74. Arizona's A-F letter grade profile used to rank the performance of schools and districts

Achievement Composite Score

The composite score is 50% of the A-F accountability profile and worth 0 – 100 points. Figure 75 displays the data used in the composite score in the A-F letter grade accountability system.

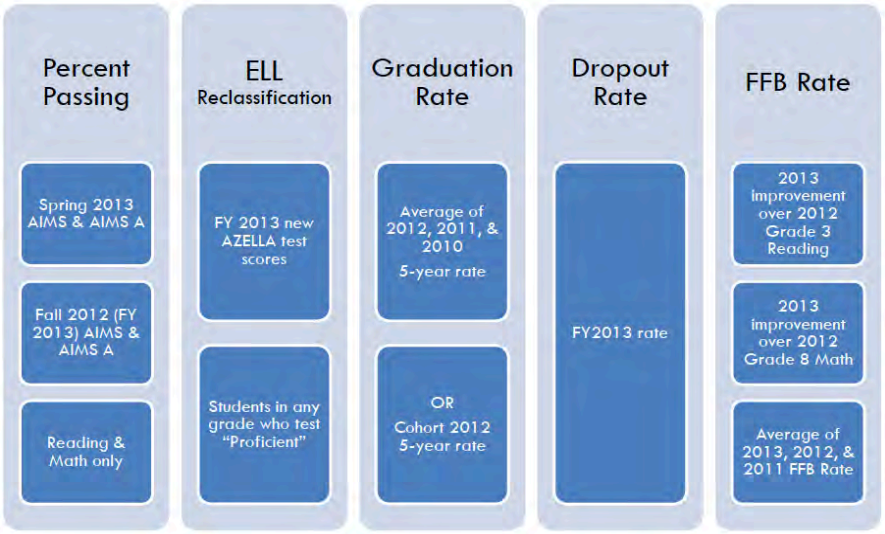


Figure 75. Data used in the composite score

The achievement component of the A-F letter grade accountability system holds schools accountable for achievement in the current year based on student proficiency on AIMS assessments in Reading and Math achievement only. (Writing and science are not used in accountability.) Proficiency is determined by calculating the percentage of full academic year (FAY) students proficient on the state standards in a given grade in Reading and Mathematics, determined as scoring "meets" or "exceeds" on the grade-level AIMS assessment (percent passing). For high school students who tested in both Fall 2012 and Spring 2013, the better score was retained. The percentage of students proficient in each subject is averaged for a school-wide average. (Example: School X's overall percentage of students passing – Reading and Mathematics – is 80%. The school earns 80 points.)

Students with the most significant cognitive disabilities who take the alternate assessment (AIMS A) are also included in the composite portion of the A-F Letter Grade Profile. Students participating in AIMS A, who have demonstrated proficiency (i.e., meets or exceeds) in the current year, are accounted for in the percent passing calculation. As illustrated in the formula below, the school-wide percent passing is calculated by adding the number of students proficient on AIMS with the number of students proficient on AIMS A and dividing that sum by the total number of students tested.

$$\frac{\text{\# of student proficient on AIMS + \# of student proficient on AIMS A}}{\text{\# of AIMS and AIMS A student enrolled at time of testing}}$$

Figure 76 and Figure 77 depict a historical perspective of the percentage of students passing AIMS reading and math for grades 3-12 for the years 2011-2013.

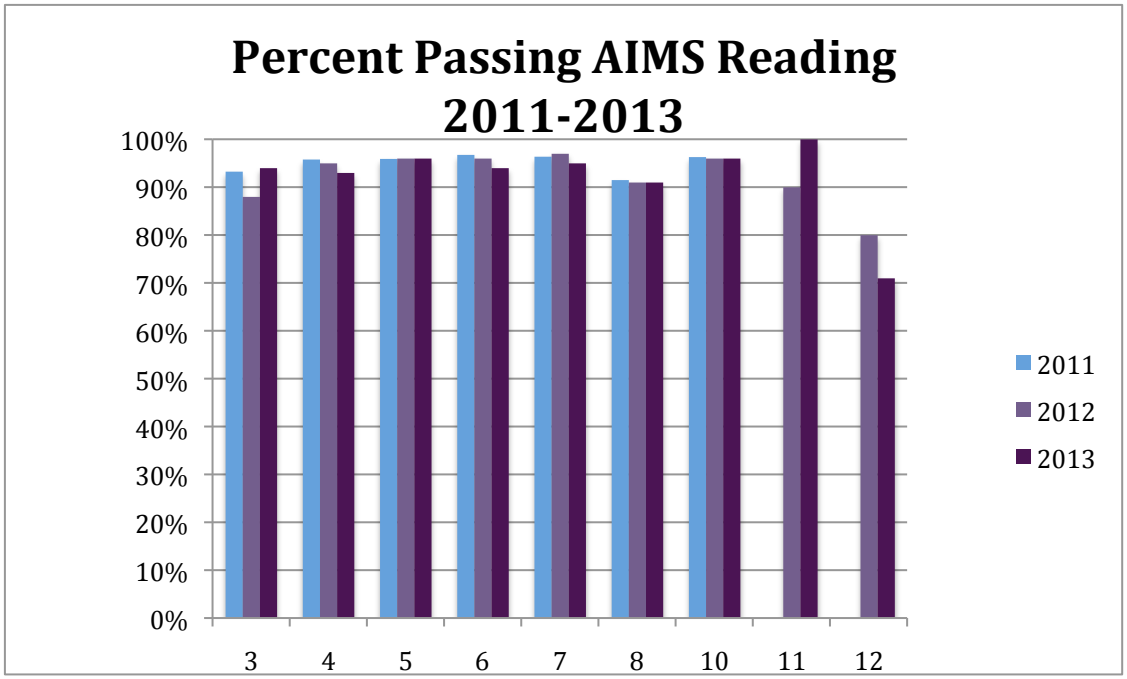


Figure 76. Percent passing AIMS reading from 2011-2013

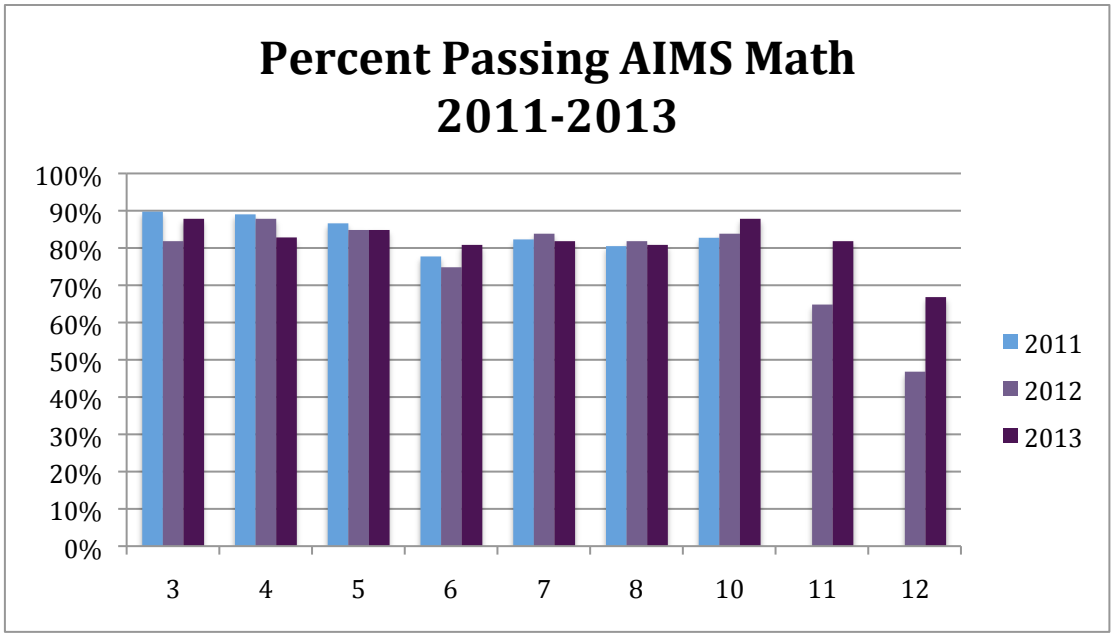


Figure 77. Percent passing AIMS math from 2011-2013

The percentage of students passing can also be analyzed by cohorts. Figure 78 and Figure 79 below show the percent passing for student cohorts in reading and math.

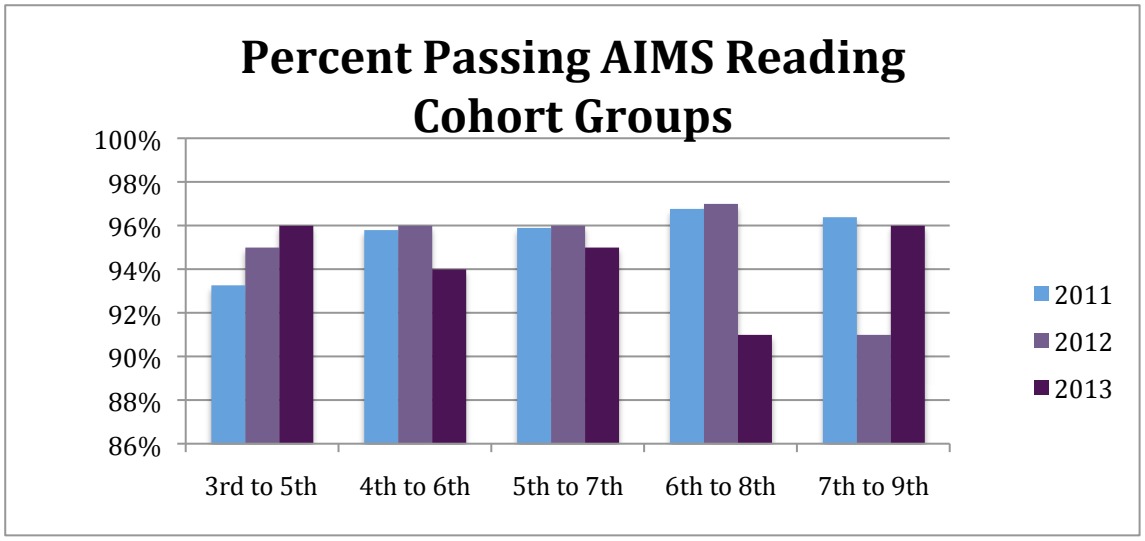


Figure 78. Percent passing AIMS reading by cohort group from 2011-2013

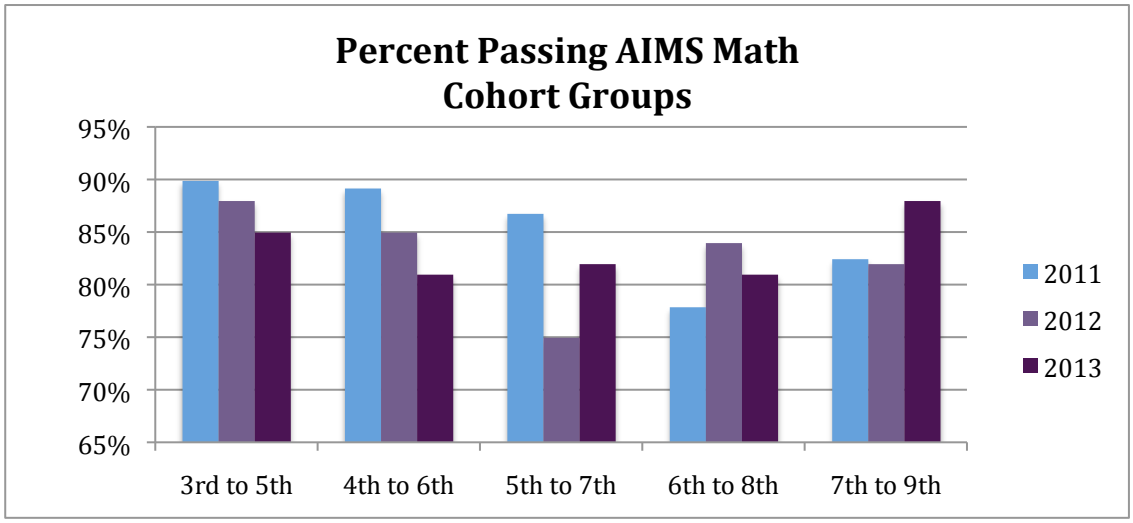


Figure 79. Percent passing AIMS math by cohort group from 2011-2013

The district composite scores from 2011-2013 are shown below in Table 28. This represents the average percentage of students who passed AIMS reading and math in the district.

Table 28

District Composite Scores from 2011-2013

District Composite Scores 2011-2013	
2011	89.55%
2012	88%
2013	89%

Composite Score – Additional Points

1. *5-Year Graduation Rate (HS only):* Criteria for graduation rate points (3) are earned in one of three ways: (1) The three-year average for five-year graduation rate is greater than or equal to 90%; (2) Current year five-year graduation rate is greater than or equal to 74% and there was a 1% increase from the previous year; (3) Current year five-year graduation rate is less than 74%, but there was a 2% increase from the previous year. The baseline year is 2006. The graduation rate from the year prior is used in the letter grade (i.e., Cohort 2012 grad rate was used for 2013 A-F profile). The four- and five-year average for CFHS is 90% for 2013.
2. *Dropout Rate (Bonus Points):* Criteria for dropout rate points (3) are earned in one of three ways: (1) three-year average dropout rate is less than or equal to 6%; (2) The current year dropout rate is less than or equal to 9%, but there is a 1% decrease from the previous year; (3) The current year dropout rate is greater than 9%, but there has been a 2% decrease from the previous year. The baseline year is 2006. The CFHS dropout rate was 0.5% for 2013.
3. *ELL Classification Rate (Bonus Points):* The English Language Learner (ELL) reclassification rate accounts for the percentage of ELLs reclassified as fluent English proficient on the Arizona English Language Learner Assessment (AZELLA) during the academic year. The Arizona State Board of Education adjusted the ELL reclassification rate criteria from 30% to 23% on May 20, 2013.

   The district and school can earn three additional points for ELL reclassification above and beyond the possible 100 from the AIMS percent passing if the district and school meets the following three criteria as described in Table 29.

   Table 29

Criteria for ELL Points

Criteria for ELL Points (3 or 0)
1. Only districts or schools with 10 or more ELL students (FAY and non-FAY) are evaluated (and eligible for ELL additional points)
2. Districts and schools must test 95% of students with an ELL need on the Spring 2013 AZELLA
3. 23% or more of FAY ELL students across all grades must be reclassified as proficient on the new AZELLA

- An ELL student is any student with an ELL need in the current or prior fiscal year and an ELL program for one or more days in the current fiscal year.
- ELL need is defined as any student with less than proficient score on AZELLA in the current or prior fiscal year.
- ELL program enrollment is defined as any student enrolled in an ELL program (SEI, Bilingual Waiver, ILLP, withdrawn by parent request in FY 2011, 2012, or 2013) for one or more days in the current fiscal year. Students withdrawn due to parent request in fiscal

year 2011 or later are included in the district's number of ELL students until they score proficient. ELL students withdrawn due to SPED criteria in the current fiscal year only are also included in the district's total number of ELL students.

- A school may earn 0 or 3 points. Manzanita, Sunrise, Ventana Vista, and the High School received the 3 bonus points. The District also received the 3 bonus points for ELL reclassification.

4. Falls Far Below Reduction (Additional Points)
   The additional points for the Falls Far Below Reduction was approved by the Arizona State Board of Education in March 2013 to begin in 2013 accountability letter grades. The purpose of the Falls Far Below reduction points is to recognize schools for the reduction in "falls far below" (FFB) in grade 3 Reading or grade 8 Mathematics. The previous year was used as a baseline for current year criteria. The average of three years included current year and two prior years.

   Any school that is ineligible for dropout points may receive 3 additional points for meeting FFB rate targets. Schools may receive 0 or 3 points for meeting any of the FFB targets in either grade 3 or grade 8. There is a maximum of 3 points regardless of meeting multiple targets. The FFB criteria to meet the target are described in Table 30 below.

Table 30

Falls Far Below Criteria to Receive Additional Points

Grade 3 Reading	Grade 8 Mathematics
"Falls Far Below" Criteria to Meet the Target	"Falls Far Below" Criteria to Meet the Target
3-year average ≤ to 3% points	3-year average ≤ to 25% points
Current year ≤ 5% (1% point annual decrease)	Current year ≤ 30% (1% point annual decrease)
Current year >5% (2% point annual decrease)	Current year > 30% (2% point annual decrease)

The additional three (3) points for the "falls far below" reduction was earned by Canyon View, Manzanita, Sunrise Drive, Ventana Vista, Esperero Canyon, and Orange Grove.

In summary, the Composite Score is 50% of the A-F accountability profile. There are 100 points possible + 9 bonus points for high school. There are 100 points possible + 6 bonus points for elementary and middle school.

Growth Score

The growth score is 50% of the A-F accountability profile and worth 0 – 100 points. The purpose of the growth component is to better understand how well a school/district is growing its students in Reading and Mathematics from one year to the next; describe the academic gain of students relative to academic peers statewide; and measure how well a school's lowest achieving students are progressing academically.

Data Used to Measure Growth

Figure 80 illustrates the data sources used to measure growth in student learning.

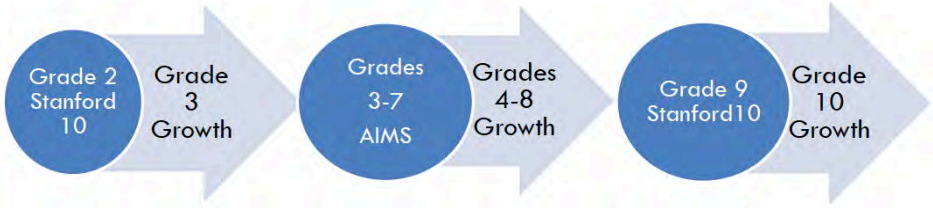


Figure 80. Data sources used to calculate student growth

Growth scores are derived in two ways.

1. *Student Level (statewide):* A percentile rank (1-99) is computed for Reading and Mathematics separately by grade for all students statewide. (Because there are only 99 points possible for Growth, all schools received one (1) additional point to their growth calculation for a total of 100 points possible on the growth portion of the model.)

    - Every student with a valid test score in 2012 and 2013 received a SGP.
    - Only FAY students count toward a school growth's score.
    - Up to five years of data may be included in the calculation of SGP.

2. *School Level (School-wide – All students):* A median* growth percentile is derived from all of the FAY students within one school by subject and grade. These two medians (i.e., Reading and Mathematics) are averaged for an "All Students" median growth percentile. (*Median is the middle of the distribution of student growth percentiles.)

Student Growth Percentiles (SGP) and median SGP help answer questions such as:

- "How well are our students scoring in relation to the performance of other students in the state with similar academic achievement history?"
- "How have our lowest performing students improved over the past school year?"

In summary, the Growth Score is 50% of the A-F accountability profile. There are 100 points possible. The average of the median growth percentile of all students ("All Student" rank) and the median growth percentile of the bottom quartile of students ("Bottom 25% rank) is the Overall Growth Score.

Figure 81 and Figure 82 below shows the median growth percentile rank for cohorts of students from 2011-2013 for both reading and math. In reading, growth in the first year was demonstrated by the third through fifth grade cohort as well as the sixth through eighth grade cohort. A significant decline in growth percentile between 2011 and 2012 was evident in the fourth through sixth grade cohort as well as the fifth through seventh grade cohort. The seventh through ninth grade cohort also experienced a decline, but it was not significant. Between 2012 and 2013, there was an increase in the growth percentile rank the seventh through ninth grade cohort as well as

the fifth through seventh grade cohort, and a slight increase in the sixth through eighth grade cohort. However, there was a significant decrease in the third through fifth grade cohort and the fourth through sixth grade cohort.

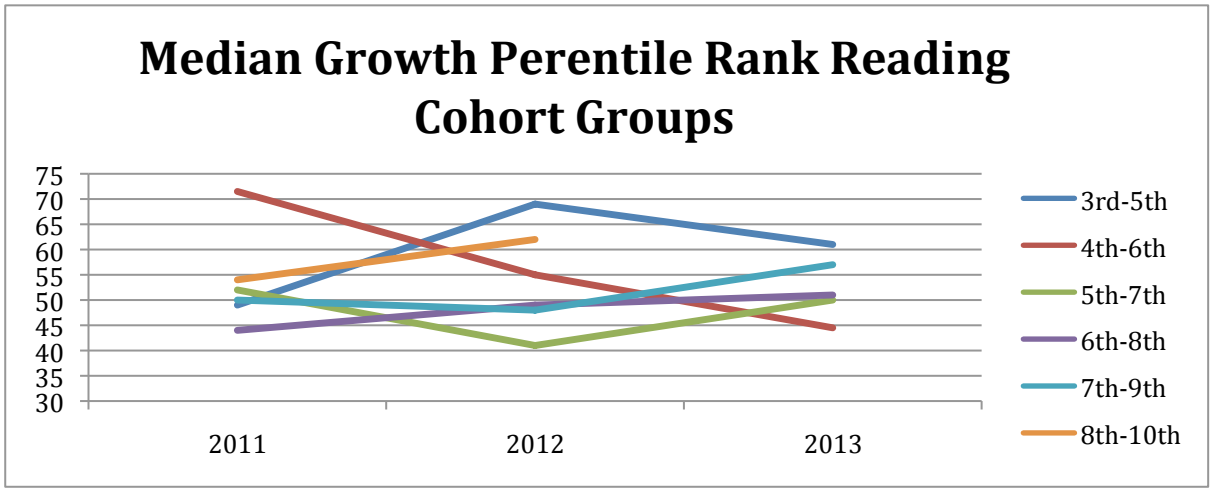


Figure 81. Median growth percentile ranks of student cohort groups for reading between 2011-2013

In math, between the 2011 and 2012 assessment years, there was a significant increase in the median percentile rank for the sixth through eighth grade cohort and an increase in the third through fifth grade cohort. The seventh through ninth grade cohort experienced a very slight increase. A significant decrease in the median growth percentile rank occurred for the fifth through seventh grade cohort, and a more slight decrease for the eighth through tenth grade cohort and fourth through sixth grade cohort. Between the 2012 and 2013 assessments, a significant gain was experienced by the fifth through seventh grade cohort and a slight increase for the seventh through ninth grade cohort. All other cohorts experienced a decrease in the median growth percentile rank for math.

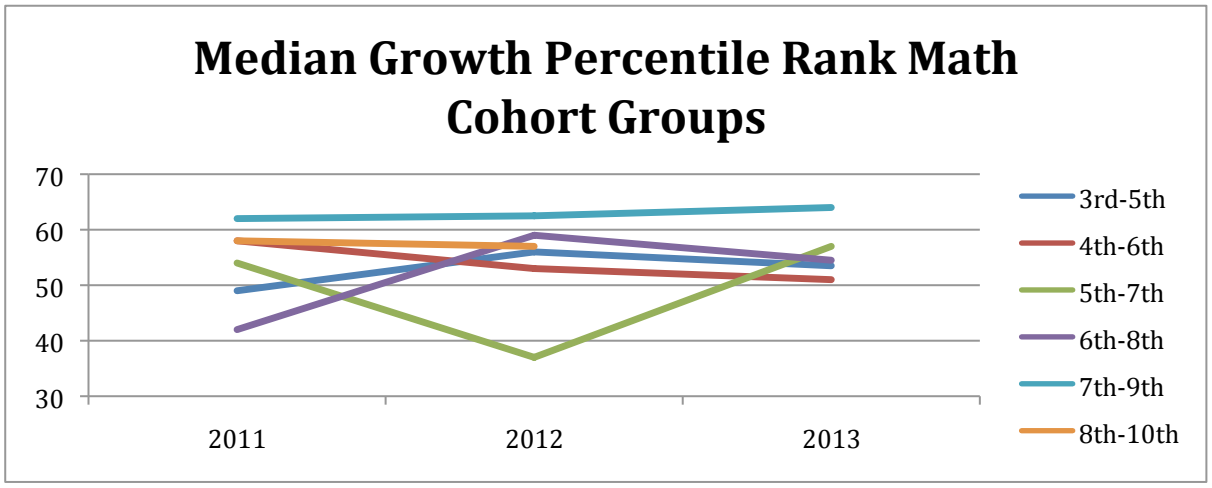


Figure 82. Median growth percentile ranks of student cohort groups for math between 2011-2013

The Bottom 25%

The growth of the Bottom 25% or bottom quartile (BQ) is half of school's growth score. The baseline year for measuring student growth was 2012. The scores were based on 7 years – 2006 or the data available for each student.

- The BQ is determined by prior year AIMS test scores (e.g., 2012-2013).
- For grades 3 & 10, prior year Stanford 10 is used.
- Students may be in BQ based on Reading and/or Mathematics performance.
- Adjusted difference score calculated for AIMS. For grades 4-8, ADE calculates the difference between each student's prior year AIMS scale score and prior year AIMS *grade level* pass score in Mathematics and Reading separately.
- Each score is adjusted for negative values by adding it to the product of their respective performance level and 1000.
- For each subject, the students are rank ordered in all tested grades to identify quartiles. The median SGP for the BQ subgroup is determined.
- The average of the Reading and Math median SGP is used to represent the typical growth of the school's lowest achieving subgroup.
- Every school has a BQ.

The percentage of district-wide students in the bottom 25% in reading is illustrated in Figure 83 and Figure 84. In reading, 45% of the bottom 25% of students is at the elementary level, with 8% coming from Canyon View, 14% from Manzanita, 14% from Sunrise Drive and 9% from Ventana Vista. The middle school represents 39% of the bottom 25% of students, district-wide, with 22% from Esperero Canyon and 17% from Orange Grove. The high school represents 16% of the bottom 25% in the district. The percentages reflect 100% of the bottom 25% of students.

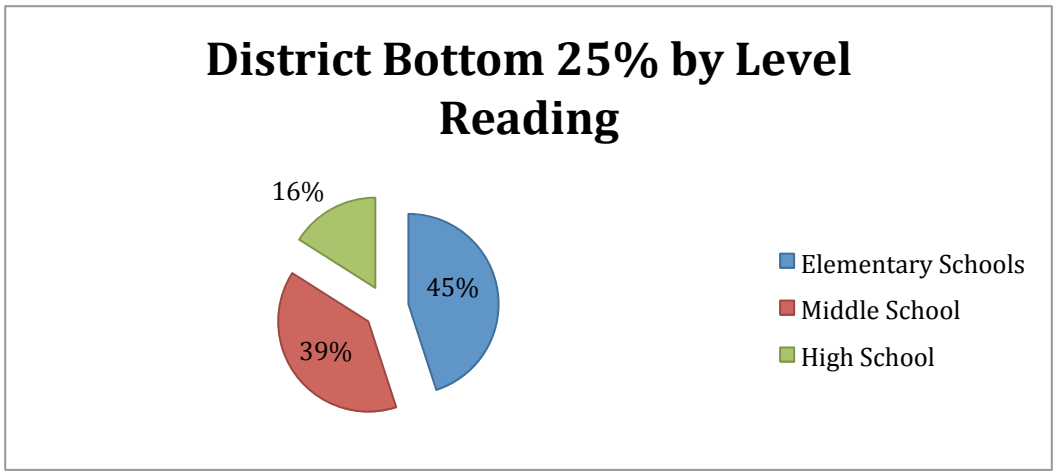


Figure 83. Bottom 25% of students, district-wide, by level in reading

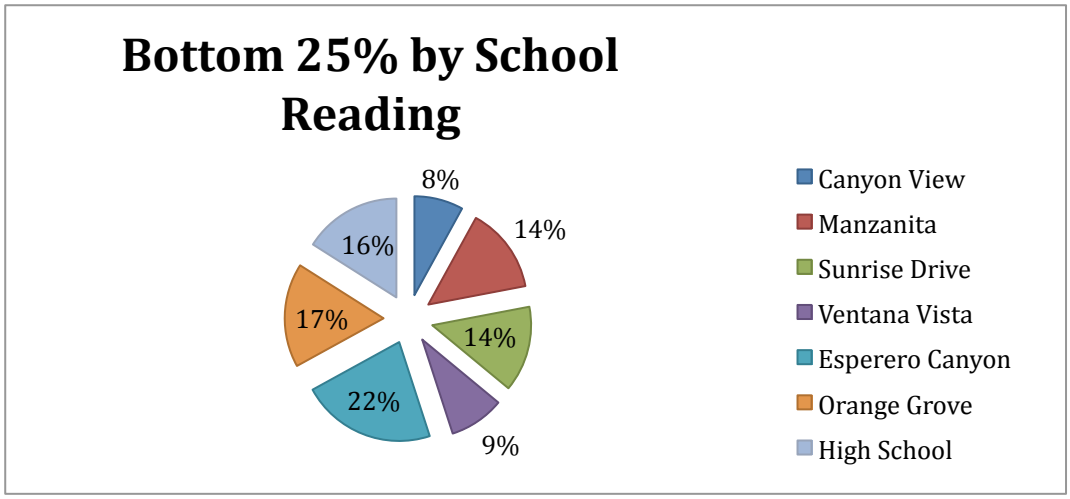


Figure 84. Bottom 25% of students by school in reading

The percentage of students, district-wide, in the bottom 25% in math is illustrated in Figure 85 and Figure 86 below. The elementary schools represent 39% of the district bottom 25% of students with Canyon View at 7%, Manzanita and Sunrise Drive both at 12%, and Ventana Vista at 8%. The middle school represents 47% of the bottom 25% of students in the district with 25% from Esperero and 22% from Orange Grove. The high school represents 14% of the district's bottom 25% of students.

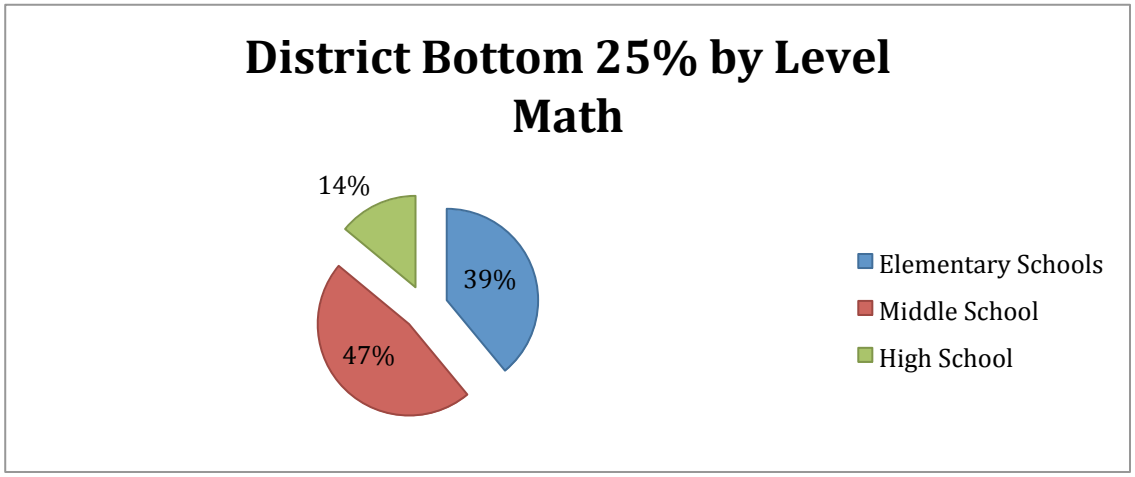


Figure 85. Bottom 25% of students, district-wide, by level in math

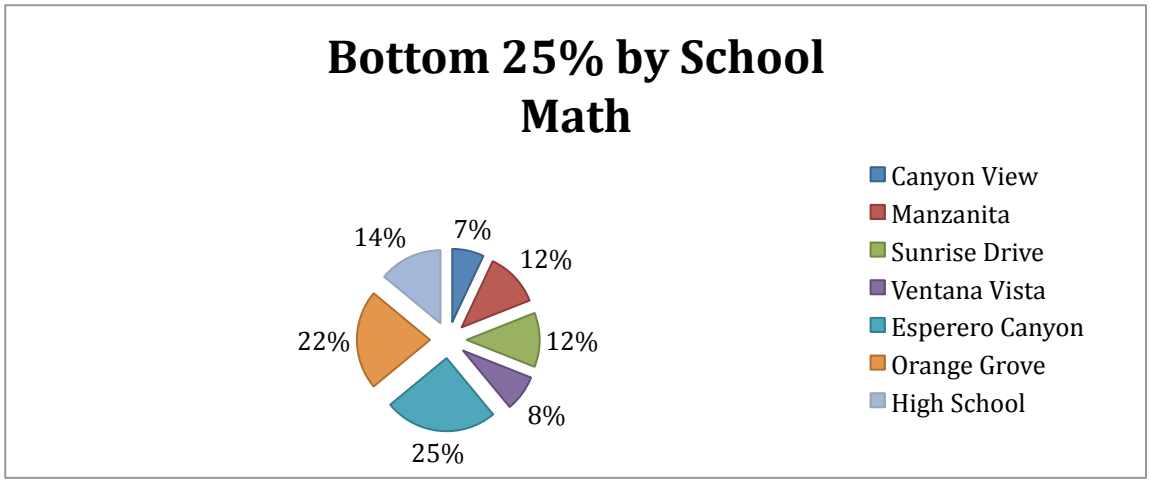


Figure 86. Bottom 25% of students by school in math

The number of students who are tested at each school impacts the percentage of students in the bottom 25%. At the elementary level, only 3rd-5th graders are tested. At the middle schools, all students in all grades are tested. At the high school level, all tenth graders as well as eleventh and twelfth graders who have not passed AIMS are tested.

Overall Growth Score

The Composite Score (100 points possible) + Growth Score (100 points possible) = A-F Accountability Profile (200 points + Bonus points). At the district level, aggregate scores are used from all of the qualifying schools to determine a district letter grade.

Table 31 describes the A-F Accountability Letter Grade Scores that were approved by the Arizona State Board of Education.

Table 31

Description of Letter Grades

140+	A	Demonstrate an **excellent** level of performance
120-139	B	Demonstrate an **above average** level of performance
100-119	C	Demonstrate an **average** level of performance
Less than 100	D	Demonstrate a **below average** level of performance
N/A	F	Demonstrate a **failing** level of performance

"F" Schools are those that rank as a "D" school for three consecutive years. "F" schools are placed under the school improvement process by the Arizona Department of Education so that they can receive extra support and resources.

Table 32 shows the letter grade and scores for traditional schools. The high school may earn up to 209 total points. The elementary/middle schools may earn up to 206 total points.

Table 32

Traditional Schools Letter Grade Scores

TOTAL SCORE			
A	B	C	D
140-200	120-139	100-119	0-99

Table 33 shows CFSD district and school letter grades and scores from 2010-2013.

Table 33

CFSD District and School Letter Grades for 2011-2013

	2011		2012		2013	
School/District	**Score**	**Grade**	**Score**	**Grade**	**Score**	**Grade**
Canyon View	149	A	143	A	151	A
Manzanita	143	A	155	A	164	A
Sunrise Drive	152	A	141	A	153	A
Ventana Vista	157	A	154	A	146	A
Esperero Canyon	133	B	140	A	135	B
Orange Grove	145	A	141	A	150	A
High School	155	A	157	A	163	A
District	154	A	152	A	155	A

Analysis of 2011 Assessment Results

The 2011 AIMS test administration was the seventh year the tests were aligned to the 2003 content standards in reading and writing. However, the scale scores for the tests that were established in 2005 remained the same for 2006-2011 in reading only. The writing scale scores were changed in 2011 due to a new writing test. Therefore, the scale scores from 2005 can be compared to those of 2006-2011 for reading, but not for writing. The 2011 AIMS test administration was the second year the tests were aligned to the 2008 mathematics standard. The scale scores for the math tests that were established in 2010 remained the same for 2011, providing the district with comparable data in mathematics.

Looking at this year's results alone, the district's mean scale scores somewhat vary with that of the state on the subtests of reading and mathematics. The state's results, which typically have been near the bottom of the range of scores that "meet the standard," are moving toward or are at the middle of that range. The district's results are near or at the top of the range of scores that "meets the standard" in reading with an increase in results at grades 4, 6, 7, and 10. There was a significant increase in reading at grade 4. District math scores improved at most grade levels with the exception of grades 5, 8, and 10 where there were slight decreases. There was a significant increase in math at grade 4 moving this grade level to the "exceeds" range along with the high school. 2011 was the second year of the new mathematics test.

The scale scores for 2011 AIMS Writing cannot be compared to the 2010 scale scores because they were changed to reflect a new test. The new test included an extended response to a writing prompt, similar to past years, but also included the addition of multiple-choice items. The extended response was scored with the new Official Scoring Guide, the Holistic Rubric Based on the Six Traits. The writing test is only administered at grades 5, 6, 7, and High School. This year's writing results show the mean scale scores at the middle of the "meets" range.

The Science AIMS mean scale score at grade 4 was about the same when compared to 2010, with the exception of Sunrise Drive, which had a significant increase in percent passing. There were also increases at both the middle and high school levels. Tables 34-37 shows the mean scale scores for CFSD compared to the state of Arizona for 2011-2013. The numbers in the parentheses represent the increase or decrease in the average scale scores for each grade level when compared from 2010 to 2011.

Analysis of 2012 Assessment Results

The 2012 AIMS test administration was the eighth year the tests were aligned to the 2003 content standards in reading and writing. However, the scale scores for the tests that were established in 2005 remained the same for 2006-2012 in reading only. The writing scale scores were changed in 2011 due to a new writing test. Therefore, the scale scores from 2005 can be compared to those of 2006-2012 for reading, but not for writing. The 2012 AIMS test administration was the third year the tests were aligned to the 2008 Mathematics Standard. The scale scores for the math tests that were established in 2010 remained the same for 2012, providing the district with comparable data in mathematics.

Looking at this year's results alone, the district's mean scale scores vary with that of the state on the subtests of reading, writing, and mathematics. The state's results, which typically have been near the bottom of the range of scores that "meet the standard," are moving toward or are at the middle of that range. The district's overall results, which were near or at the top of the range of scores that "meets the standard" in previous years, have declined overall with the exception of grades 4, 7, and 10 in mathematics. Overall mean scores at those grades were in the "exceeds" range with an increase of 6 points at grade 7. Although the overall score for grade 10 is in the "exceeds" range, it is near the bottom of the range of scores for "exceeds" with a 12-point decline over two years. 2012 was the third year of the new mathematics test.

While the mean scores in reading increased 1-5 points at most levels across the state, mean scores declined 4-9 points in CFSD, with the exception of grades 5 and 7. Third grade mean scores declined by 10 points over a two-year period. Whereas grade 4 had an increase in reading of 13 points in 2011, the overall mean score declined by 9 points in 2012.

This was the second year of the new writing test. The test included an extended response to a writing prompt and also included multiple-choice items, which were embedded in the reading test. The extended response was scored with the ADE's official holistic rubric based on the six traits. The writing test is only administered at grades 5, 6, 7, and 10. This year's writing results show the mean scale scores at the middle of the "meets" range with the exception of grade 5, which increased their mean scale score by 20 points. The overall mean score for grade 5 is now at the top of the range for "meets." The overall mean score for grade 7 increased by 11 points.

For 2012, grade 5 had an "expressive" writing prompt and grade 7 had a persuasive writing prompt.

The overall mean scores for grades 5 and 7 increased in all areas tested for 2012, with the largest increases in writing. Scores at grade 6 declined in all areas tested, with the largest decrease in mathematics. There was little change in the AIMS science scores, with the district outperforming the state by 20 or more points at grades 4 and 8 and by 16 points at grade 9. The mean scores on AIMS Science at grade 9 have increased over the last three years from 73% to 83%. Tables 34-37 show the mean scale scores for CFSD compared to the state of Arizona for 2011-2013. The numbers in the parentheses represent the increase or decrease in the average scale scores for each grade level when compared from 2011 to 2012.

Analysis of 2013 Assessment Results

The 2013 AIMS test administration was the ninth year the tests were aligned to the 2003 content standards in reading and writing. However, the scale scores for the tests that were established in 2005 remained the same for 2006-2013 in reading only. The writing scale scores were changed in 2011 due to a new writing test. Therefore, the scale scores from 2005 can be compared to those of 2006-2013 for reading, but not for writing. The 2013 AIMS test administration was the fourth year the tests were aligned to the 2008 Mathematics Standard. The scale scores for the math tests that were established in 2010 remained the same for 2013, providing the district with comparable data in mathematics.

Looking at this year's results alone, there was no change or minor fluctuations in the state's overall scores. Scale scores were up or down one to four points for reading, writing, and math. State scores were down at all levels where science is tested. Although scores for AIMS Science remain consistently high at all levels in CFSD, similar to the state trend, there were decreases of 4 to 8 points at each level, with a two-year decline seen at grade 4. The state's results, which typically have been near the bottom of the range of scores that "meets the standard," in previous years are moving toward or are at the middle of that range. The district's overall results are generally near or at the top of the range of scores that "meets the standard" with the exception of science, which is in the range of scores for "exceeds."

The district's mean scale scores are similar to the state's pattern of scores in reading with the exception of grades 3 and 10. The scale scores for 3rd grade reading improved by 10 points. However, 10th grade reading decreased by 6 points. At the elementary level, reading interventions were focused on grades K-3. The 2012-13 school year was the second year of full implementation of Arizona's College and Career Ready Standards (AZCCRS) at grades K-5. The high school was transitioning to full implementation of the AZCCRS.

It is important to note that 1% (6 students) of third graders performed at "Falls Far Below" in reading. Although the law on third grade retention did not impact these students, it demonstrates the importance of using other measures at K-2 to identify the students most at-risk of not meeting the standards prior to the year they take AIMS to decrease the possibility of retention at the end of third grade.

There was a dramatic dip in this year's writing results at grades 5 and 7. Whereas the mean scale score for 5th grade writing had increased by 20 points in 2012, it decreased by 19 points in 2013. Similarly, 7th grade results were up by 11 points in 2012, but decreased by 26 points in 2013. Both cohorts of students are currently at middle school (6th and 8th grades), indicating the need for significant targeted interventions. There has been little variance in writing scores at the high school level with scores hovering at the upper end of the range of scores at "meets" and the beginning of the range for "exceeds."

In response to the writing scores and the increased demands in the AZCCRS, CFSD recently revised its district common writing assessments at grades 1-12. Each writing assessment is a performance task that presents an engaging, real-world scenario and a set of accompanying documents. Students are asked to analyze the documents in order to address a problem. They must examine the strengths and weaknesses of different points of view or courses of action. In addition, they may need to weigh different types of evidence, evaluate the credibility of the evidence, and identify questionable assumptions in order to craft a written response that addresses the stated problem. We contend that performance tasks, such that will be used in writing, provide one viable approach to the development and assessment of transferrable higher-order learning. Additionally, they are critical to assessing important aspects of Arizona's College and Career Ready Standards in cross-disciplinary contexts. Over time, we expect to see a consistent and upward trend in the writing results for CFSD students.

Over a two-year period, there was an overall decline of 14 point in the mean scale score for math at grade 4. This resulted in a movement from the range of scores in "exceeds" back to the "meets" range. Likewise, grade 7 saw a significant decline of 34 points in 2013. After edging back into the "exceeds" range in 2011 and 2012, grade 7 moved back within the "meets" range of scores. These scores reflect our current 5th and 8th grade students. For our current 8th grade students, this is the second area that indicates a need for extensive interventions. For 3rd grade, however, there was an increase in the mean score by 11 points, moving this grade level into the "exceeds" range of scores. After losing ground in 2012 by 10 points, the 6th grade math score increased by 10 points in 2013, representing no growth, overall, at this grade level over three years. Scores were about the same at grades 8 and 10.

This year, the ADE provided schools/districts with target scores at grades 3-7. Achievement of the target score or higher on AIMS is an indication that a student is likely to be successful in the future with Arizona's College and Career Ready Standards. College and Career Ready (CCR) target scores were also calculated for the class of 2012 (Spring 2013 10th grade students). These scores were also aimed at predicting college and career readiness for this cohort of students. The Target Scores were calculated for grades 3-7 by the National Center for Educational Achievement (NCEA), which is a department of ACT Inc., a not-for-profit organization. ADE, using a similar methodology calculated the Target Scores for grade 10. All CFSD schools created a SMART goal to increase "target scores" as part of their school improvement plans for 2013-14. Tables 34-36 display the AIMS results for grades 3-8 and 10 from 2011-2013. The percentage of students who met the target score is indicated in the last two columns of the table. There are no target scores for grade 8.

In all cases, it is important to note that AIMS scores reflect different groups of students each year. Additionally, we must also remember that the state uses the term “standard” in two different ways. The Arizona Academic Standards are what a student is expected to learn during a designated school year. The Achievement/Performance Level Standards, which are illustrated by the Performance Level Descriptors, describe a student’s performance on the AIMS.

When Arizona educators set the "standard" or cut point on AIMS, they first established the “Meets the Standard” cut point which delineates the minimal expectation for student understanding of the Academic Standards. A student who “Exceeds the Standard” demonstrates proficiency on the majority of the Arizona performance objectives for a grade level. If proficiency on AIMS was based on demonstrating an understanding of all grade level performance objectives, few students would “Meet the Standard.” Students who "Exceed the Standard" on AIMS are not exceeding the academic standards at their grade level; they are only exceeding the "standard" set for the cut point. Our goal is to move students beyond “meeting” to “exceeding” the standard by engaging students in tasks that require them to use knowledge and/or create/innovate utilizing cross-disciplinary content, contexts, and resources. CFSD has been consistent in its messaging about its focus on critical thinking, problem solving, and complex tasks to produce deep learning. Meeting the state "standard" for AIMS is a minimal expectation for performance.

Annually, all sites examine their overall and individual student scores and develop strategies and interventions to increase the academic success of all students. The A-F letter grade system provides other data, such as the student growth percentile data that warrants our attention: student growth percentiles, median growth percentiles, and those students who are falling into the bottom 25%. The students identified in the bottom quartile did not make adequate growth when comparing AIMS scores from the previous year to the current year. Students who have met or exceeded the standard may fall into this group when compared to their academic peers across the state. Our goal is to not only improve the aggregate scores of percent improving on AIMS, but also the growth of individual students. Additionally, the AMO subgroup determinations, overall, are strong for CFSD. The middle school has the largest proportion of students in the bottom 25% of the district’s bottom 25% for math, and the elementary level has the largest proportion for reading. All schools created SMART goals to increase student achievement in reading, writing, and math. Each school selected research-based instructional strategies to implement and will determine the professional development that will be required for teachers to implement the strategies.

Tables 34-37 display the mean scale scores for CFSD compared to the state of Arizona for 2011, 2012, and 2013. The numbers in the parentheses represent the increase or decrease in the average scale scores for each grade level from year-to-year for comparison purposes. These increases and decreases are shown for new groups of students at each grade level, not a cohort of the same students. The color-coded areas indicate same groups of students (cohort).

Table 34

Historical Perspective of AIMS Mean Scale Score Performance Levels for Reading for same student cohort for 2011-2013

Grade	Performance Level	Scale Score	Reading 2011		Reading 2012		Reading 2013	
			AZ	**CFSD**	**AZ**	**CFSD**	**AZ**	**CFSD**
3rd	Meet	431-515	461 (+1)	**493 (-4)**	463 (+2)	**487 (-6)**	464 (+1)	**497 (+10)**
	Exceed	516-640						
4th	Meet	450-535	484 (+4)	**529 (+13)**	482 (-2)	**520 (-9)**	484 (+2)	**518 (-2)**
	Exceed	536-660						
5th	Meet	468-555	502 (+6)	**530 (-3)**	503 (+1)	**534 (+4)**	505 (+2)	**537 (+3)**
	Exceed	556-675						
6th	Meet	478-570	515 (+7)	**542 (+7)**	516 (+1)	**538 (-4)**	515 (-1)	**540 (+2)**
	Exceed	571-690						
7th	Meet	489-586	531 (+7)	**562 (+6)**	536 (+5)	**563 (+1)**	538 (+2)	**564 (+1)**
	Exceed	587-720						
8th	Meet	499-601	527 (-2)	**562 (=)**	526 (-1)	**556 (-6)**	526 (=)	**558 (+2)**
	Exceed	602-800						
10th	Meet	674-772	710 (+4)	**754 (+9)**	714 (+4)	**750 (-4)**	715 (+1)	**744 (-6)**
	Exceed	773-900						

Note: (=) indicates no change in score

The mean scale scores for AIMS reading for all cohorts overall fall within the middle to upper range of "meets." Tenth grade cannot be included in a cohort group comparison as there is a year between the eight grade AIMS test and the tenth grade AIMS test, so it is not the same group of students being assessed. Overall, there is very little change in reading performance within each cohort group. In order to improve reading achievement, it will be necessary to increase the complexity of the reading materials and the amount of time spent reading informational text across disciplines. Instruction will need to focus on building the academic vocabulary needed to access grade level complex texts. This means focusing strategically on comprehension of essential and commonly found words and less on obscure literary terms. Students need to have rich and rigorous conversations around central texts and develop habits for making evidentiary arguments both in conversation, as well as in writing to assess comprehension of a text.

Table 35

Historical Perspective of AIMS Mean Scale Score Performance Levels for Mathematics for same student cohort for 2011-2013

Grade	Performance Level	Scale Score	Mathematics 2011		Mathematics 2012		Mathematics 2013	
			AZ	**CFSD**	**AZ**	**CFSD**	**AZ**	**CFSD**
3rd	Meet	347-405	371 (+6)	**405 (+1)**	373 (+2)	**398 (-7)**	373 (=)	
	Exceed	406-540						**409 (+11)**
4th	Meet	366-415	385 (+6)		388 (+3)		385 (-3)	**412 (-10)**
	Exceed	416-560		**426 (+19)**		**422 (-4)**		
5th	Meet	381-435	397 (+5)	**426 (-5)**	398 (+1)	**433 (+7)**	397 (-1)	**425 (-7)**
	Exceed	436-580						
6th	Meet	398-445	412 (+5)	**442 (+8)**	414 (+2)	**432 (-10)**	414 (=)	**442 (+10)**
	Exceed	446-600						
7th	Meet	411-459	426 (+4)		430 (+4)		430 (+4)	**432 (-34)**
	Exceed	460-620		**460 (+3)**		**466 (+6)**		
8th	Meet	426-474	435 (+1)	**469 (-3)**	438 (+3)	**474 (+5)**	439 (+1)	**472 (-2)**
	Exceed	475-640						
10th	Meet	487-536	501 (+2)		501 (=)	**536 (-4)**	501 (=)	**534 (-2)**
	Exceed	537-700		**540 (-8)**				

Note: (=) indicates no change in score

In math, some of the mean scale scores fell in the "meets" range while others fell in the "exceeds" range. In 2011, the third through fifth grade cohort (blue) was in the "meets" range. That cohort increased their mean scale score in 2012 to move within the "exceeds" range. However, as fifth graders, they slightly increased their mean scale score, but their performance category fell back into the "meets" range. There was very little variance in the mean scale score for the fifth through seventh grade cohort, which fell within the "meets" range for all three years. The mean scale score for the sixth through eighth grade cohort (purple) shifted from "meets" to "exceeds" in 2012 and then fell back to a mean scale score within the "meets" range for 2013. The seventh to eighth grade cohort experienced a drop in the performance level – "exceeds" to "meets." There was little growth in mathematics from 2011 to 2013 for each cohort. The mathematics standards changed during this period of time. All students are expected to achieve the Arizona College and Career Ready Standard (AZCCRS), which include the eight

mathematical practices. Instruction needs to focus on the mathematical practices within the context of the math content at each grade level. This means teaching is not so much as "how to get the answer" but instead to support students' ability to access concepts from a number of perspectives. Teachers will need to engage students in mathematical experiences that allow students to demonstrate deep conceptual understanding of core math concepts by applying them to new situations, including application of math concepts in "real world" situations, as well as writing and speaking about their understanding. These practices will likely result in students being able to solve more complex mathematical problems and use critical thinking skills, including metacognitive skills (thinking about thinking), effectively and efficiently.

Table 36

Historical Perspective of AIMS Mean Scale Score Performance Levels for Writing for same student cohort for 2011-2013

Grade	Performance Level	Scale Score	Writing 2011		Writing 2012		Writing 2013	
			AZ	**CFSD**	**AZ**	**CFSD**	**AZ**	**CFSD**
3rd	Meet		N/A	N/A	N/A	N/A	N/A	N/A
	Exceed							
4th	Meet		N/A	N/A	N/A	N/A	N/A	N/A
	Exceed							
5th	Meet	494-600	499	**535**	501 (+2)	**555 (+20)**	501 (=)	**536 (-19)**
	Exceed	601-700						
6th	Meet	493-580	499	**535**	501 (+2)	**528 (-7)**	499 (-2)	**530 (+2)**
	Exceed	581-700						
7th	Meet	495-594	499	**537**	500 (+1)	**548 (+11)**	496 (-4)	**522 (-26)**
	Exceed	595-700						
8th	Meet		NA	**N/A**	N/A	N/A	N/A	N/A
	Exceed							
10th	Meet	480-586	499	**534**	501 (+2)	**533 (-1)**	503 (+2)	**538 (+5)**
	Exceed	587-700						

Note: (=) indicates no change in score

The AIMS writing assessment is taken in grade 5, 6, and 7. The fifth through seventh grade cohort is the only group we have three years of data for. This cohort of students (green) experienced a decline in the mean scale score for 2012 and 2013. All three years of scores were in the middle of the meets range. The sixth to seventh grade students mean the average scale score from 2012 to 2013, but the performance level is still in the middle of the meets range. Similar to reading and math, there is little overall growth in writing scores for cohorts of students. Given the new English language arts (ELA) standards for writing, instruction will need to emphasize the use of evidence to inform or to make an argument. Students will need to have many opportunities to participate in short, focused research projects and develop skills through

written arguments that respond to ideas, events, facts, and arguments presented in the texts they listen to and read. Content area teachers outside of the ELA classroom need to emphasize reading and writing in their planning and instruction for teaching the content. Students will need many opportunities to learn through domain-specific texts in science, social studies, and technical subjects (CTE) and by writing informative/explanatory and argumentative pieces.

Table 37

Historical Perspective of AIMS Mean Scale Score Performance Levels for Science for same student cohort for 2011-2013

Grade	Performance Level	Scale Score	Science 2011		Science 2012		Science 2013	
			AZ	**CFSD**	**AZ**	**CFSD**	**AZ**	**CFSD**
4th	Meet	500-546	519 (+6)		519 (=)		513 (-6)	
	Exceed	547-800		**585 (+20)**		**574 (-11)**		**570 (-4)**
8th	Meet	500-531	515 (+5)		519 (+4)		516 (-3)	
	Exceed	532-800		**552 (+2)**		**557 (+5)**		**549 (-8)**
9th	Meet	500-536	524 (+8)		526 (+2)		517 (-9)	
	Exceed	537-800		**539 (+3)**		**554 (+15)**		**546 (-8)**

Note: (=) indicates no change in score

Aims science assessment is taken in fourth, eighth, and ninth grade. The eighth to ninth grade students can be tracked as a cohort, but the fourth to eighth grade students cannot. From 2011 to 2012 (purple), the eighth to ninth grade students increased the mean scale score slightly, but are in the low end of the exceeds range. In 2012 to 2013 the eighth to ninth grade students (peach) decreased the average scale score, and remained in the lower end of the exceeds range. To enable more growth, students will need to continue to experience inquiry-based science that requires scientific reasoning and argumentation.

Table 38 provides a history of the percentage of students passing AIMS Writing (meets and exceeds) for 2011-2013 for grades 5, 6, 7 and 10. These are the only grades that take the AIMS writing assessment. A look horizontally indicates the three years of writing scores for each of the grade levels. From this vantage point, the percentage of district students passing the AIMS writing assessment each year has remained fairly constant. However, when one looks diagonally at a cohort of students, there is a noticeable decrease in the percentage of students passing writing between the fifth and sixth grade. This was consistent between the two cohorts of students represented in the data set. Between 2011 and 2012, the sixth to seventh grade students experienced a slight decrease in the percentage of students passing AIMS writing, but it was not significant. Likewise, there was a very slight increase (1%) in the percentage of students passing

AIMS writing between 2012 and 2013, but it was not significant. The high school has consistently high percentages of students passing the AIMS writing assessment in tenth grade. Each of the three years was above 90% passing.

The decrease of student writing scores between fifth and sixth grade and then again between sixth and seventh grade is an area to explore. Educators need to examine the current status of writing instruction and how students are assessed in writing. Instruction will need to emphasize the use of evidence to inform or to make an argument. Students will need to have many opportunities to participate in short, focused research projects and develop skills through written arguments that respond to ideas, events, facts, and arguments presented in the texts they listen to and read. The Arizona College and Career Ready Standards require students to write in all content areas. Therefore, increased opportunities for reading complex texts and writing informative/explanatory and argumentative pieces across all disciplines will likely increase student proficiency in writing.

Table 38

AIMS Writing Scores for 2011-2013

AIMS WRITING		2011	2011	2011	2012	2012	2012	2013	2013	2013
School	Grade	% Meets	% Exceeds	% M & E	% Meets	% Exceeds	% M & E	% Meets	% Exceeds	% M & E
CV	5	**64**	**17**	**81**	62	24	**87**	71	15	**86**
MZE	5	**70**	**11**	**82**	81	9	**91**	68	11	**79**
SDS	5	**68**	**13**	**81**	74	14	**88**	75	12	**88**
VV	5	**75**	**17**	**92**	62	23	**85**	74	9	**83**
CFSD	5	**69**	**14**	**83**	70	17	**88**	72	12	**84**
State	5	**50**	**5**	**55**	52	3	**56**	52	4	**56**
EC	6	**60**	**20**	**80**	58	21	**79**	57	21	**77**
OG	6	**69**	**19**	**88**	65	13	**78**	61	15	**76**
CFSD	6	**65**	**19**	**84**	61	17	**78**	59	18	**76**
State	6	**49**	**7**	**56**	49	8	**56**	47	6	**54**
EC	7	**56**	**19**	**75**	55	22	**77**	71	7	**78**
OG	7	**70**	**20**	**89**	59	26	**85**	78	2	**80**
CFSD	7	**63**	**19**	**82**	57	24	**81**	74	4	**79**
State	7	**47**	**6**	**53**	47	5	**52**	50	2	**52**
HS AIMS										
CFHS	10	**78**	**13**	**92**	85	9	**94**	77	14	91
CFSD	10	**78**	**13**	**92**	85	9	**94**	77	14	91
State	10	**62**	**5**	**67**	66	4	**70**	65	5	70

* 2011 test scores reflect new writing test

AIMS Writing not administered at grades 3, 4, and 8 from 2010-2012

Note: % Meets & Exceeds includes rounding; all scores reflect final scores from Arizona Department of Education

Table 39 provides a history of the percentage of students passing AIMS science (meets and exceeds) for 2011-2013 for grades 4, 8, and 10. These are the only grades that take the AIMS science assessment. When looking horizontally at specific grade levels, science achievement has remained steady. At the fourth grade level the percent passing was between 90-94% for the three years. At the middle school, the achievement remained at 91% for all three groups of eighth graders. There was variability at the high school between years. The percent passing the AIMS science assessment was between 79-83%. It is possible to look diagonally, at a cohort of students between eighth and ninth grades. Between 2011 and 2012, the eighth grade cohort of students experienced a significant drop in the percent of students passing AIMS from 91% as eighth graders to 83% as ninth graders. Again, between 2012 and 2013, the percentage of students passing AIMS science dropped from 91% as eighth graders to 82% as ninth graders. AIMS science at the HS is tested at ninth grade in CFSD to align with the year students take their life science course (biology).

To enable more growth, students will need to continue to experience inquiry-based science that requires scientific reasoning and argumentation. A transition between the middle school and high school science may need to be examined and support provided to incoming ninth grade students to be successful in inquiry-based science at the high school level.

Table 39

AIMS Science Scores for 2011-2013

AIMS SCIENCE		2011	2011	2011	2012	2012	2012	2013	2013	2013
School	Grade	% Meets	% Exceeds	% M & E	% Meets	% Exceeds	% M & E	% Meets	% Exceeds	% M & E
CV	4	25	67	**92**	21	69	**90**	18	73	**91**
MZE	4	15	81	**96**	22	76	**98**	20	70	**90**
SDS	4	18	78	**96**	21	76	**96**	21	68	**88**
VV	4	23	67	**89**	14	76	**90**	28	61	**89**
CFSD	4	20	74	**94**	20	74	**94**	21	68	**90**
State	4	29	31	**60**	32	31	**63**	32	26	**58**
EC	8	17	71	**89**	26	62	**88**	27	61	**88**
OG	8	19	74	**93**	18	77	**95**	17	78	**94**
CFSD	8	18	73	**91**	22	70	**91**	22	69	**91**
State	8	24	39	**63**	28	39	**68**	30	36	**66**
HS AIMS										
CFHS	9	27	51	**79**	23	60	**83**	28	54	**82**
CFSD	9	27	51	**79**	23	60	**83**	28	54	**82**
State	9	27	41	**68**	23	44	**67**	25	36	**62**

*Science is only tested at grades 4, 8, and high school (CFSD Grade 9 - life science course-Biology).
Note: % Meets & Exceeds includes rounding; all scores reflect final scores from Arizona Department of Education

Transition from AIMS to New Arizona Test: Target Scores for Reading and Math

Table 40 provides a historical of the percentage of students passing AIMS reading (meets and exceeds) for 2011-2013 by grade and by school. The blue highlighted columns indicate the percentage of students at AIMS tested grade levels that did or did not meet the target score. As stated earlier, the ADE provided schools/districts with target scores at grades 3-7. The target score is an indication that a student is likely to be successful in the future with Arizona's College and Career Ready Standards. At the elementary level, the district average of students meeting the target score is 62% at third grade, 64% at fourth grade and 77% at fifth grade. At the middle school, target scores were only calculated for sixth and seventh grade students. The district average of students meeting the target score in sixth grade was 66% and 65 % for seventh grade. At the high school, the target score is set much higher. As a result, the percentage of our tenth grade students meeting the target score is 53%. As stated earlier, in order to improve the reading achievement and increase the percentage of students who are successful in the Arizona College and Career Ready Standards, it will be necessary to increase

the complexity of the reading materials and the amount of time spent reading informational text across disciplines. Instruction will need to focus on building the academic vocabulary needed to access grade level complex texts. Students need to have rich and rigorous conversations around central texts and develop habits for making evidentiary arguments both in conversation, as well as in writing to assess comprehension of a text.

Each school set SMART goals to increase the percentage of students meeting the target scores. In order to increase target scores, schools much increase the mean scale score. In order to increase the mean scale score, a student must increase the number of questions answered correctly. It is uncertain if ADE will continue to report the target scores after AIMS has been replaced.

Table 40

AIMS Reading Scores for 2011-2013 and Target Scores for 2013

AIMS READING		2011	2011	2011	2012	2012	2012	2013	2013	2013	2013	2013
School	Grade	% Meets	% Exceeds	% M & E	% Meets	% Exceeds	% M & E	% Meets	% Exceeds	% M & E	% Met Target Score	% Not Meeting Target Score
CV	3	68	28	**96**	53	38	**91**	68	24	**93**	63	37
MZE	3	71	20	**91**	61	29	**90**	69	29	**98**	59	41
SDS	3	65	28	**93**	61	21	**82**	56	34	**90**	61	39
VV	3	49	47	**96**	51	39	**90**	60	32	**91**	65	35
CFSD	3	64	30	**94**	57	30	**88**	64	30	**94**	62	38
State	3	62	13	**76**	61	15	**75**	62	13	**75**	N/A	N/A
CV	4	52	41	**93**	57	37	**94**	62	33	**95**	68	32
MZE	4	53	45	**98**	50	45	**95**	57	39	**96**	70	30
SDS	4	62	33	**95**	58	36	**94**	59	30	**89**	61	39
VV	4	57	39	**96**	59	34	**93**	62	29	**91**	55	45
CFSD	4	56	40	**96**	56	38	**94**	60	33	**93**	64	36
State	4	63	13	**75**	63	12	**75**	65	12	**77**	N/A	N/A
CV	5	67	28	**95**	63	29	**92**	68	30	**99**	78	22
MZE	5	81	17	**98**	67	33	**100**	71	26	**97**	81	19
SDS	5	73	22	**95**	70	25	**95**	77	16	**93**	73	27
VV	5	67	27	**94**	72	22	**94**	75	18	**94**	74	26
CFSD	5	72	23	**95**	68	28	**96**	73	23	**96**	77	23
State	5	68	10	**79**	66	12	**78**	70	9	**79**	N/A	N/A
EC	6	80	16	**96**	74	23	**96**	71	21	**92**	63	37
OG	6	75	23	**98**	76	18	**94**	73	23	**96**	68	32
CFSD	6	77	19	**98**	75	20	**95**	72	22	**94**	66	34
State	6	72	9	**81**	69	11	**80**	70	9	**80**	N/A	N/A
EC	7	68	26	**94**	66	28	**94**	65	29	**95**	66	34
OG	7	70	28	**98**	72	26	**98**	66	29	**95**	64	36
CFSD	7	58	26	**96**	69	27	**96**	66	29	**95**	65	35
State	7	69	12	**82**	71	12	**84**	70	15	**85**	N/A	N/A
EC	8	68	24	**91**	78	10	**88**	75	14	**88**	N/A *	N/A
OG	8	74	17	**91**	79	13	**92**	71	22	**94**	N/A *	N/A
CFSD	8	71	20	**91**	79	12	**90**	73	18	**91**	N/A *	N/A
State	8	63	8	**71**	66	6	**72**	65	7	**72**	N/A *	N/A
CFHS	10	61	35	**97**	64	32	**96**	72	23	**95**	53	47
CFSD	10	61	35	**97**	64	32	**96**	72	23	**95**	53	47
State	10	65	12	**77**	69	12	**80**	75	8	**83**	N/A	N/A

Note: % Meets & Exceeds includes rounding; all scores reflect final scores from Arizona Department of Education

* Target Scores were not provided for 8th Grade.

Table 41 provides a historical of the percentage of students passing AIMS math (meets and exceeds) for 2011-2013 by grade and by school. The blue highlighted columns indicate the percentage of students at AIMS tested grade levels that did or did not meet the target score. The math scores present a different picture than the reading scores. At the elementary level, the district average of students meeting the target score is 57% at third grade, 52% at fourth grade and 45% at fifth grade. At the middle school, target scores were only calculated for sixth and seventh grade students. The district average of students meeting the target score in sixth grade was 52% and 48 % for seventh grade. At the high school, the target score is set much higher. As a result, the percentage of our tenth grade students meeting the target score is 19%. In order for a students to meet the target score in math at the high school level, they will need to score in the upper range of exceeds. Anything lower than that will result in a student not meeting the target score.

The low percentages of students meeting the target score at each level indicates that there is a large discrepancy between what the current AIMS assessment requires students to do compared to what they will be expected to do to show mathematical proficiency in the Arizona College and Career Ready Standards. As a result, there is a need for students to work on the mathematical practices within the context of the math content at those grade levels. This means teaching is not so much as "how to get the answer" but instead to support students' ability to access concepts from a number of perspectives. Teachers will need to engage students in mathematical experiences that allow students to demonstrate deep conceptual understanding of core math concepts by applying them to new situations, including application of math concepts in "real world" situations, as well as writing and speaking about their understanding. These practices will likely result in students being able to solve more complex mathematical problems and use critical thinking skills, including metacognitive skills (thinking about thinking) more effectively and efficiently to demonstrate their understanding of these problems.

Table 41

AIMS Math Scores for 2011-2013 and Target Scores for 2013

AIMS MATH		2011	2011	2011	2012	2012	2012	2013	2013	2013	2013	2013
School	Grade	% Meets	% Exceeds	% M & E	% Meets	% Exceeds	% M & E	% Meets	% Exceeds	% M & E	% Met Target Score	% Not Meeting Target Score
CV	3	42	43	**86**	32	57	**88**	39	46	**85**	52	48
MZE	3	50	37	**87**	39	40	**79**	39	52	**92**	59	41
SDS	3	44	48	**91**	40	35	**75**	33	55	**88**	61	39
VV	3	33	64	**97**	24	64	**89**	38	47	**85**	55	45
CFSD	3	43	47	**90**	35	47	**82**	38	50	**88**	57	43
State	3	43	24	**68**	42	27	**69**	43	26	**68**	N/A	N/A
CV	4	35	48	**84**	24	58	**82**	39	52	**91**	64	36
MZE	4	24	70	**95**	30	59	**90**	45	40	**85**	48	52
SDS	4	39	48	**87**	35	55	**90**	40	40	**80**	53	47
VV	4	40	51	**91**	34	54	**88**	38	40	**78**	44	56
CFSD	4	34	55	**89**	31	57	**88**	41	43	**84**	52	48
State	4	38	27	**65**	39	27	**67**	40	25	**64**	N/A	N/A
CV	5	40	38	**78**	30	47	**77**	41	44	**85**	49	51
MZE	5	53	35	**89**	47	45	**93**	50	36	**86**	44	56
SDS	5	56	34	**90**	36	46	**82**	45	33	**78**	36	64
VV	5	47	44	**91**	33	54	**88**	46	45	**91**	49	51
CFSD	5	49	37	**87**	37	48	**85**	46	39	**85**	45	55
State	5	41	21	**63**	41	23	**63**	43	20	**63**	N/A	N/A
EC	6	31	43	**74**	43	40	**83**	30	44	**75**	47	53
OG	6	31	49	**80**	34	36	**69**	35	51	**86**	56	44
CFSD	6	31	46	**77**	38	38	**76**	32	47	**80**	52	48
State	6	31	27	**59**	34	27	**61**	38	25	**63**	N/A	N/A
EC	7	39	39	**78**	30	50	**81**	33	49	**82**	49	51
OG	7	35	51	**86**	24	62	**86**	36	47	**83**	47	53
CFSD	7	37	45	**82**	27	56	**83**	34	48	**82**	48	52
State	7	36	24	**61**	33	29	**62**	36	29	**65**	N/A	N/A
EC	8	44	35	**79**	37	39	**77**	37	37	**74**	N/A*	N/A
OG	8	35	46	**81**	29	55	**85**	27	59	**86**	N/A*	N/A
CFSD	8	39	41	**80**	33	48	**81**	32	48	**80**	N/A*	N/A
State	8	35	19	**54**	33	24	**57**	35	23	**58**	N/A*	N/A
CFHS	10	39	47	**86**	39	45	**84**	42	46	**88**	19	81
CFSD	10	39	47	**86**	39	45	**84**	42	46	**88**	19	81
State	10	39	21	**60**	40	21	**60**	43	19	**62**	N/A	N/A

Note: % Meets & Exceeds includes rounding; all scores reflect final scores from Arizona Department of Education

Stanford 10

Table 42 provides a historical view of the Stanford Achievement Test 10 scores for students in grades 2 and 9. It is important to remember that these are new groups of students each year, not a cohort of students. The SAT 10 is a norm-referenced test meaning it evaluates performance against other students in the test taker's own grade, as well as those in other grades. The students are tested in reading, math and language skills and scores represent a percentile rank and a normal curve equivalent (NCE).

The reading achievement at grade two has steadily increased between 2011 and 2013 in all elementary schools with the exception of Canyon View, which experienced a significant decline over the three-year period with a median percentile of 86 to 72. Sunrise Drive saw the highest mean percentile increase from 63 in 2011 to 76 in 2013. Manzanita also experienced an increase in the median percentile from 69 in 2011 to 80 in 2013. The high school also experienced a slight increase in reading scores over the three-year period.

The math achievement at the elementary level had a bit more variance in median percentiles, with scores increasing and decreasing between years. The median percentiles for all of the second grade students in 2011 ranged between 77 and 87. In 2012 the median percentile was between 76 and 83, and in 2013 ranged between 79 and 84. At the high school, the math percentiles remained steady, in the high 80's range.

Overall, the language scores are significantly lower than the reading or math scores. In 2011 the range of median percentile scores for the second grade students was 56-79. In 2012 the range was between 61 and 77, and in 2013 the range was 65-70. The high school also has lower scores on the language assessment, but the scores were more consistent with a variance of only one percentile rank each year.

When analyzing the types of questions asked on the assessment in language, they include questions about spelling, grammar, author's purpose, etc. Language arts instruction in our elementary schools is not segmented into discrete skills, but rather a holistic approach to teaching spelling, grammar and author's purpose through reading and writing.

Table 43

Stanford 10 Results for Grades 2 and 9 from 2011-2013

School/ Grade	Reading Stanford 10			Math- Stanford 10			Language- Stanford 10		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
SDS-2	63	72	76	79	83	82	56	61	70
MZ-2	69	78	80	77	83	79	61	68	65
CV-2	86	79	72	87	86	84	79	77	65
VV-2	72	72	77	78	76	81	63	67	65
HS-9	82	85	86	86	87	88	71	72	73
Dist-2	72	76	77	80	82	81	64	68	66
Dist-9	82	85	86	86	87	88	71	72	73

Advanced Placement (AP) Testing

Table 44 displays the results of the AP exams for 2011-2013. Of the students who took the AP tests from 2011-2013, 80-87% scored a 3 or higher on the exams. However, only 65-78% of students enrolled in these courses are even taking the AP exam. For example, in 2013 only 99 of 198 students enrolled in AP Government took the AP exam. In AP English Language, only 63 of the 165 of the students enrolled in that course took the AP exam in 2013. In 2012, 117 of 171 students enrolled in AP US History took the AP exam for that course. The examples illustrate that there are a large number of students enrolled in AP courses who do not take the AP exam. The high school strongly encourages all students to take the AP exam, but does not require them to take it. For this reason, we do not have feedback about teacher performance or student performance in these courses based on these college level exams.

The students who are taking the AP exams are earning scores that the College Board defines as qualified to extremely well-qualified to receive college credit. Students who take the AP exam will get a score ranging fro 1 to 5. The College Board defines the scores as follows:

- 5 – Extremely well qualified to receive college credit
- 4 – Well qualified to receive college credit
- 3 – Qualified to receive college credit
- 2 – Possibly qualified to receive college credit
- 1 – No recommendation to receive college credit

It should be noted that not every college/university treats AP scores the same way.

Table 44

Advanced Placement (AP) Test Results by Course for 2011-2013

	2011			2012			2013		
SUBJECT	Number Enrolled	Number Tested	% Score 3 or Higher	Number Enrolled	Number Tested	% Score 3 or Higher	Number Enrolled	Number Tested	% Score 3 or Higher
Biology	64	59	78%	59	19	95%	44	31	97%
Calculus AB	44	45	98%	53	42	100%	57	29	86%
Calculus BC	15	15	100%	47	44	100%	36	35	100%
Chemistry	75	44	39%	42	27	52%	36	23	78%
Statistics	NA	NA	NA	17	14	100%	16	14	93%
English Language	97	51	92%	129	67	99%	105	63	97%
English Literature	160	117	82%	147	117	74%	182	179	61%
Environmental	18	12	92%	NA	NA	NA	15	13	62%
European History	157	131	85%	165	126	87%	152	126	78%
Government	199	110	86%	177	100	89%	198	99	90%
Macro Econ.	NA	NA	NA	NA	NA	NA	12	12	83%
Physics C/Elec & Magnet	NA	NA	NA	24	7	90%	9	7	86%
Physics C/Mech	NA	NA	NA	Same students as above	10	90%	Same students as above	7	100%
Spanish Language	12	12	83%	58	19	95%	45	51	69%
US History	181	130	82%	171	117	77%	169	155	85%
Total	**1022**	**726**	**82%**	**1089**	**709**	**87%**	**1076**	**844**	**80%**
% of Total		*71%*			*65%*			*78%*	

ACT (American College Testing)

Table 45 displays the average ACT scores over five years for CFSD high school students. The ACT is a college readiness assessment for high school achievement and college admissions. It consists of four tests (English, Math, Reading, and Science), which results in a composite score between 1 and 36. The higher the composite score, the more likely a student will experience success in college courses. College admissions use the ACT score to determine a student's college readiness.

ACT has determined college readiness benchmarks that align specific assessments on the ACT with likely success in specific college courses. The benchmark scores are the minimum score needed on a subject area test to indicate a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in the corresponding college course. While students will pursue a variety of paths after high school, all students need to be prepared for college and work. Through collaborative research with postsecondary institutions nationwide, ACT has updated the following as college readiness benchmark scores for designated college courses:

- English Composition: 18 on ACT English Test
- Algebra: 22 on ACT Mathematics Test
- Social Science: 22 on ACT Reading Test
- Biology: 23 on ACT Science Test

As a point of reference, highly selective top-tier private colleges and Ivy League schools look for ACT test scores in the 90th percentile or higher. They will typically accept people who score a 27 or higher. Selective private and public colleges typically accept people in the 75th percentile, who, on average, score between 22 and a 27. Other four-year institutions typically accept people in the 50th percentile with average scores higher than 20.

Table 45 displays the average ACT scores for CFSD high school students compared to the state's average scores over the past five years (2009-2013). In every tested area, CFSD students scored within the 75th percentile range or near the top of the score range (22-27 composite score). Based on these scores, many CFSD students could likely be accepted into selective private and public colleges and universities and demonstrate success with their studies.

Table 45

Average ACT Scores for CFSD High School Students: Five-Year Trends

Total Tested			English		Mathematics		Reading		Science		Composite	
Grad Year	District	State	District	State	District	State	District	State	District	State	District	State
2009	155	12,550	25.3	21.3	26.0	22.1	25.7	22.4	24.1	21.3	25.4	21.9
2010	152	23,303	25.1	18.9	25.8	20.4	24.9	20.2	24.2	19.9	25.1	20.0
2011	128	27,952	25.0	18.6	26.1	20.3	25.5	19.9	24.9	19.6	25.5	19.7
2012	149	29,876	24.6	18.6	25.4	20.3	25.0	19.7	24.4	19.5	25.0	19.7
2013	**144**	**31,658**	**25.7**	**18.5**	**26.5**	**20.3**	**27.1**	**19.6**	**25.3**	**19.4**	**26.3**	**19.6**

Figure 87 shows how ready CFSD students are for college coursework based on ACT scores. Benchmark scores are used to determine this readiness. A benchmark score is the minimum score needed on an ACT subject-area test to indicate a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in the corresponding credit-bearing college courses.

The data show that 92% of CFSD students scored an 18 or higher on the ACT English test and are likely to be successful in a college English composition course. Additionally, 83% of CFSD students scored a 22 or higher on the ACT mathematics test, indicating a likely success in a college algebra course. The ACT reading test is an indicator of success in college social science coursework. A score of 22 on this test is the benchmark for success. In CFSD, 81% of our students scored a 22 or above, indicating probable success with social science coursework. A score of 23 or higher on the ACT science test is the benchmark for success in a college biology course. Seventy-one percent (71%) of CFSD students met or exceeded that benchmark. Overall, 64% of CFSD students who took the ACT would likely be successful in college coursework for all four categories.

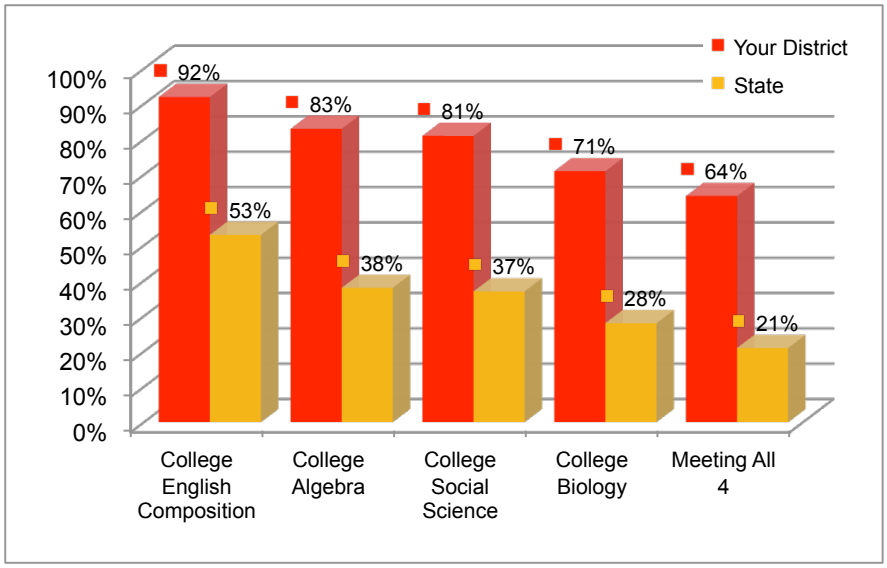


Figure 87. Percentage of students who are considered ready for college based on ACT scores

Scholastic Aptitude Test (SAT)

Scholastic Aptitude Test (SAT) scores are reported on a scale from 200-800 for each of the three content areas of reading, mathematics, and writing. Scores inform college admissions staff how a student performed compared with other students who took the test. The score range has been equated to a percentile rank for each subject test. For example, on the critical reading test, a score between 700 and 800 indicates that the student is in the 95th to the 99th percentile. However in math, a score between 700 and 800 indicates students are in the 93rd to the 99th percentile. In writing, that same 700-800 score indicates that students scored between the 96th and the 99th percentile. The same is true for the 600-690 range. A score between 600 and 690 is between the 81st and the 94th percentile in reading, between the 74th and 92nd percentile in math, and the 82nd to 95th percentile in writing. Finally, a score between 500 and 590 is between the 51st and 78th percentile in reading, the 45th and 72nd percentile in math, and the 55th and 80th percentile in writing.

Figure 88 – Figure 90 represent the number of students scoring within each range on the SAT at the high school from 2011-2013. The majority of students who took the SAT fell into the 500-590 range or the 600-690 range in reading, math and writing. In reading, a greater number of students scored between 500-590 in 2011 and 2012, but fewer in 2013. A few more students scored in the 600-690 range in 2013. In math, the number of students scoring between 500-590 and 600-690 was nearly the same for each of the three years. However, in 2012 a greater number of students scored in the 700-800 range than in any other year. In writing, fewer students are scoring in the upper ranges. Most students scored in the 500-590 range.

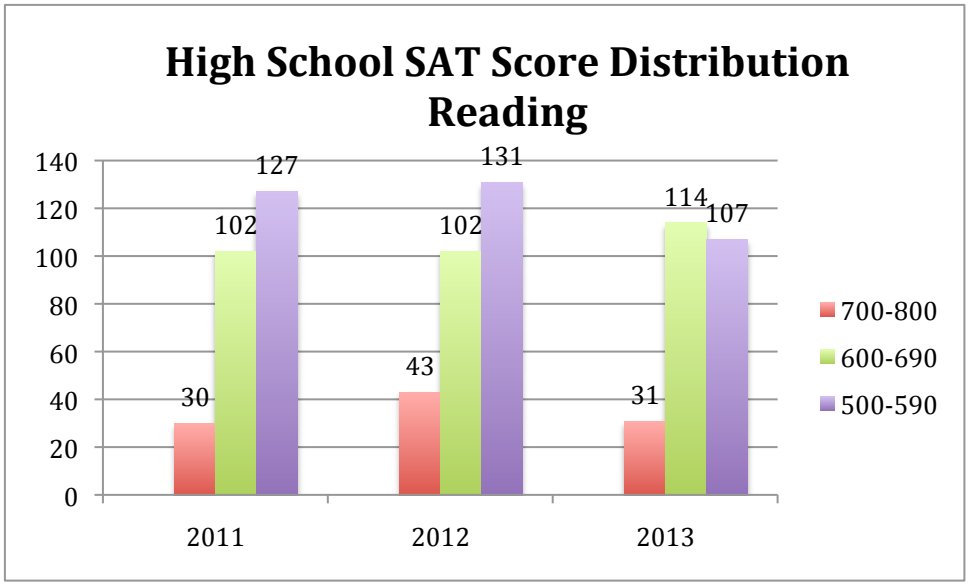


Figure 88. High school SAT score distribution for reading for years 2011-2013

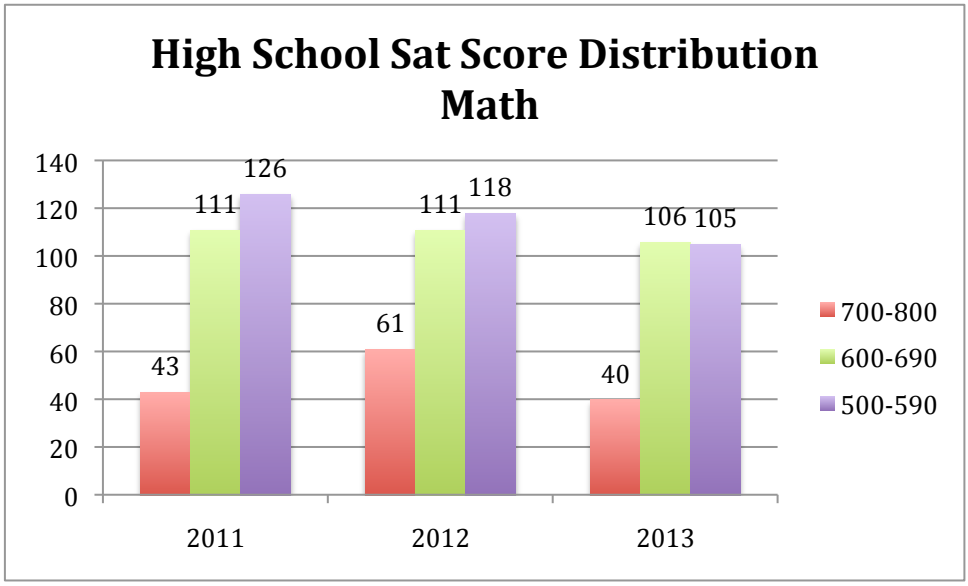


Figure 89. High school SAT score distribution for math for years 2011-2013

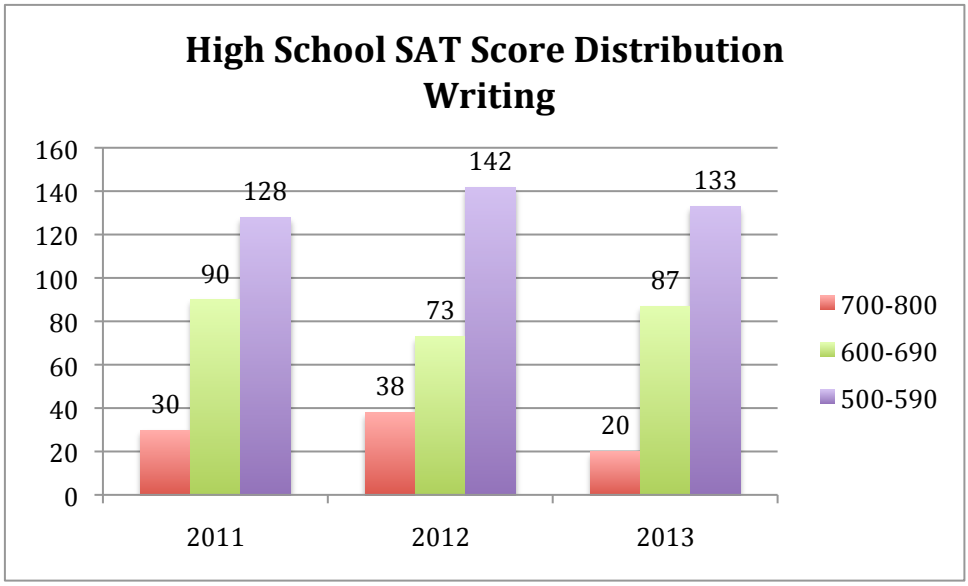


Figure 90. High school SAT score distribution for writing for years 2011-2013

High School Letter Grade Analysis

Letter grades are summative judgments about a student's achievement at prescribed intervals during a school year. The grades are based on multiple indicators of how well a student performs over time and must communicate the more recent and most consistent quality of student work. The grades reflect not only how well the students learned the standards, but also how well the teachers taught the intended (written) curriculum. An analysis of students' grades across disciplines is essential to identifying areas for both student and teacher growth.

Figure 91 and Table 46 display the letter grade distribution for English language arts at the high school for yearlong courses for 2011-2013. Student grades for both semesters are included in the total number. The grade distribution shows that 81% to 86% of students are earning an A or a B. The data indicate that the number of students with a grade of "F" decreased slightly in the prior three years. However, there were 78-100 students who failed during both semesters.

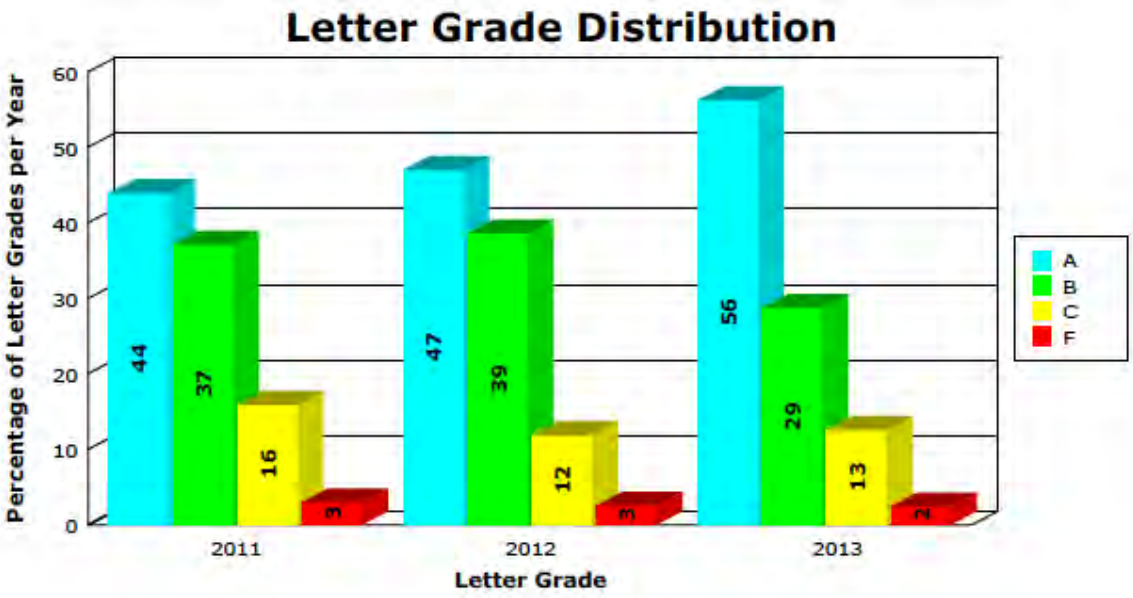


Figure 91. Second semester letter grade distribution by percentage for high school students in English language arts

Table 46

Letter Grade Distribution for High School Students in Language Arts

Subject Area: English Language Arts

	A				B				C				F				Total
	2011	2012	2013	Total	2011	2012	2013	Total	2011	2012	2013	Total	2011	2012	2013	Total	
AP English 11: Lit (F1156)	175	158	278	**611**	127	114	68	**309**	13	14	15	**42**	2	1	2	**5**	**967**
AP English 12: Lang (F1216)	106	103	78	**287**	73	131	109	**313**	15	19	19	**53**	0	0	0	**0**	**653**
English 10 (F1120)	84	210	210	**504**	133	130	96	**359**	120	80	52	**252**	26	20	13	**59**	**1,174**
English 11 (F1140)	246	186	242	**674**	138	187	171	**496**	56	75	93	**224**	14	20	15	**49**	**1,443**
English 12 Mystery (F1182)	75	35	119	**229**	46	41	12	**99**	45	14	5	**64**	2	1	0	**3**	**395**
English 12 Rhetoric & Lit (Digital) (F1164)	120	124	0	**244**	47	57	0	**104**	32	25	0	**57**	4	4	0	**8**	**413**
English 12 Rhetoric & Lit (Sci-Fi) (F1172)	24	0	0	**24**	24	0	0	**24**	14	0	0	**14**	1	0	0	**1**	**63**
English 12 Rhetoric and Literature (F1165)	40	70	73	**183**	24	64	31	**119**	11	28	17	**56**	2	3	2	**7**	**365**
English 12 Rhetoric and Literature WC (F1192)	54	64	84	**202**	15	33	24	**72**	13	12	8	**33**	0	0	2	**2**	**309**
English 12: Persuasion (F1166)	0	0	86	**86**	0	0	46	**46**	0	0	33	**33**	0	0	0	**0**	**165**
English 9 (F1100)	93	134	85	**312**	135	140	83	**358**	90	55	82	**227**	17	21	26	**64**	**961**
H English 10 (F1123)	146	165	234	**545**	206	180	82	**468**	19	20	18	**57**	1	4	4	**9**	**1,079**
H English 9 (F1103)	133	160	175	**468**	126	101	144	**371**	39	7	22	**68**	8	5	2	**15**	**922**
Humanities 10: English (F1131)	6	28	51	**85**	35	38	19	**92**	35	13	9	**57**	7	2	0	**9**	**243**
Humanities 11: Eng (F1151)	34	0	0	**34**	24	0	0	**24**	8	0	0	**8**	2	0	0	**2**	**68**
Humanities 9: English (F1111)	130	107	91	**328**	86	52	38	**176**	22	28	31	**81**	14	3	12	**29**	**614**
Total	1,466	1,544	1,806	**4,816**	1,239	1,268	923	**3,430**	532	390	404	**1,326**	100	84	78	**262**	**9,834**

Figure 92 and Table 47 display the letter grade distribution for mathematics courses at the high school for 2011-2013. The grade distribution shows that 68% to 70% of students are earning an A or a B. The data also show that there was a 15% failure rate for Algebra 1, 11% for Geometry, and 6% for Algebra 2 over the three years. Over 200 students are failing at one or both semesters of their math course each year.

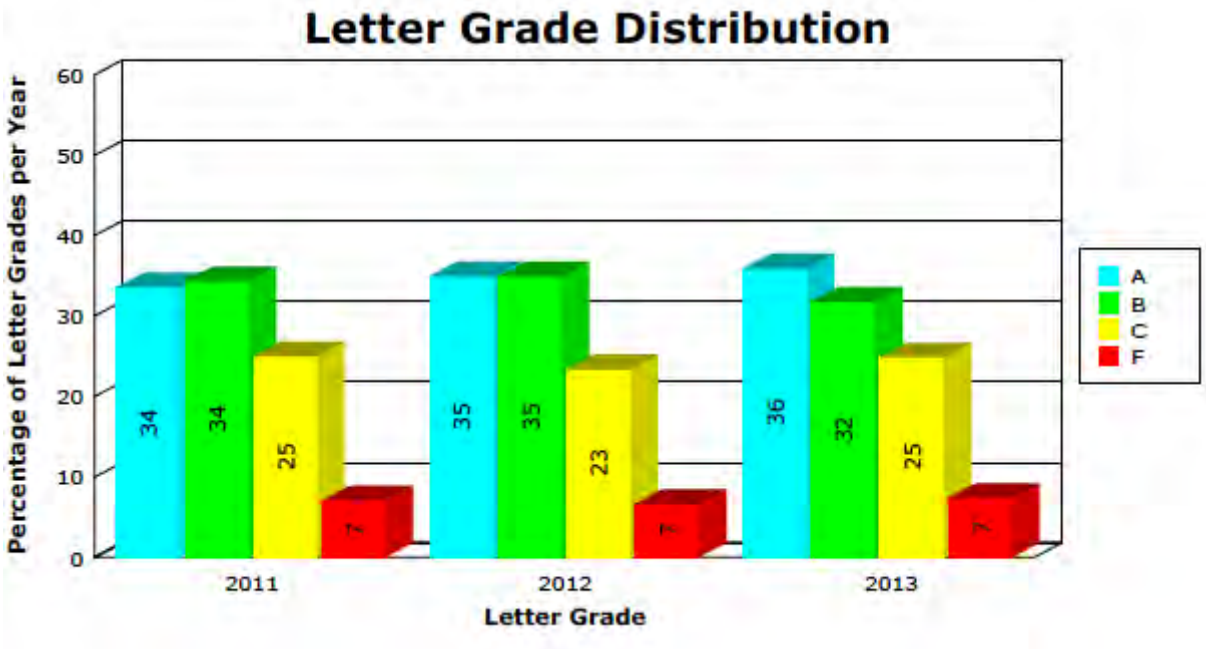


Figure 92. Second semester letter grade distribution by percentage for high school students in mathematics

Table 47

Letter Grade Distribution of High School Students in Mathematics

Subject Area: Math

	A				B				C				F				Total
	2011	2012	2013	Total	2011	2012	2013	Total	2011	2012	2013	Total	2011	2012	2013	Total	
Algebra 1 (F2000)	105	80	143	328	144	174	167	485	165	154	163	482	85	81	60	226	1,521
Algebra 1 Essentials (F2004)	24	28	14	66	35	38	17	90	21	32	48	101	7	20	36	63	320
Algebra 2 (F2230)	267	232	243	742	149	141	204	494	100	158	175	433	25	33	50	108	1,777
Algebra 2 Essentials (F2244)	9	0	0	9	27	0	0	27	29	0	0	29	10	0	0	10	75
AP Calculus AB (F2364)	42	44	21	107	34	49	57	140	11	9	29	49	0	1	0	1	297
AP Calculus BC (F2366)	16	39	28	83	11	42	32	85	3	12	12	27	0	0	0	0	195
AP Statistics (F2376)	0	24	25	49	0	8	4	12	0	2	3	5	0	0	0	0	66
College Algebra (F2412)	35	86	0	121	74	64	0	138	70	45	0	115	12	1	0	13	387
Discrete Math (F2416)	9	33	0	42	23	27	0	50	22	18	0	40	1	1	0	2	134
Discrete/Statistics (F2420)	0	0	50	50	0	0	54	54	0	0	55	55	0	0	5	5	164
Functions (F2410)	5	3	0	8	17	7	0	24	30	34	0	64	7	3	0	10	106
Geometry (F2120)	134	166	166	466	187	220	186	593	164	164	164	492	58	67	72	197	1,748
H Algebra 1 (F2003)	33	45	0	78	55	37	0	92	30	13	0	43	7	0	0	7	220
H Algebra 2 (F2241)	0	0	71	71	0	0	61	61	0	0	5	5	0	0	0	0	137
H Algebra 2/Trig (F2243)	51	78	0	129	50	47	0	97	21	11	0	32	0	0	0	0	258
H Calculus (F2361)	99	25	0	124	55	55	0	110	25	31	0	56	3	4	0	7	297
H Geometry (F2123)	108	109	141	358	77	75	62	214	29	5	4	38	1	1	1	3	613
H Precalculus (F2363)	83	26	52	161	81	39	44	164	19	13	8	40	0	1	0	1	366
Precalculus (F2351)	0	0	183	183	0	0	118	118	0	0	121	121	0	0	11	11	433
Statistics (F2418)	13	33	0	46	19	35	0	54	16	20	0	36	4	1	0	5	141
Trigonometry (F2414)	55	80	0	135	74	73	0	147	54	36	0	90	10	3	0	13	385
Total	1,088	1,131	1,137	3,356	1,112	1,131	1,006	3,249	809	757	787	2,353	230	217	235	682	9,640

Figure 93 and Table 48 display the letter grade distribution for science courses at the high school for years 2011-2013. The grade distribution shows that 72% to 77% of students are earning an A or a B. The data also show that there is an overall failure rate of 8% in Biology, 25% in Chemistry: Forensics, and 14% in Chemistry. Over the three-year period, the failure rate in Biology dropped from 14% to 4%. It dropped from 19% to 10% in Chemistry. The failure rate in Chemistry: Forensics for each of the three years was 25%, 29%, and 22%.

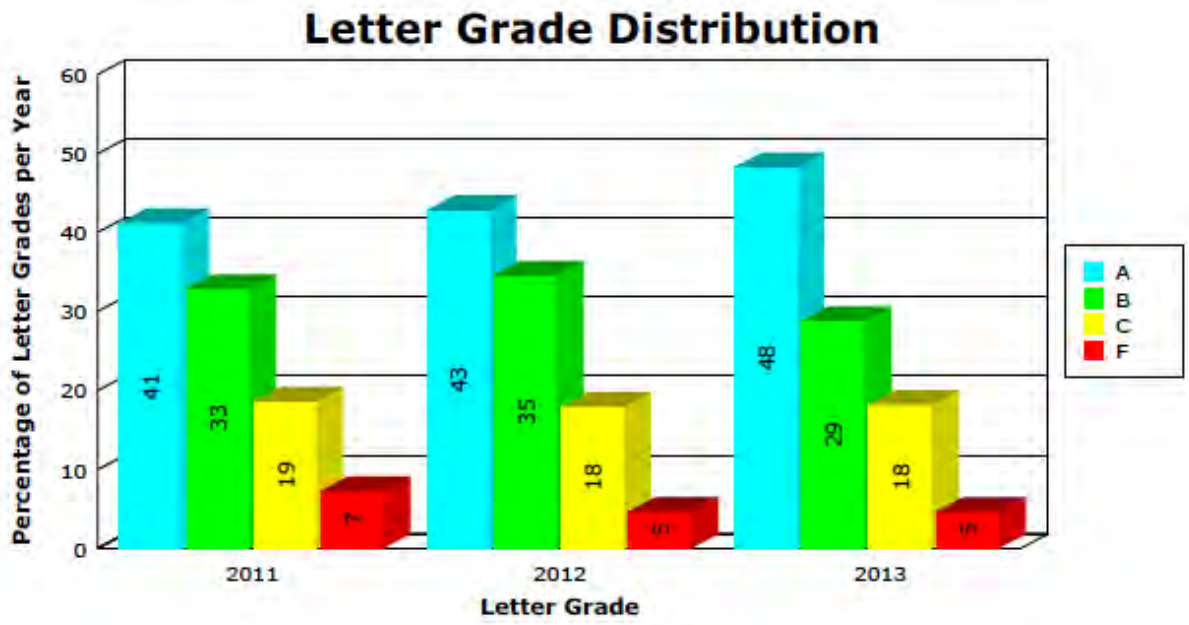


Figure 93. Second semester letter grade distribution by percentage for high school students in science

Table 48

Letter Grade Distribution of High School Students in Science

Subject Area: Science

	A				B				C				F				Total
	2011	2012	2013	Total	2011	2012	2013	Total	2011	2012	2013	Total	2011	2012	2013	Total	
Anatomy&Physiology (Bioscience) (F4540)	84	85	62	231	52	74	41	167	26	26	20	72	3	2	6	11	481
AP Biology (F4346)	101	89	57	247	22	26	23	71	6	3	8	17	0	0	0	0	335
AP Chemistry (F4356)	96	48	71	215	43	31	0	74	9	5	0	14	0	0	0	0	303
AP Environmental Science (F4366)	24	0	21	45	8	0	4	12	4	0	6	10	0	0	0	0	67
AP Physics C (F4336)	0	37	16	53	0	11	0	11	0	0	2	2	0	0	0	0	66
Astronomy (F4490)	71	16	39	126	46	13	36	95	19	14	16	49	1	2	1	4	274
Biology (F4000)	75	113	105	293	150	198	145	493	155	147	154	456	64	23	19	106	1,348
Biology: Environmental (F4004)	53	44	16	113	77	54	28	159	68	16	69	153	30	6	15	51	476
Chemistry (F4110)	61	74	139	274	95	103	141	339	107	97	104	308	61	47	43	151	1,072
Chemistry: Environmental (Agriscience) (F4120)	10	38	20	68	11	58	22	91	7	40	5	52	8	12	6	26	237
Chemistry: Forensics (F4111)	25	24	26	75	52	27	45	124	46	31	40	117	40	34	32	106	422
Environmental Science (F4450)	0	30	56	86	0	32	29	61	0	24	9	33	0	4	0	4	184
Field Science (F4460)	140	119	106	365	72	86	105	263	44	50	49	143	9	4	6	19	790
Forensics:Applied Chem&Physical Analysis (F4521)	58	21	0	79	26	8	0	34	9	6	0	15	2	2	0	4	132
H Adv Field Science (F4473)	24	29	46	99	7	11	8	26	2	4	3	9	1	1	1	3	137
H Biology (F4003)	121	214	213	548	101	61	82	244	29	17	22	68	6	2	4	12	872
H Chemistry (F4113)	195	174	185	554	90	56	31	177	22	10	0	32	4	1	0	5	768
H Physics (F4233)	127	72	132	331	67	95	23	185	23	16	5	44	1	0	0	1	561
Marine Science (F4480)	31	0	0	31	42	0	0	42	13	0	0	13	7	0	0	7	93
Physics (F4230)	89	104	128	321	142	130	96	368	37	51	32	120	8	5	6	19	828
Total	1,385	1,331	1,438	4,154	1,103	1,074	859	3,036	626	557	544	1,727	245	145	139	529	9,446

Figure 94 and Table 49 display the letter grade distribution for social studies courses at the high school for years 2011-2013. The grade distribution shows that 81%-82% of students are earning an A or a B. The data also show that Humanities 9: Global doubled their failure rate from 2011 to 2013 (4% to 8%). Western Civilization also doubled its failure rate from 2011 to 2013 (6% to 12%).

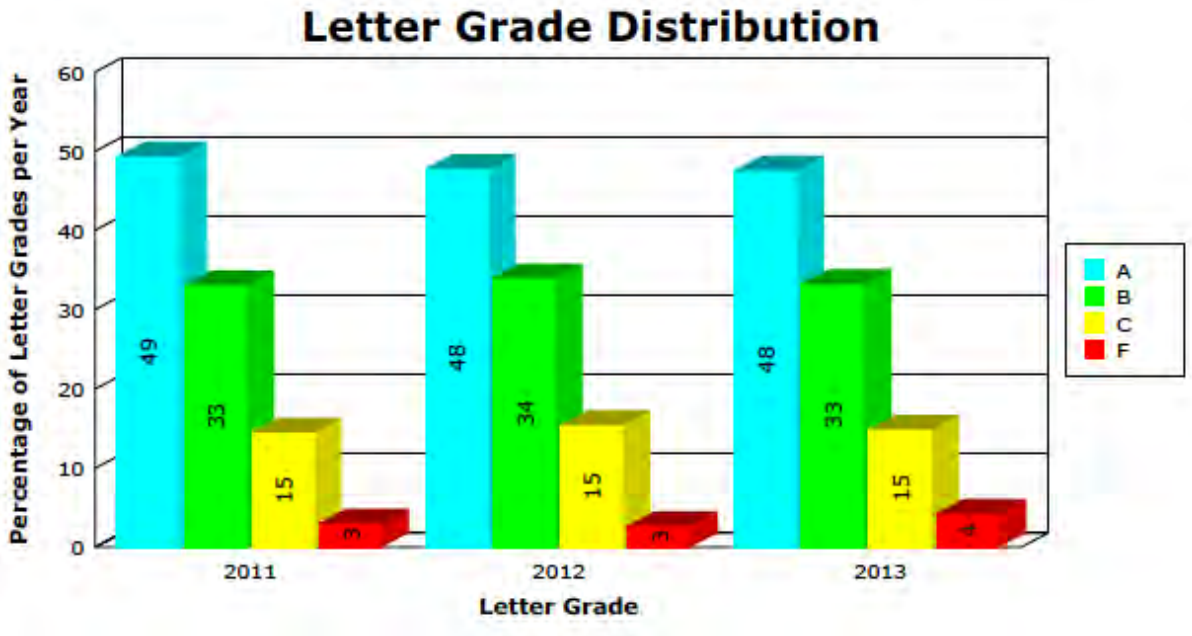


Figure 94. Second semester letter grade distribution by percentage for high school students in Social Studies

Table 49

Letter Grade Distribution of High School Students in Social Studies

Subject Area: Social Studies

	A				B				C				F				Total
	2011	2012	2013	Total	2011	2012	2013	Total	2011	2012	2013	Total	2011	2012	2013	Total	
American Government (F3340)	164	216	31	411	154	195	78	427	69	45	54	168	5	4	7	16	1,022
AP European History (F3366)	150	150	186	486	111	113	79	303	44	49	22	115	4	7	8	19	923
AP Macroeconomics (F3397)	0	0	7	7	0	0	5	5	0	0	0	0	0	0	0	0	12
AP US Government (F3376)	207	167	120	494	169	144	64	377	21	41	13	75	0	0	1	1	947
AP US History (F3356)	172	126	202	500	156	175	114	445	30	37	20	87	2	0	0	2	1,034
Economics (F3400)	0	0	114	114	0	0	190	190	0	0	51	51	0	0	3	3	358
Global Issues (F3200)	404	466	397	1,267	183	170	187	540	124	116	122	362	36	22	44	102	2,271
Humanities 10: Western (F3131)	6	30	47	83	36	38	18	92	34	11	12	57	7	2	2	11	243
Humanities 11: US (F3151)	35	0	0	35	24	0	0	24	7	0	0	7	2	0	0	2	68
Humanities 9: Global (F3111)	152	92	66	310	63	53	58	174	27	36	34	97	10	9	13	32	613
US History (F3240)	270	197	287	754	91	138	165	394	32	75	70	177	14	12	14	40	1,365
Western Civilization (F3220)	135	190	131	456	150	136	153	439	112	118	99	329	24	39	51	114	1,338
Total	1,695	1,634	1,588	4,917	1,137	1,162	1,111	3,410	500	528	497	1,525	104	95	143	342	10,194

Spanish Proficiency Testing

During the years 2011-2013, CFSD administered a Spanish proficiency test at grades 5 and 8. The purpose is two-fold. First, the assessment is used to measure student proficiency in Spanish at the end of the elementary Spanish and middle school Spanish programs. Second, the results are used as one indicator for placement for the next level of programming (5th grade to middle school and 8th grade to high school). The results are also used to inform future planning and instruction and evaluate programs.

CFSD used the STAMP (Standards-based Measurement of Proficiency) assessment. The STAMP assessment is web-based and computer-adaptive, with real-world questions that engage world languages students and help them to understand their own proficiency levels. STAMP assessments have been validated by field testing and expert panels.

The STAMP measures Reading, Listening, Writing, and Speaking. Scores are reported by district, school, class, and individual at proficiency levels related to the American Council on the Teaching of Foreign Languages (ACTFL). The proficiency levels are reported as follows:

1: Novice Low

2: Novice Mid

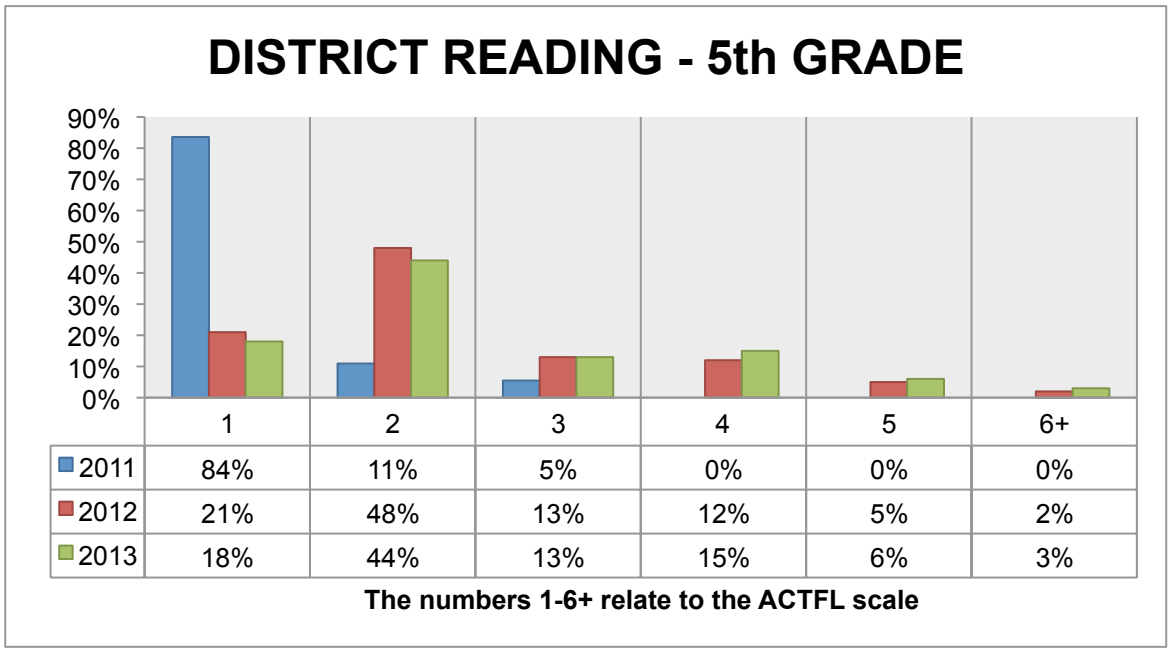
3: Novice High

4: Intermediate Low

5: Intermediate Mid

6: Intermediate High/Pre-Advanced

Figures 95-100 display the results for CFSD fifth and eighth grade students in reading, speaking, and writing. Each year represents a different cohort of fifth and eighth grade students. Fifth grade reading results in Figure 95 showed an increase in proficiency over the three-year period. The proficiency target for end-of-fifth grade is Novice High (performance level #3). In 2011, 84% of the scores fell at the Novice Low level with only 5% at Novice High. In 2012 and 2013, there was a significant decrease in Novice Low scores. In spring 2013, students performed at higher levels of proficiency in reading, as evidenced by data that show 57% of scores at Novice Mid and Novice High. Twenty-one percent (21%) of students achieved scores at Intermediate Low and Intermediate Mid (# 4 and d#5 on the scale) and 3% achieved the highest score at the Intermediate High/Pre-Advanced proficiency target. This shows remarkable progress!



	1	2	3	4	5	6+
2011	84%	11%	5%	0%	0%	0%
2012	21%	48%	13%	12%	5%	2%
2013	18%	44%	13%	15%	6%	3%

Figure 95. District-wide 5th grade results for Spanish in reading

Figure 96 displays the results for speaking at fifth grade. Although progress was not as significant as reading, there was an upward trend in scores as more students showed movement toward the proficiency target of Novice High and above. Whereas 27% of students scored at Novice Low in 2011, 9% and 12% scored at this level in 2012 and 2013, respectively. Six percent (6%) to 8% of students achieved scores beyond the proficency level with scores at Intermediate Low.

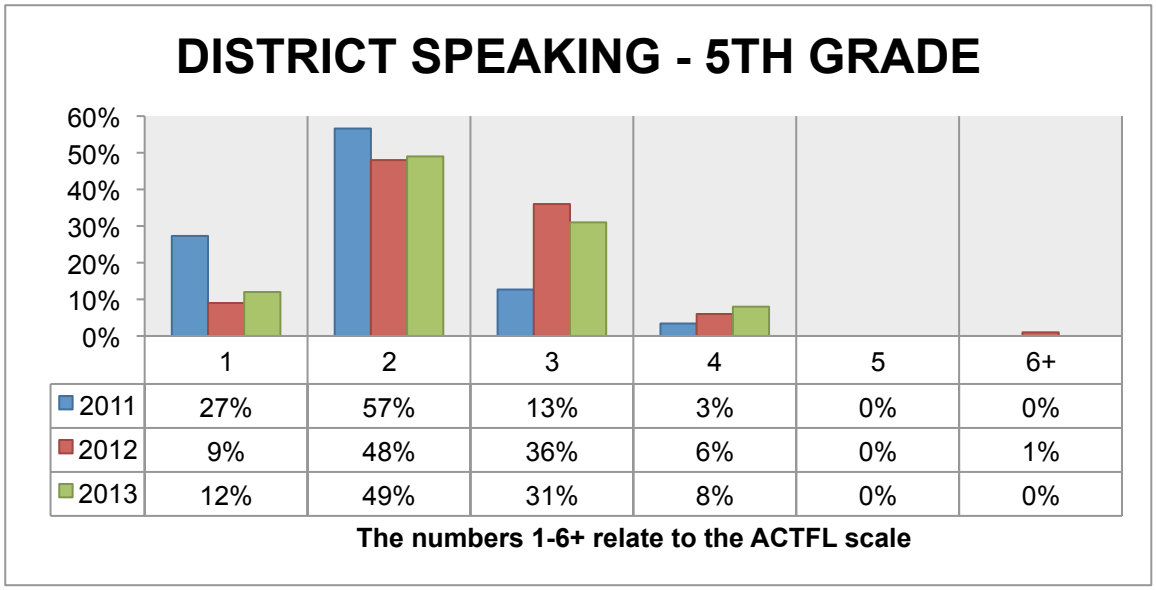


Figure 96. District-wide 5th grade results for Spanish in speaking

Figure 97 displays the results for writing at fifth grade. The upward trend continued in writing. Students scored at higher levels of proficiency in 2013 compared to results in 2011. The proficiency target for writing is Novice High. In 2013, 78% of students scored at Novice Mid and Novice High. Ten percent (10%) of students scored above the proficiency target.

It is important to note that students in the elementary Spanish program are placed by grade level, not proficiency level. This means that any given Spanish class will have students with no prior experience in Spanish to six years of Spanish language classes by fifth grade. The 2013 scores represent student proficiencyt after six years of elementary Spanish. This was the first cohort of students that potentially began Spanish in kindergarten. This cohort had three years of the new K-12 Spanish (World Languages) curriculum. It is impressive that the majority of students were scoring at or near the proficiency targets at the end of fifth grade. When students reach the proficiency target are afforded the opportunity to enter middle school one to two years beyond the entry level course.

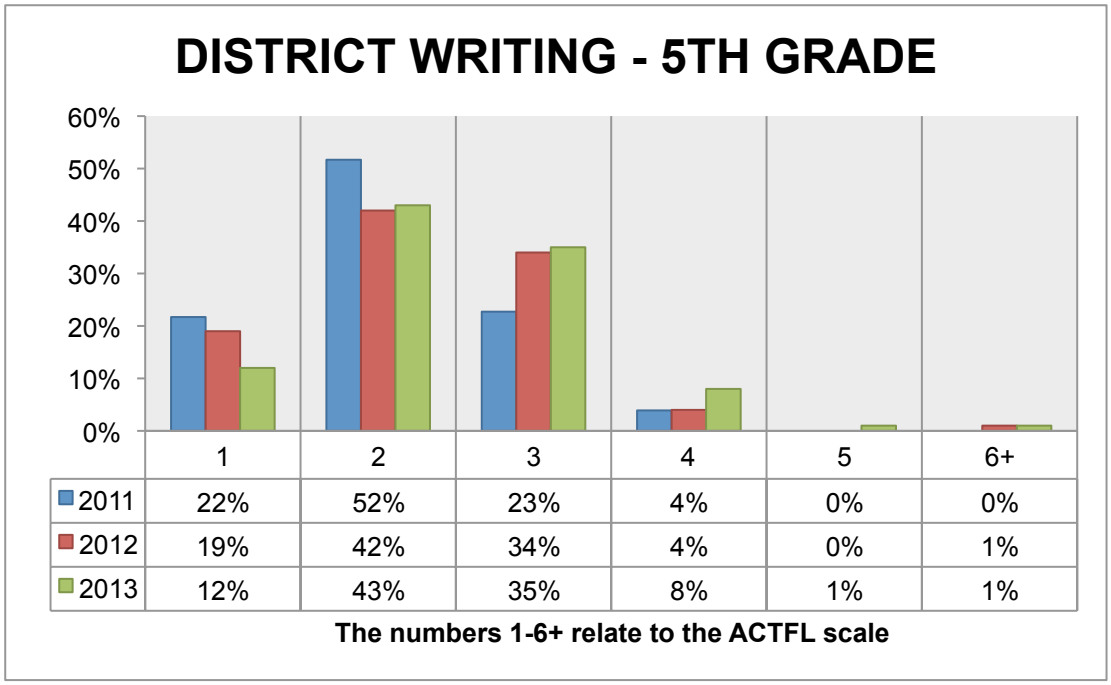


Figure 97. District-wide 5th grade results for Spanish in writing

Eighth grade reading results in Figure 98 show an increase in proficiency at the upper levels over the three year period. Whereas there was only one student scoring at Intermediate Mid in 2011, 37% of students scored at the Intermediate Mid and Intermediate High/Pre-Advanced levels in 2013. There was also a significant increase in the scores at Intermediate Low (8% to 24% in 2012 and 22% in 2013).

It generally takes longer to move from the Intermediate Low to Intermediate Mid and Intermediate High/Pre-Advanced levels of proficiency than it does when students are still at the Novice levels. Language learning does not always follow a smooth progression. Students need to acquire a usable supply of essential and high-frequency vocabulary. Additionally, the ability to recall and use correct grammar and conversational patterns at the appropriate times does not come easily. Once learners reach the Intermediate level of language learning, progress does not always appear to be so marked. Making the transition from Intermediate to upper Intermediate/Advanced levels takes a longer amount of time and effort.

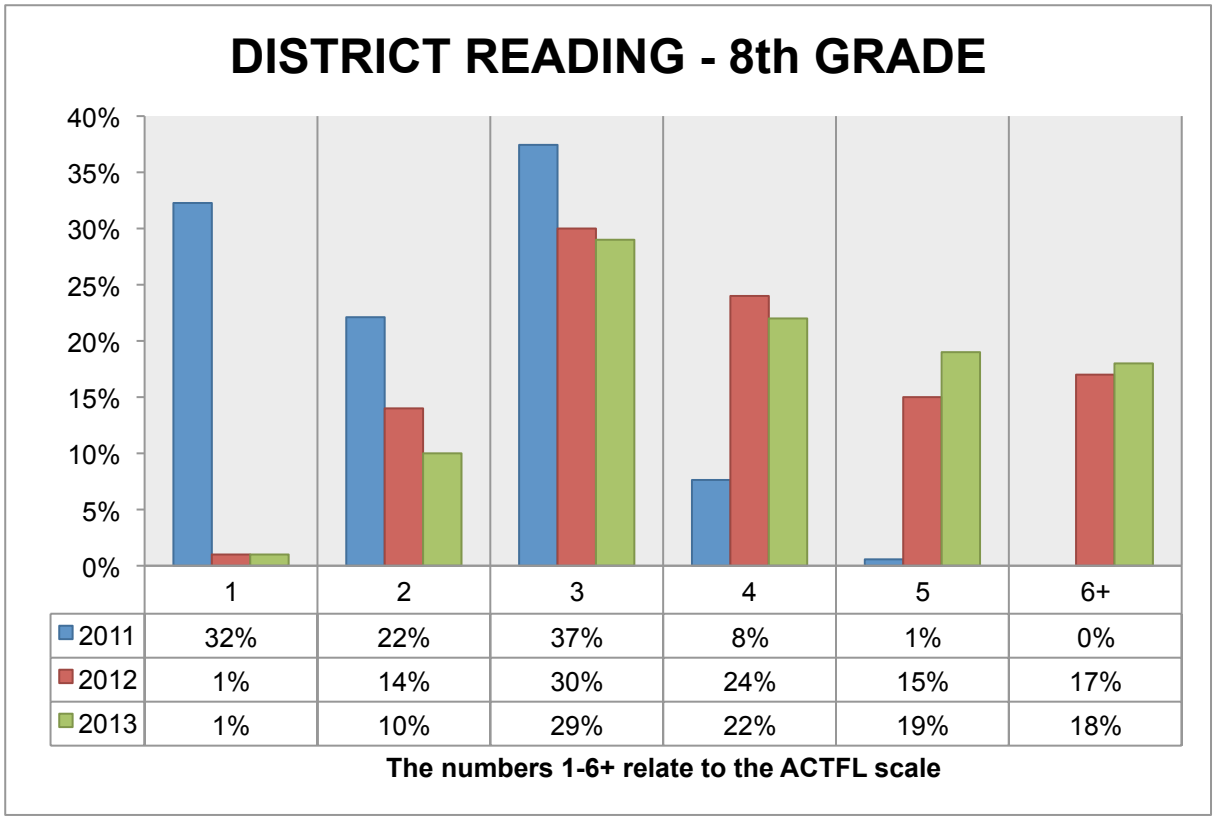


Figure 98. District-wide 8th grade results for Spanish in reading

Figure 99 displays the results for speaking at eighth grade. There were significant gains in speaking from 2011 to 2013. The number of students who scored at Intermediate Low increased from 20% to 53%. Sixty-three percent (63%) of students are scoring at the top three levels.

Students scoring at the Novice High level (performance level #3) are speaking at the Intermediate Low level at least 50% of the time. This data show that 27% of students were at this proficiency level in speaking.

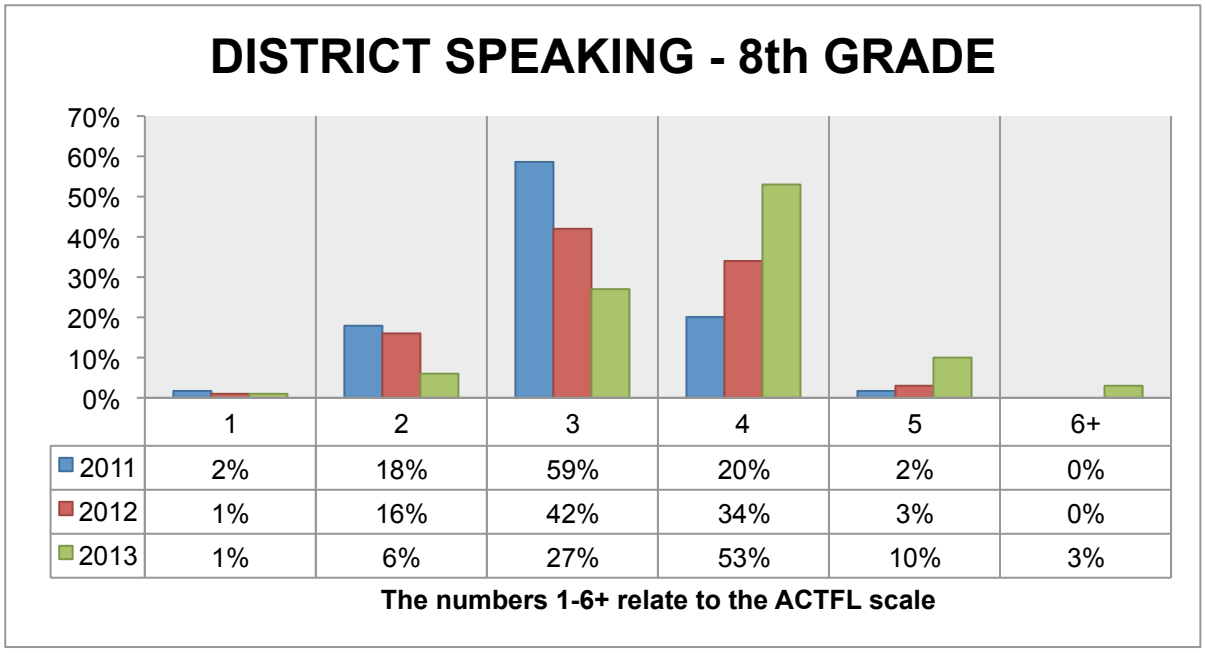


Figure 99. District-wide 8th grade results for Spanish in speaking

Figure 100 displays the results for writing at eighth grade. There was a significant upward trend in the scores at the upper three levels (Intermediate Low to Intermediate High/Pre-Advanced). Sevenrty-six percent (76%) of students achieved scores at these proficiency levels. Writing achievement in Spanish increased more at Intermediate Low (performance level #4) than the other two areas tested at eighth grade (43% to 62%).

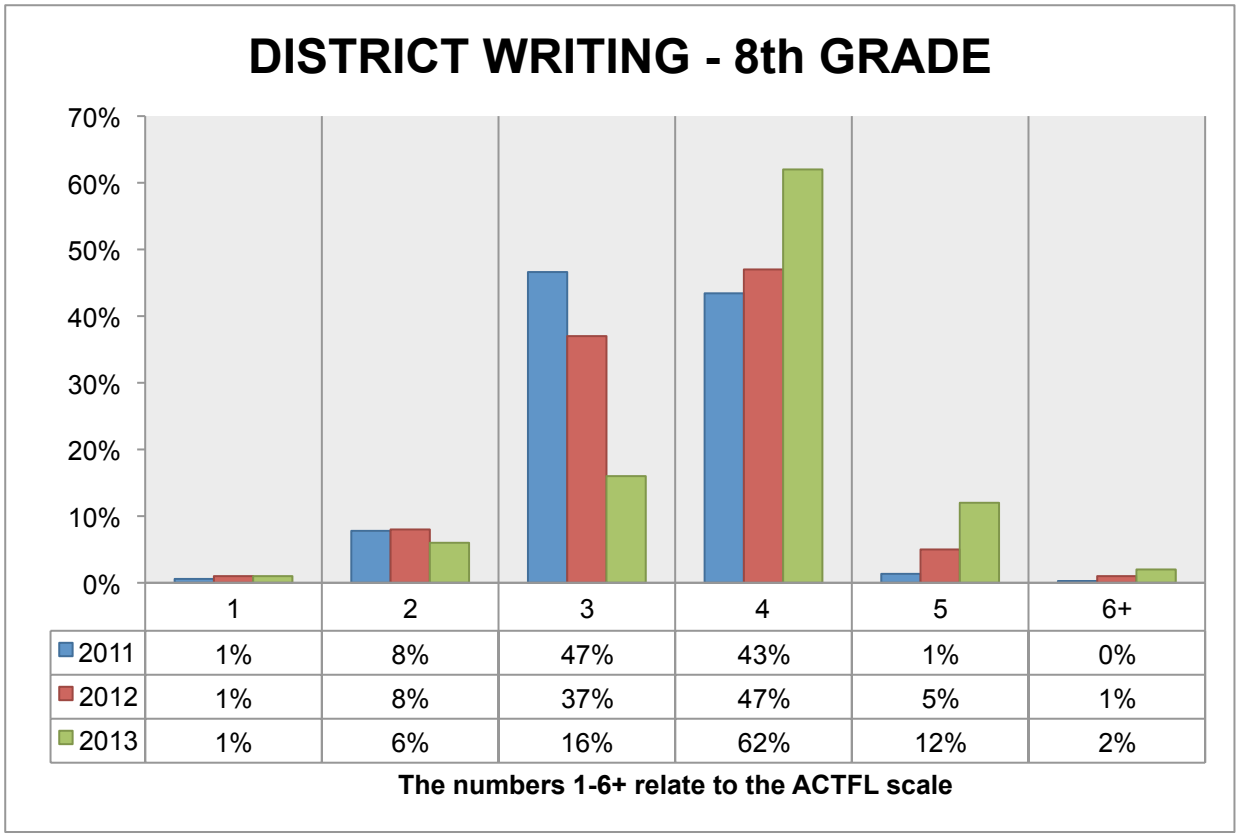


Figure 100. District-wide 8th grade results for Spanish in writing

The College Work Readiness Assessment (CWRA) is an online performance-based assessment that specifically measures critical thinking, analytic reasoning, problem solving, and written communication skills. The CWRA functions as a cross-curricular assessment that informs instructional practices and assessment design in the district. Figure 101 displays the mean scores for CFSD seniors compared to college/university freshmen who are taking the CLA at participating schools.

Beginning with the baseline data from Spring 2011, the district has been analyzing the performance results of both entering and exiting students at the high school. Senior level results provide the district with information on three metrics: (1) college readiness – national comparison of exiting seniors in CFSD to college freshmen, (2) national comparison of high school seniors across participating CWRA schools, and (3) internal growth at the high school – actual freshmen to senior gains by cohort (this data is not available until 2015).

An analysis of the mean performance task scores from 2011, 2012, and 2013 shows that CFSD seniors, overall, are college ready! That is, they are outperforming college freshmen at participating colleges/universities that are administering the Collegiate Learning Assessment (CLA), which parallels the design of the CWRA.

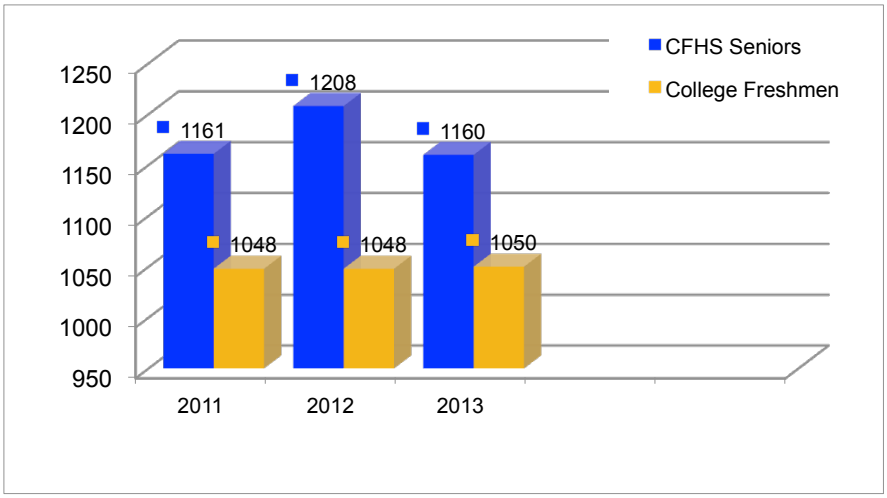


Figure 101. Catalina Foothills School District Seniors Are "College Ready"! Mean CWRA scores for CFSD seniors and mean CLA scores for college freshmen

Table 50 displays the distribution of mean rubric scores over three years for CFSD seniors compared with seniors in all CWRA schools in the subscore categories of Analytical Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving. The data show that CFSD seniors are out-performing seniors in all participating CWRA schools as evidenced by the mean subscale scores for 2011-2013.

The scores range from 1 (low) to 6 (high). The continuum is best described as improvement over a grades 9-16 spectrum, so the goal is to see high schools bring their students a certain distance (peaking at the 3s and 4s) with colleges doing the rest.

Table 50

Comparison of CWRA Subscores of CFHS Seniors and All CWRA Schools

Summary of CWRA Subscores for CFHS Seniors and All CWRA Schools								
Analytic Reasoning/ Evaluation			Writing Effectiveness		Writing Mechanics		Problem Solving	
Year	CFHS	All Schools	CFHS	All Schools	CFHS	All Schools	CFHS	All Schools
2011	3.3	3.0	3.4	3.1	3.4	3.1	3.3	3.0
2012	3.6	3.0	3.6	3.0	3.7	3.3	3.4	2.9
2013	3.5	3.1	3.5	3.0	3.6	3.3	3.3	2.9

Conclusion

Using data for decision-making is important for district and school improvement. It serves as a guide for setting and prioritizing goals, and monitoring progress. The continuing analysis of the gaps between goals for student learning and actual student performance defines the actions of

high-performing schools. Continual exposure to data helps to build a district and school culture that values the use of reliable and complete information to make decisions and solve problems.

The underlying assumption for school improvement efforts is that student learning can and should improve on a continuous basis. Students come to schools to learn – to find exciting challenges and new understandings. If schools are to provide learning environments that are meaningful and engaging, educators must continually reflect on the quality of school systems and focus their efforts to make them better.

Learning Point Associates, 2004

Understandings

- A common instructional language and research-based instructional practices are studied and consistently used to plan and design learning activities and assessment tasks.
- Instructional strategies and programs are implemented with fidelity. Implementation is closely monitored.
- Ongoing assessment is used to systematically monitor students' learning progress, adjust instruction, and give students feedback on learning goals.
- Grades communicate student achievement of learning standards; students' grades will not be reduced or inflated due to student behaviors outside of the standards.
    - Teachers will use multiple points of data to determine grade book entries, and will be able to provide evidence for their grades.
- Grading policies are consistent among teachers of a subject or grade level.
- Student performance data is analyzed regularly. Discussions about data emphasize overall performance as well as growth or improvement measures.
- Differentiation is a high-yield instructional framework used to promote learning opportunities for students at their level of need.
- Teachers must embrace differentiation to meet the diverse needs of students within their classrooms.
- RTI is a multi-tier approach to the early identification and support of students with diverse learning needs.
- A pyramid of proven, practical intervention programs and practices support school and classroom level interventions.
- RTI efforts are strategic and carefully planned to strengthen students' pathway to rigorous coursework.
- Ongoing monitoring of student performance data informs professional learning, differentiation of instruction, and intervention activities.

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SECTION 3:

EFFECTIVE LEADERSHIP

Effective Leadership

Leadership across the system is united in purpose and focused on student learning with recognition that effective governing, administrative, and instructional leadership are necessary to implement change. Effective leaders share a clear focus on high standards for learning for all students and expect that all district staff, programs, and operations contribute to student learning. Effective leaders stay the course in their commitment to long-term educational improvement.

Culturally, we tend to associate leadership with extroversion and attach less importance to judgment, vision and mettle. We prize leaders who are eager talkers over those who have something to say.

Susan Cain, 2012

The one and only personality trait the effective ones I have encountered did have in common was something they did not have: they had little or no "charisma" and little use either for the term or what it signifies.

Peter Drucker, 1996

Essential Questions

- To what extent are we developing leadership across the system to ensure a culture of school improvement that positively influences student learning?
- Are we gathering, and acting on, the right information about principals' effectiveness as leaders of learning?
- Is the governing board's strategic leadership, including its policies, setting a clear expectation of organizational performance outcomes that lead to improved student achievement?
- Do we know if the CFSD administrative and instructional leadership assessment programs are stimulating improved performance?
- What processes are in place at the school and district level to ensure that data are used systematically to improve schools and student achievement?

Introduction

In order to be a leader in the 21st century, educational leaders need to know a lot and possess many skills. Fullan (2001) identified "change" as one of the six aspects for leadership in a complex and changing environment. He states, "The more complex society gets, the more sophisticated leadership must become. Complexity means change, but specifically it means rapidly occurring, unpredictable, nonlinear change." He references the leader's dilemma: "On the one hand, failing to act when the environment around you is radically changing leads to extinction. On the other hand, making quick decisions under conditions of mind-racing mania can be equally fatal" (p. ix). He argues that "Leading in a culture of change means creating a culture (not just a structure) of change. It does not mean adopting innovations, one after another;

it does mean producing the capacity to seek, critically assess, and selectively incorporate new ideas and practices – all the time, inside the organization as well as outside it" (p. 44).

Collins (2001), Elmore (2000), and other researchers reveal qualities of effective leaders through their research studies. They conclude that effective leaders are not heroic, high profile, charismatic people. According to Collins, "their ambition is first and foremost for the institution, not themselves" (p. 21). He identifies five levels of leadership:

Level 1: *Highly Capable Individual* – Makes productive contributions through talent, knowledge, skills, and good work habits.

Level 2: *Contributing Team Member* – Contributes individual capabilities to the achievement of group objectives and works effectively with others in a group setting.

Level 3: *Competent Manager* – Organizes people and resources toward the effective and efficient pursuit of predetermined objectives.

Level 4: *Effective Leader* – Catalyzes commitment to and vigorous pursuit of a clear and compelling vision, stimulating higher performance standards.

Level 5: *Executive* – Builds enduring greatness through a paradoxical blend of personal humility and professional will.

Burns (1978) indicates that leadership depends upon relationships and shared values between leaders and followers. They pursue mutually held goals that represent "… the values and the motivations—the wants and needs, the aspiration and expectations—of both leaders and followers" (p.19).

Shared Focus on Learning

Growing the leadership capacity of many of the adults working in the system will enhance our ability to influence the learning drivers that in turn influence the other components of the system. (Refer to the CFSD Learning System in this report's section on *Support for District-wide Systemic Improvement* section.) "A distributed approach to leadership and a focus on capacity building suggests that the conditions for learning may be improved through strategic leadership development and purposeful collaboration around instructional improvement" (Conery, 2013, p. 253).

Barth (1990) emphasizes the critical importance of a vision to unite a school's staff, to form a community of learners and a community of leaders for improving schools from within. He argues that everyone—students, teachers, parents, and administrators—is capable of leading and of becoming an active member in a "community of leaders" (p. xvi).

Marzano, Waters, and McNulty (2005) found 21 leadership attributes that have positive effects on student learning. Among them are seven attributes that were linked to the promotion of what the researchers termed "second order change." Second-order change requires changes in attitudes, beliefs, and values that are more likely to affect student learning, in contrast to first-order change that is more related to structural or organizational changes that may not affect student learning. The seven leadership attributes are:

- Knowledge of current curriculum, instruction, and assessment practices
- Intellectual stimulation that ensures faculty are aware of most current theories and practices and make discussion of these a regular aspect of the school's culture
- Monitoring and evaluating the effectiveness of school practices and their impact on student learning
- Communicates and operates from strong ideals and beliefs about schooling
- Willing to challenge and actively challenges the status quo
- Adapts his or her leadership behavior to the needs of the current situation and is comfortable with dissent
- Inspires and leads new and challenging innovations (p. 42-43)

Effects of the Principal's Leadership

Professional literature has emphasized the critical role of the principal in improving schools and increasing student achievement. Principals with good leadership skills increase the likelihood that school improvement will occur. "Research and practice confirm that there is slim chance of creating and sustaining high-quality learning environments without a skilled and committed leader to help shape teaching and learning" (The Wallace Foundation, 2009, p. 1).

The CFSD Principal Evaluation Program (PEP) is designed as an ongoing process for professional growth. The program supports continuous improvement in the leadership knowledge and skills of CFSD principals.

PEP's Leading for Learning framework is based on current research on school leadership practice. The framework is made up of four domains: Plan, Lead, Increase Student Achievement, and Exhibit Professionalism. It is a rubric-based framework with components that describe the specific knowledge, skills, and performance evaluated under the broader domain. Figure 102 shown below includes the rubric components for each domain.

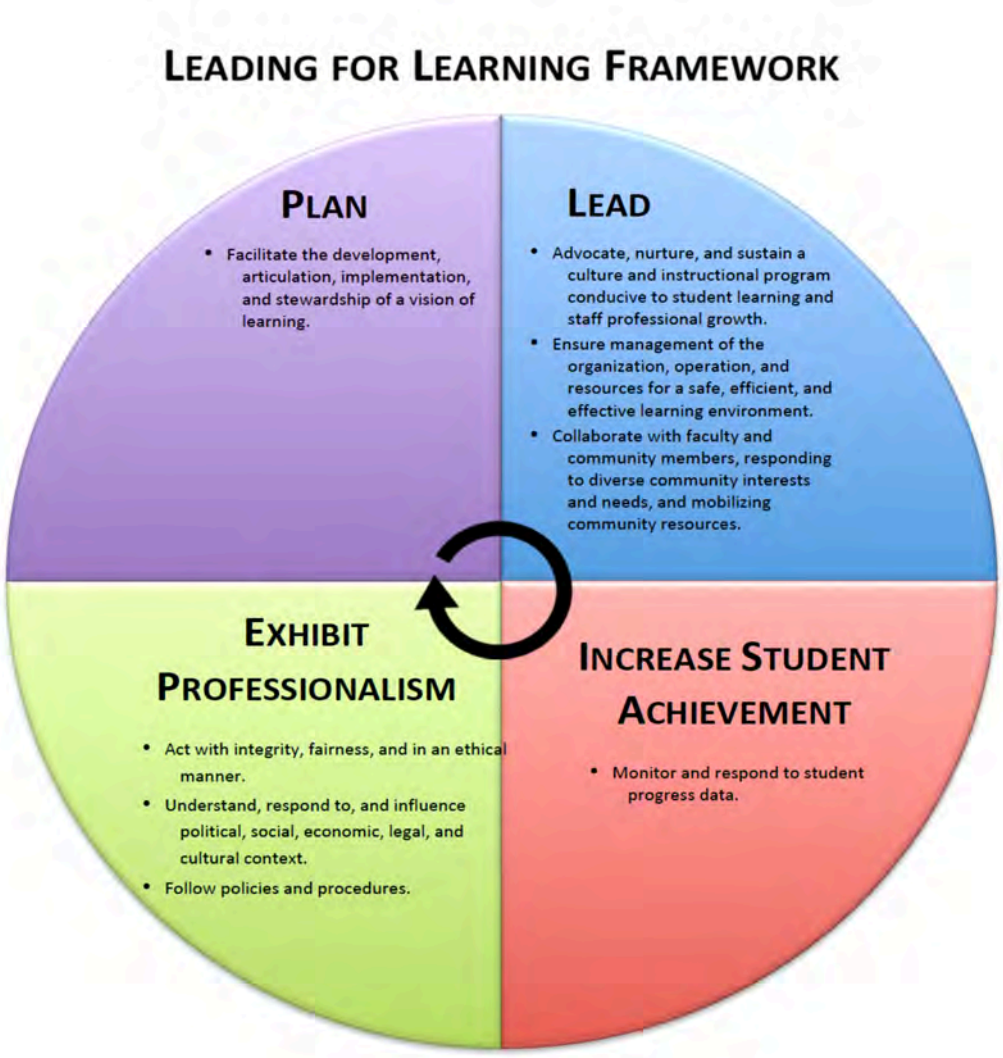

Figure 102. Leadership for learning framework

PEP's rubrics are tied to the learning-based leadership standards of the Interstate School Leaders Licensure Consortium (ISLLC). These 2008 ISLLC standards are grounded in behaviors linked to improving student achievement and are intended to encourage principals to carry out needed changes in their schools. The PEP rubrics provide descriptors along a continuum from ineffective to highly effective, providing an opportunity for principals to reflect on their strengths and identify areas needing development.

A day in the life of a principal includes a long list of managerial and leadership tasks. But a key prerequisite of leader assessment is a strong focus on instruction and the behaviors most likely to drive better learning. The most significant responsibility of the principal is to help teachers develop their instructional practice. To that end, principals are partners in using the CFSD Teacher Assessment Program (TAP) to promote growth in teaching. They joined teachers in summer workshops the past two years to increase their TAP knowledge and skill. (Refer to this report's section about Focused Professional Learning, p 97).

Principals and other CFSD administrators (PreK-12 Administrative Team) meet biweekly during the school year and conduct a two-day retreat in July for the purpose of developing their knowledge and skills regarding student learning and how it is influenced by effective curricular, instructional, and assessment practices. This administrative team is continuously focused on improving its leadership skill set and developing inter-rater reliability when evaluating teaching. Table 0 shown here includes the professional development topics for administrative team learning the past eighteen months.

Table 51

PreK-12 Administrative Team Professional Development Topics

PreK-12 Administrative Team – Professional Development Content July 2012 – December 2013
Common Core: 6-12 Literacy Strand: Science, Social Studies, and Technical Subjects; CFSD Framework for English language Arts (ELA) and Mathematics Unpacking and Leading the Rollout and Implementation of the TAP Rubric
First-Year Implementation of PEP
Develop Instructional Plans Aligned to Standards
Technology Resources in Instruction
Common Core: Depth of Knowledge (DOK) and Academic Rigor
TAP: Teachers' Student Achievement Data
TAP: Lesson Analysis, Final Scoring
Student Engagement
TAP: School Wide Data; Teacher Survey Results
TAP: Lesson and Rubric Analysis
Common Core State Standards (CCSS): Concept/Skill for Use in Classroom Observation and Teacher Interaction by the Principal
Bring Your Own Device: The New Normal
Metiri Surveys: 21st Century Education, Student Engagement
Review and Refine TAP: First Year Implementation
Decision-Making for Results (DMR)
Data Team Leadership
DMR: Review and Feedback on SMART Goals for Continuous Improvement
Understanding Essential Questions
The Place of Feedback
Curriculum Scales

Dynamic and Distributed Leadership

Elmore (2000, 2004) argues that leadership cannot exist only in designated leaders because teaching and learning are too complex. He also asserts that improvement must come from the people who are directly responsible for instruction, not from the management of instruction. Therefore, leadership needs to be distributed throughout the school organization based on knowledge, skills, interests, and roles. Elmore defines this as distributed leadership that means, "multiple sources of guidance and direction, following the contours of expertise in an organization, made coherent through a common culture" (p. 15).

Effective principals provide opportunities at their schools for teachers to assume leadership positions through which they work with their peers to improve instructional practices that increase student learning. There are numerous leadership responsibilities assumed by CFSD teachers: Dean of Students, Data Team Leader, Mentor (to new faculty), Department Chair (9-12), Content Leader (6-8), Literacy Team/RTI (Response to Intervention) Leader (K-5), Student Assistance Team Facilitator (K-5), and Grade/Content Level Leader (K-8).

Teachers also assume district level leadership responsibilities. The CFSD Knowledge and Skill (K & S)/Career Ladder Program is administered by master teachers who provide group and one-to-one instructional coaching of their peers. Other master teachers lead the 3-year CFSD Induction Program for new teachers, including Professional Learning Groups (PLGs). Five technologically capable master teachers are full-time Curriculum Technology Integrators (CTIs), supporting classroom teachers in their use of technology to enhance student learning. Scores of teachers also lead and participate in design teams that produce CFSD's rich repository of K-12 curricula and assessments across all subject areas.

District Support for Learning Across the System

In their meta-analysis, Waters and Marzano (2006) found a positive relationship between school district leadership – effective superintendents – and student achievement. Five responsibilities were influential for setting direction and keeping districts focused on teaching and learning. They included:

1. Board alignment and support of district goals for achievement and instruction with no other initiatives allowed to "detract attention or resources from accomplishing these goals."
2. Collaborative goal setting involving central office staff, school-level administrators, and board members.
3. Non-negotiable goals for achievement and instruction that ensured consistent use of research-based instructional strategies to reach learning goals.
4. Monitoring goals for achievement and instruction. The goals were "the driving force behind a district's actions."
5. "Use of resources to support achievement and instructional goals; …time, money, personnel, and materials, are allocated to accomplish the district's goals" (p. 3-4)

CFSD superintendents lead, support, and monitor organizational structures and practices that influence the learning of both students and adults in the system. Although they collaborate continuously to ensure alignment to the CFSD strategic plan's goals, there is a distinct division of responsibility for the three individuals. The superintendent teams with the governing board to set the strategic direction of the district, translate it to the larger CFSD community, and monitor its progress. (Refer to this report's section on Support for District-wide Systemic Improvement, p. 2.) Performance goals for the superintendent are adopted each year in August by the governing board. The goals are derived from the district's strategic plan, feedback from performance

evaluations of the superintendent conducted semiannually by the board, and any legislative/statutory change affecting the operation of K-12 public education in Arizona. The associate superintendent's primary responsibility is to lead the K-12 professional work of teachers to design and implement standards-referenced curricula and performance-based assessments. (Refer to this report's section on Coherent and Aligned Curriculum Focused on Student Learning, p. 29.) The assistant superintendent is responsible for human resources, including collaboration with principals to improve teaching across the district. (Refer to this report's section on Frequent Monitoring of Teaching and Learning, p. 118.) Both) the associate and assistant superintendent follow a goal-setting process with the superintendent to determine improvement priorities, again within the context of the district's strategic plan, and are evaluated against those goal expectations.

It is the regular practice of superintendents to study effective educational systems, policies, programs, and practices to improve their district leadership.

Leadership through Governance

Through its policies, the governing board of a school district has a powerful lever for the exercise of leadership. According to Carver (1997), "Policy leadership clarifies, inspires, and sets a tone of discourse that stimulates leadership in followers" (p. 25). "To the extent that a board wishes to provide strategic leadership, it must clarify policies and expect organizational activities to give them life" (p. 26).

The CFSD Governing Board sets the strategic direction of the school system's 21st century learning agenda for the benefit of all students. (Refer to this report's section on Support for District-wide Systemic Improvement, p. 2.) Board members are elected at-large to represent the community's educational interests. Members coalesce into a collaborative unit that conducts its business in public whereby all stakeholders can observe the work of the board and interact in a public setting about meeting topics of mutual interest.

The CFSD Governing Board commits to continuous education and training for its leadership function of governance. The board conducts an annual self-evaluation cycle through which it analyzes its effectiveness. New members are oriented to board work and mentored by experienced members. All board members attend conferences related to education law, effective governance, and a myriad of other topics relevant to PreK-12 education.

Sustained Improvement Efforts

Across all functions of CFSD, leaders make decisions based on data about performance. Data analysis is an important tool for sustaining district and school change and improvement, identifying areas that need attention and celebrating successes. When districts have a clear understanding of the comprehensive picture, data-driven decision-making is a "powerful educational reform tool" (Shannon & Bylsma, 2004, p. 36).

School districts that show continued improvement base decisions on data rather than on habit or hunch. Leaders are able to readily assess strengths and weaknesses in performance and

instruction because they recognize that end-of-the-year standardized test results don't provide all of the information a district needs. Instead, they design multiple measures to assess school and student progress.

Decision Making For Results: Data Driven Decision Making

Continuous improvement is the foundation of effective data driven decision-making. It provides a process to identify needed improvements, develop strategies to make the improvements, make adjustments along the way, and learn lessons from the process for the next level of improvements; hence it is continuous (White, 2011). Decision making for Results: Data Driven Decision Making (DDMR) is a systematic process used to make decisions on a continuous basis. The process provides a structure and framework for teams to engage in to determine where to focus efforts for teaching, learning, and leadership. Researchers agree that schools that analyze data are better able to make decisions about sustaining powerful practices, make midcourse corrections, and discontinue ineffective practices.

Decisions made in schools are part of an integrated, holistic system centered on student learning. The focus must be on what to teach, how to teach it, how to meet individual student needs, and how to be confident that these strategies are working.

According to White (2011) there are three principles of Data Driven Decision Making for Results. They include accountability, antecedents, and collaboration (Figure 103).

- Accountability is the authority to act and permission to subtract.
- Antecedents are strategies employed by a specific school or district that lead to academic achievement and the attainment of other system-wide goals.
- Collaboration is the pairing of at least two brains, hearts, and set of eyes and ears that translate into decisions.

Figure 103. Principles of decision-making for results

The Leadership and Learning Center developed a data driven decision-making for results process (DDMR) that has six steps. The steps include:

1. Conduct a treasure hunt.
2. Analyze data to prioritize needs.
3. Set, review, and revise goals.
4. Select instructional strategies.
5. Determine results indicators.
6. Monitor and evaluate progress.

These steps can also be represented as a cycle, as it is continuous (Figure 104).

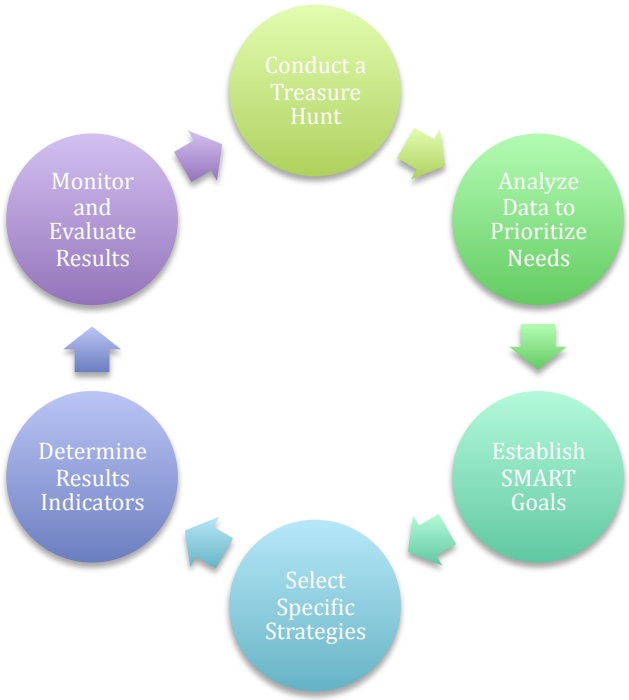

Figure 104. Data driven decision-making for results (DDMR) process

Before engaging in the DDMR process, a team must begin with inquiry. Simply put, inquiry is the act of asking questions in order to gather or collect information. Asking questions about areas of student achievement, discipline, attendance, student involvement, parental involvement, etc. is essential to determine what sources of data a team will analyze to begin the DDMR process. The steps of the DDMR process are described in more detail below.

Step 1: Treasure Hunt

In the treasure hunt, teams examine multiple sources of data over time to determine trends and draw some inferences as to the reason for the trends. The treasure hunt should include data that is

both cause and effect data. Effect data includes specific outcomes or results. Cause data includes professional practices that create specific effects or results. Cause data are the measures that we can control.

Within the treasure hunt, a data driven dialogue protocol is used to analyze the multiple sources of data. The data driven dialogue protocol has three phases. While phase one and two are conducted during the treasure hunt of the DDMR process, phase three is done later in the process. Wellman and Lipton (2004) utilize a data driven decision-making model that includes:

1. Surfacing experiences and expectations. This phase includes teams making predictions about the data they will be looking at as well as asking questions that they want to find out in the data.
2. Analyzing the data. This includes looking for patterns and trends in the data set, and identifying areas that are unexpected in the data. During the analysis there is only a statement of facts without making inferences.
3. Generating theory. Making inferences, drawing conclusions, and developing explanations to determine cause are all part of this phase. It also includes identifying additional data sources needed to verify the explanations. During this phase, there is an identification of solutions that might be explored and the data that will be collected to guide the implementation.

Step 2: Analyze Data to Prioritize Needs

The analysis of data answers two questions, "What did you find out from your treasure hunt? What can you learn from what is working?" Analysis is designed to identify strengths or successes to celebrate; challenges to be met; and trends across schools, grades, or departments. The key to data analysis is to make the best decision based on the best information available. During this analysis, the third phase of the data-driven dialogue is implemented.

Step 3: Establish SMART Goals

Once the analysis has occurred and the greatest needs are identified for improvement, goal statements that are specific, measurable, achievable, relevant, and timely (SMART) are established. SMART goals become the specific improvement initiative for which progress data will be collected.

Step 4: Instructional Strategies

For each SMART goal, instructional strategies that will most effectively lead to the achievement of the goal are identified. The instructional strategies involve the adult actions related to the needs and the goal. High yield research-based instructional strategies require training and practice by adults, and the most powerful will consistently impact student achievement when implemented well. They require training to acquire and practice with feedback to perfect (White, 2011).

Step 5: Results Indicators

Results indicators provide evidence about whether a strategy is on track toward achieving the goal. They represent data points that need to be verified. The most effective indicators show that efforts are working in one of two ways: (1) Is the selected strategy being implemented as designed? (2) Is the selected strategy having the intended effect on student learning? Finally, results indicators offer ongoing and interim measures that allow the professional to systematically make midcourse corrections.

Step 6: Monitor and Evaluate Results

The purpose for monitoring and evaluating results is to twofold. First, monitoring will allow teams to identify midcourse corrections. Second, monitoring allows for teams to adjust strategies to ensure fidelity of implementation. As a result of monitoring and evaluating results, teams may need to go back to the beginning of the DDMR cycle to begin the process again.

In CFSD, the DDMR process has been used in Data Teams. (Refer to this report's section on Focused Professional Learning, p. 97 for a complete description of Data Teams.) Teachers regularly utilize the DDMR process during data team meetings when analyzing classroom and individual student progress data.

At the July 2013 administrative retreat, the DDMR process was introduced to administrators as a process for school improvement. While many administrators are familiar with the process as part of data teams, understanding it through the lens of the school improvement process was the focus of the retreat. Using the DDMR process, and a school improvement template, administrators:

- Analyzed school wide and individual student data (AIMS, SAT 10).
- Identified areas of strength and concern.
- Prioritized the areas of concerns.
- Set SMART Goals for the school improvement plan.
- Identified programs and structures that are currently in place to support student learning.
- Identified professional practices data (practices or cause data that is in place that directly informs or impacts student performance).

This process was used to determine goals for school-based improvement plans and the focus for the data teams work during the 2013-2014 school year.

Within the school improvement process, there are both short and long term goals. School-wide goals are typically yearlong. Data teams at each site work on a series of short-term or intermittent goals that align to the school's long-term goal. Specifically, data teams utilize the DDMR process to establish their SMART goals and instructional strategies for an intermittent goal aligned to the school improvement plan's goal(s). Teachers implement the identified strategies within their classrooms and assess student progress. Principals monitor the progress of data team goals and continue to analyze student progress toward the attainment of the school

goal(s). School teams continually utilize the DDMR and the Data Team Process to analyze data for all intermittent goals.

According to Bernhardt (2000), once the schools have begun implementing their improvement plan, data collection and analysis shift to answering questions such as:

- How do we know what to improve?
- How do we use data to prevent failure and ensure success?
- How do we know when improvement has occurred?
- What are our measurement criteria?
- Who will take the lead in our efforts?

To systematically improve, school personnel must clarify their goals and aim all improvement efforts toward this focus. Gathering and analyzing data clarifies what to improve, allows staff to measure the effectiveness of what they are currently doing, and informs them of their alignment of their efforts toward achieving the goals. Using data to help schools know how to prevent failure and improve every student's academic achievement is where schools need to focus their improvement efforts (Bernhardt, 2000).

Conclusion

Distributed leadership practices in a school and district capitalize on the vast professional talent pool that exists in the organization. Effective leaders focus first on students and their learning. These leaders are learners too and continuously improve their practice. School district leaders support and empower their colleagues, and create positive and supportive professional learning environments that foster collaboration and shared responsibility. Effective leaders use a data-driven decision-making process to improve teaching and learning.

Understandings

- The success of the school and district depends on the unified leadership efforts of teachers, principals, district administrators, and the governing board.
- Skillful teachers assume leadership responsibilities at the school and district level to help their peers improve instructional and assessment practices in their classrooms.
- Strong learning communities of leaders and followers within a school and district are important to sustaining improvement.
- Student learning is the benefit to be derived from effective leadership practices within a school and throughout the district.
- A systematic approach to the collection, analysis and use of data at the district, school and classroom level is essential to continually improve student achievement.

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Section 4:

POSITIVE AND SUPPORTIVE LEARNING ENVIRONMENT

Positive and Supportive Learning Environment

A Culture of Cooperation and Collaboration

The school has a safe, civil, healthy, and intellectually stimulating learning environment. Students feel respected and connected with the staff and are engaged in learning. Collaborative and cooperative relationships reflect the needs and strengths of the district, schools, and community stakeholders.

Essential Questions

- Are clear and fair rules and policies in place to support a safe, equitable, and healthy learning environment?
- What evidence do we have that our learning environment welcomes mistakes and errors as opportunities for learning?
- How does the district build trust, mutual respect, and a sense of shared responsibility for desired results in the system?

Introduction

> *The first major purpose of a school is to create and provide a culture that is hospitable to human learning.*
>
> Barth, 2001

A positive and supportive learning environment can be defined as "school climate and culture characterized by reasonable expectations for behavior, consistent and fair application of rules and regulation, and caring, responsive relationships among adults and students" (Shannon & Bylsma, 2007, p. 106). Classrooms are warm and inviting and learning is purposeful, engaging, and significant. Students are encouraged to "take risks" in learning and are supported as they learn increasingly challenging content and apply their knowledge in authentic contexts. Students feel that they belong in the school community; they are valued and honored, and differences are viewed as strengths or "assets," not deficiencies. Mutual respect and trust are at the heart of a supportive learning environment.

Although the terms school climate and school culture have similar characteristics, they express two separate concepts (Gruenert, 2008). "Climate" is thought to represent the attitude of a school– the collective mood or morale of a group of people (Gruenert, 2008). "It seems that a happy teacher is considered a better teacher…bringing doughnuts to the faculty lounge on Fridays may help a few teachers wake up quicker, but this will not affect the morale of the building" (p. 57).

Whenever a group of people spend a significant amount of time together, they develop a common set of expectations. Gruenert contends that these expectations evolve into unwritten rules to which group members conform. "Groups develop a common culture in order to pass on information to the next generation" (p. 57). Gruenert refers to an organization's culture as its collective personality and an organization's climate as its attitude. "It's much easier to change an organization's attitude (climate) than it is to change its personality (culture)" (p. 58).

Climate is the main leverage point for school culture, which means that if school leaders want to shape a new culture, they need to begin with an assessment of the climate. An ineffective culture likely points to climate issues, which according to Gruenert (2008) can be changed without much effort. Gruenert provides the table below (Table 52) to contrast climate with culture.

Table 52

Contrasting Climate with Culture

CLIMATE	**CULTURE**
Monday versus Friday	Gives Mondays permission to be miserable
Attitude or mood of the group	Personality of the group
Provides a state of mind	Provides a (limited) way of thinking
Flexible, easy to change	Takes many years to evolve
Based on perceptions	Based on values and beliefs
Feel it when you come in the door	Members cannot feel it
Is all around us	Is part of us
The way we feel around here	The way we do things around here
First step to improvement	Determines if improvement is possible
It's in your head	It's in your head

Understanding the differences and similarities between climate and culture gives educational leaders a more precise tool for improving schools. Implementing a strategy designed to change climate is not the same as one that targets belief systems, or culture. Barth (2002) maintains, "Probably the most important – and the most difficult – job of an instructional leader is to change the prevailing culture of a school. The school's culture dictates in no uncertain terms, 'the way we do things around here'" (p. 6). High quality teaching and learning that lead to increased student achievement have long been described as the fundamental purpose of school improvement. "This will not be accomplished by bringing doughnuts to school" (Gruenert, 2008, p. 59).

School Climate and Discipline

Feeling safe – socially, emotionally, intellectually, and physically – is a fundamentally human need (Cohen & Geier, 2010). Schools must be safe and supportive for effective teaching and learning to take place. Creating positive school climates is the first step in building safe and supportive schools conducive to academic excellence and student success. The term "school climate" describes the extent to which "a school community creates and maintains a safe school campus; a supportive academic, disciplinary, and physical environment; and respectful, trusting, and caring relationships throughout the school community" (U.S. Department of Education, 2014, p. 5). Freiberg and Stein describe school climate as the heart and soul of the school and the essence of the school that draws teachers and students to love the school and want to be part of it (as cited in Mac Neil, Prater, & Busch, 2009, p. 76).

Research shows that creating a positive school climate can assist districts, schools, and teachers attain important goals, including increasing student achievement and closing achievement gaps. Positive school climates also enhance safety in the school and community by increasing

communication among students, families, and staff. “Given the relationship between school climate and academic achievement, schools should take deliberate steps to create a positive school climate in which every student can learn, fully engage in a rigorous curriculum, and feel safe, nurtured, and welcome” (U.S. Department of Education, 2014, p. 5).

The U.S. Department of Education worked with a wide range of safe and successful schools. Their review of the research and consultation with experts in the field revealed that high-performing schools typically share a number of common approaches to creating safe and supportive conditions for learning. Drawing from these common approaches, three guiding principles were identified for policymakers, district officials, school leaders, and stakeholders to consider as they work to improve school climate and discipline:

- Principle 1: Create positive climates and focus on prevention;
- Principle 2: Develop clear, appropriate, and consistent expectations and consequences to address disruptive student behaviors; and
- Principle 3: Ensure fairness, equity, and continuous improvement. (p. 2)

Principle 1

The first step in creating positive school climates is to identify climate goals that complement academic goals. In developing these goals, schools may solicit input from staff, families, students, and others, and use a needs assessment to better understand the school’s climate. The school then develops approaches to address identified needs and achieve progress towards its goals. For example, the use of evidence-based strategies such as tiered supports can help schools to better manage student behavior by providing different levels of assistance and interventions based on students’ different needs.

To effectively implement a school-wide behavior program and create a safe and positive school climate, schools provide professional development opportunities for staff. The training includes clear guidance on how to engage students, promote positive behavior, and respond appropriately – and consistently with any staff member’s role – if students misbehave.

Principle 2

Creating positive school climates and providing students with varying levels of support do not release students from the responsibility of behaving appropriately or being held accountable if they fail to do so. A critical component of a strong and positive school climate is a school-wide discipline policy that sets high expectations for behavior; provides clear, developmentally appropriate, and proportional consequences for misbehavior; and uses disciplinary incidents to help students learn from their mistakes, improve their behavior, and meet high expectations.

In view of the essential connection between instructional time and academic achievement, schools need to develop strategies that strive to keep students in school and engaged in learning to the greatest extent possible. Thus, removing students from the classroom as a disciplinary consequence is considered as a last resort and only for appropriately serious infractions. Students who are removed from class are provided with meaningful instruction, and their return to the classroom is a priority.

One example of a program that uses tiered supports is Positive Behavioral Intervention and Supports (PBIS). The PBIS framework has been shown to be effective in reducing the need for disciplinary actions and improving academic, social, emotional, and behavioral outcomes for students. PBIS is a systematic approach to proactive, school-wide behavior based on a Response to Intervention (RTI) model. PBIS applies evidence-based programs, practices, and strategies for all students to increase academic performance, improve safety, decrease problem behavior, and establish a positive school culture. Schools implementing PBIS build on existing strengths, complementing and organizing current programming and strategies.

In general, PBIS emphasizes four integrated elements: (a) data for decision-making, (b) measureable outcomes supported and evaluated by data, (c) practices with evidence that these outcomes are achievable, and (d) systems that efficiently and effectively support implementation of these practices.

These four elements are guided by six important principles:

- Develop a continuum of scientifically-based behavior and academic interventions and supports.
- Use data to make decisions and solve problems.
- Arrange the environment to prevent the development and occurrence of problem behavior.
- Teach and encourage pro-social skills and behaviors.
- Implement evidence-based behavioral practices with fidelity and accountability.
- Screen universally and monitor student performance and progress continuously. (PBIS.Org, 2014)

Schools that establish systems with the capacity to implement PBIS with integrity and durability have teaching and learning environments that:

- Are less reactive, aversive, dangerous, and exclusionary, and
- More engaging, responsive, preventive, and productive
- Address classroom management and disciplinary issues (e.g., attendance, tardies, anti-social behavior)
- Improve supports for students whose behaviors require more specialized assistance (e.g., emotional and behavioral disorders) and
- Most importantly, maximize academic engagement and achievement for all students. (PBIS.Org, 2014)

The elementary and middle schools in CFSD use PBIS as a framework for disciplinary interventions. The high school uses and enforces the discipline matrix from board policy with a variety of levels of consequences. The elementary and middle schools also use the discipline matrix to guide decision-making about consequences for actions that violate board policy. Figure 105 and Figure 106 are examples of the pyramid of interventions for the levels of infraction and

levels of interventions used at schools in the district. All schools use Arizona Safe (AZSafe) to document student suspension incidents.

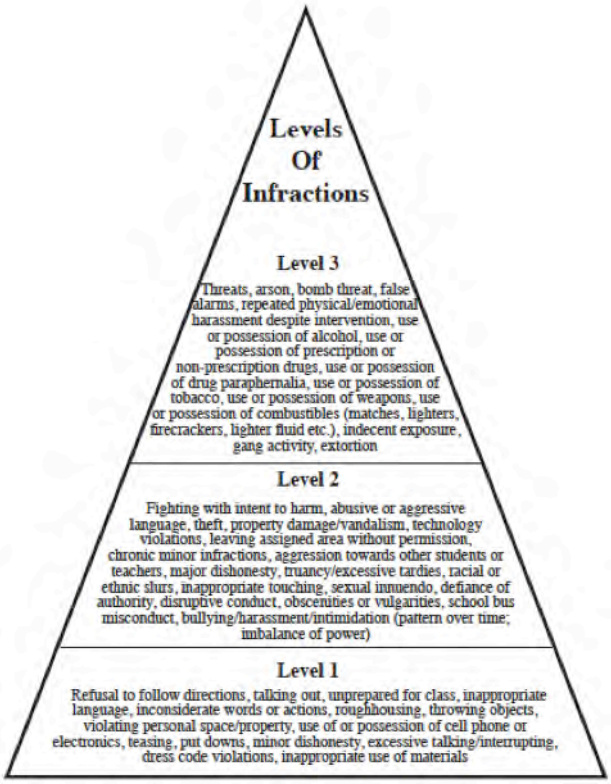

Figure 105. Levels of infractions

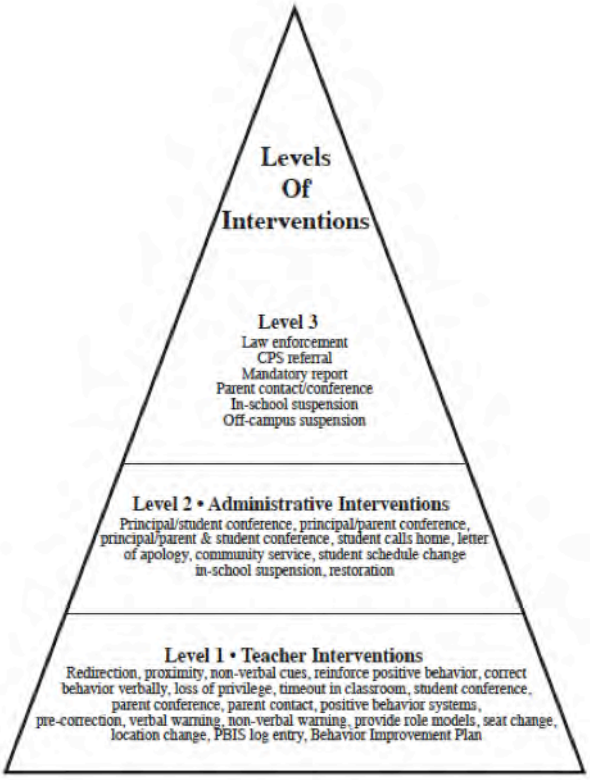

Figure 106. Levels of interventions

School-wide support and intervention programs can personalize students' academic support, "catching" unsuccessful students before they fall too far behind. A "Pyramid of Intervention" is an example of a system that ranges from broad-based supports to progressively more intensive levels of help for those who need it. Supports may be provided through students support teams, conferencing and tutoring, guided study programs, and mentoring programs (DuFour, DuFour, Eaker, & Karhanek, 2004).

Table 53 below displays a suspension summary for the prior three school years. The average percentage of CFSD students who received a suspension during the last three years was within a range of 0.6% to 3.6% across all schools with an average of 2.1%. This number is low, indicating that the district is a safe place for learning.

Table 53

Suspensions for Prior Three School Years: 2011-2013

Suspension Summary Prior Three School Years

2012-2013 Suspensions	# Suspensions	# Students	# Arrests	#Long-Term Suspensions	LTS # Days	# Short-Term Suspensions	STS # Days	Total # of LTS & STS Days	Defiance, Disrespect towards Authority, and Non-Compliance	Alcohol, Tobacco and Other Drugs Related	Weapons Related (ninja star; sparklers; knife; slingshot; airsoft gun w/pellets)	Other Violations of School Policy and Rules
Total Elementary	22	14	0	0	0.0	22	23.5	23.5	7	0	2	13
Total Elementary Enrollment 2012-2013		2,134										
% of Elem. Students that Received a Suspension		0.7%										
Total Middle	31	26	3	0	0.0	31	59.5	59.5	4	0	9	18
Total Middle School Enrollment 2012-2013		1,170										
% of MS Students that Received a Suspension		2.2%										
Total HS	69	59	18	1	10.0	68	315.75	325.75	8	20	2	39
Total HS Enrollment 2012-2013		1,654										
% of HS Students that Received a Suspension		3.6%										
Total All Schools	122	99	21	1	10.0	121	398.75	408.75	19	20	13	70
Total All Schools Enrollment 2012-2013		4,958										
% of Students that Received a Suspension		2.0%										

2011-2012 Suspensions	# Suspensions	# Students	# Arrests	#Long-Term Suspensions	LTS # Days	# Short-Term Suspensions	STS # Days	Total # of LTS & STS Days	Defiance, Disrespect towards Authority, and Non-Compliance	Alcohol, Tobacco and Other Drugs Related	Weapons Related (knife, pellet gun; b. b. gun)	Other Violations of School Policy and Rules
Total Elementary	18	13	0	0	0.0	16	23.0	23.0	6	0	1	11
Total Elementary Enrollment 2011-2012		2,067										
% of Elem. Students that Received a Suspension		0.6%										
Total Middle	36	29	2	0	0.0	36	76.0	76.0	3	1	2	30
Total Middle School Enrollment 2011-2012		1,202										
% of MS Students that Received a Suspension		2.4%										
Total HS	77	53	19	13	130.0	64	194.00	324.00	24	18	1	34
Total HS Enrollment 2011-2012		1,714										
% of HS Students that Received a Suspension		3.1%										
Total All Schools	131	95	21	13	130.0	116	293.00	423.00	33	19	4	75
Total All Schools Enrollment 2011-2012		4,983										
% of Students that Received a Suspension		1.9%										

2010-2011 Suspensions	# Suspensions	# Students	# Arrests	#Long-Term Suspensions	LTS # Days	# Short-Term Suspensions	STS # Days	Total # of LTS & STS Days	Defiance, Disrespect towards Authority, and Non-Compliance	Alcohol, Tobacco and Other Drugs Related	Weapons Related (box cutter; knife; firecrackers)	Other Violations of School Policy and Rules
Total Elementary	28	17	1	0	0.0	28	41.0	41.0	6	0	0	22
Total Elementary Enrollment 2010-2011		1,953										
% of Elem. Students that Received a Suspension		0.9%										
Total Middle	50	42	8	6	60.0	45	103.5	153.5	5	9	5	31
Total Middle School Enrollment 2010-2011		1,182										
% of MS Students that Received a Suspension		3.6%										
Total HS	81	60	22	5	50.0	76	321.00	371.00	17	22	3	39
Total HS Enrollment 2010-2011		1,736										
% of HS Students that Received a Suspension		3.5%										
Total All Schools	159	119	31	11	110.0	149	465.50	565.50	28	31	8	92
Total All Schools Enrollment 2010-2011		4,871										
% of Students that Received a Suspension		2.4%										

Principle 3

High-performing schools and districts ensure that school discipline is applied fairly and continually monitor and improve disciplinary policies and practices. Professional staff need to be trained with the skills and strategies necessary to reinforce appropriate behaviors and respond to student misconduct fairly and equitably. Schools also commit to regular review of the school's discipline policies and practices, and monitor progress toward the school's climate and discipline goals. This work is highly complex, but essential to achieving the goal of supporting all students in safe and supportive learning environments that promote academic excellence and student success.

Tables 54 – 59 display results of student perceptions about a variety of topics related to school climate and culture. In Spring 2013, students in grades five through twelve responded to questions as part of the district-wide comprehensive survey developed and validated by the Metiri Group.

Overall, the results in Table 54 indicate that students perceive their schools as safe and drug-free. Specifically, 80% of the respondents perceive that there is no gang activity at their school. Fifty percent (50%) of students perceive that alcohol and drugs are never used at school. Fifty-two percent (52%) report that there is no conflict based on race, culture, religion, sexual orientation, gender, or disabilities.

Table 54

Students' Perceptions About Safety and Substance Use at Their School

How often are the following things true about you or about your school?

	Never	Some of the time	Most of the time	All of the time	Total	
Students use alcohol or illegal drugs while at school.	50%	37%	8%	6%	100%	n= 2813
There is conflict in my school based on race, culture, religion, sexual orientation, gender, or disabilities.	52%	37%	6%	5%	100%	n= 2813
There is gang activity in my school.	80%	12%	4%	4%	100%	n= 2813

Overall, the results in Table 55 indicate that students perceive that discipline is fair at their school and there is a person or program at their school that helps them resolve conflicts. Sixty-one percent of the respondents agree or strongly agree that discipline is fair and 68% agree or strongly agree that there is a person or program at their school to help resolve conflicts.

Table 55

Students' Perceptions About Discipline at Their School

How much do you agree or disagree with the following statements about your school?

	Strongly disagree	Disagree	Agree	Strongly agree	Total	
There is a person or program in my school that helps students resolve conflicts.	10%	23%	54%	14%	100%	n= 2813
Discipline in my school is fair.	14%	26%	51%	10%	100%	n= 2813

Relationships

The process of teaching and learning is fundamentally relational (Cohen & Geier, 2010). One of the most important aspects of relationships in school is how connected people feel to one another. The Centers for Disease Control and Prevention defines school connectedness as "the belief by students that adults and peers in the school care about their learning as well as about them as individuals" (as cited in Cohen & Geier, 2010). Positive teacher-student relationships are important to student achievement because they impact the climate and management of a classroom, they inform instructional design and delivery, and they influence student effort and academic engagement (Saphier, Haley-Speca, & Gower, 2008).

According to Hattie (2012), one of the most important influences on student achievement is the relationship between the teacher and students. Teachers who have good relationships with students care about their students as learners. They hold high expectations for their students, convey these expectations to students, and help them meet these expectations. This is accomplished in a positive, caring, respectful classroom climate.

An optimal classroom climate for learning is one that generates an atmosphere of trust – a climate in which it is understood that it is okay to make mistakes, because mistakes are integral to learning. Expert teachers create classroom climates that welcome errors (Hattie, 2012). This is achieved by developing a climate of trust between teacher and student and between student and student. The learning is worth engaging in and everyone is involved in the process of learning. It is a climate in which error is welcomed, student questioning is high, and in which students can become effective learners.

One of the most significant studies on the power of trust has been Bryk and Schneider's (2002) seven-year analysis of 400 elementary schools. They found that the higher the levels of relational trust among the school community (principals, teachers, students, parents), the greater the improvement on standardized tests. They argue that relational trust is an essential element of effective school improvement.

Supportive classroom environments help students develop a sense of efficacy, so that students see themselves a successful learners. Many low achievers attribute their performance to luck, lack of ability, and other causes beyond their control. Saphier et al. (2008) contend that students can be taught that their own efforts make a difference, that "effective effort" determines achievement, not innate ability (p. 269-270). As students come to believe in their own effort-based ability, "they will work harder and smarter because they come to believe it is worth their

while to do so, and they have been taught explicitly how to do so" (Saphier, 2005). Effort-based ability requires three "crucial messages from teachers:

1. What we're doing here is important.
2. You can do it!
3. I'm not going to give up on you – even if you give up on yourself. (p. 90)

Dweck (2006) approached self-efficacy from the perspective of how students view intelligence. Students who believe that intelligence is fixed or unchangeable tend to avoid challenges and prefer good grades over learning. Students with a growth mind-set view achievement as something that can be changed through hard work and effort, and is not fixed. When teachers promote a growth mind-set, they focus students on "self-development, self-motivation, and responsibility" (p. 107). Dweck's fixed and growth theories of intelligence, Saphier's (2005) notion of effort-based ability, and Hattie's (2012) research provide a framework for teachers to develop a collaborative classroom climate, where good learning is understood by students and valued by teachers.

The tables that follow provide further insights into the climate and culture in CFSD schools. Results represent students' perceptions about their respective schools.

The results in Table 56 indicate that the majority of students feel welcome at their CFSD schools and perceive that staff who see them every day know their name, who they are, and look out for them. However, 19% of students indicate that they do not feel welcome at their school, 28% report that staff do not know their names or who they are, and 30% perceive that adults do not look out for them at school.

Table 56

Students' Perceptions About Belonging at Their School

How much do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Agree	Strongly agree	Total	
I feel welcome in my school.	5%	14%	59%	22%	100%	n= 2813
Most of the teachers, counselors, school leaders, and other adults I see at school every day know my name or who I am.	7%	21%	49%	23%	100%	n= 2813
The adults at my school look out for me.	8%	22%	53%	16%	100%	n= 2813

The results in Table 57 indicate that, overall, teacher-student relationships are positive. Eighty-one percent (81%) of students reported that teachers treat them with respect. Conversely, 40% indicated that students did not treat teachers with respect. Eighty-three percent (83%) of students reported that teachers provide extra help when it is asked for. Only 61% of students perceived that their teachers connect their learning to life outside the classroom.

Table 57

Students' Perceptions About Their Relationships with Teachers

How much do you agree or disagree with the following statements about your teachers?

	Strongly disagree	Disagree	Agree	Strongly agree	Total	
Teachers in my school treat students with respect.	5%	14%	61%	20%	100%	n= 2813
Most students in my school treat teachers with respect.	8%	32%	53%	8%	100%	n= 2813
Adults in my school treat each other with respect.	2%	5%	62%	31%	100%	n= 2813
My teachers enjoy the subjects they teach.	3%	11%	63%	23%	100%	n= 2813
My teachers inspire me to learn.	7%	28%	50%	16%	100%	n= 2813
My teachers give me extra help when I need it.	4%	14%	61%	21%	100%	n= 2813
My teachers connect what I am learning to life outside of the classroom.	10%	29%	47%	14%	100%	n= 2813

The results in Table 58 indicate that students are moderately comfortable (41%) to very comfortable (26%) seeking teacher or adult assistance at school if they are having a problem in class. Sixty-five percent (65%) to 75% of students perceive that teachers and other adults are available to help them if something is bothering them or if they are having a problem in class. However, 57% of students report that they will not seek this assistance if something is bothering them.

Table 58

Students' Perceptions About Their Level of Comfort Talking To and Availability of Teachers and Other Adults in Their School

How COMFORTABLE you are talking to teachers and other adults at your school about the items below?

	Not comfortable	2	3	Very comfortable	Total	
A problem you are having in a class?	11%	22%	41%	26%	100%	n= 2813
Something that is bothering you?	26%	31%	28%	15%	100%	n= 2813

How AVAILABLE teachers and other adults are at your school to talk about the items below?

	Not available	2	3	Very available	Total	
A problem you are having in a class?	6%	19%	46%	29%	100%	n= 2813
Something that is bothering you?	10%	24%	41%	24%	100%	n= 2813

The results in Table 59 indicate that there is a general perception of care and respect among students. Sixty-six percent (66%) of students report that they treat each other with respect.

Table 59

Students' Perceptions About Peer Relationships at Their School

How much do you agree or disagree with the following statements about students in your school?

	Strongly disagree	Disagree	Agree	Strongly agree	Total	
Most students in my school help and care about each other.	8%	31%	54%	7%	100%	n= 2813
Most students in my school just look out for themselves.	5%	38%	46%	10%	100%	n= 2813
Most students in my school treat each other with respect.	8%	27%	59%	7%	100%	n= 2813

Marzano, Waters, and McNulty (2005) describe the link among school culture, leadership, and student achievement. They state, "Fostering school culture that indirectly affects student achievement is a strong theme within the literature of principal leadership" (p. 47). From their comprehensive meta-analysis of leadership and student achievement, they identified the following key leadership behaviors: (a) promote cohesion among all staff, (b) promote a sense of well-being among all staff, (c) develop an understanding of purpose among all staff, (d) develop a shared vision of what school should be like (p. 48). They concluded that each of these leadership behaviors directly relates to school culture and that school culture relates to student achievement.

The results from Table 60 indicate that the majority of students perceive that teachers and other adults encourage them to succeed in school. Eighty-nine percent (89%) perceive that hard work is needed to earn good grades. However, 29% of students disagree or strongly disagree that their school helps them develop challenging academic goals.

Table 60

Students' Perceptions About Being Successful at Their School

How much do you agree or disagree with the following statements about being successful at your school?

	Strongly disagree	Disagree	Agree	Strongly agree	Total	
The adults at my school help me understand what I need to do to succeed in school.	4%	14%	63%	19%	100%	n= 2813
My teachers encourage me to succeed.	2%	9%	60%	29%	100%	n= 2813
I need to work hard to get good grades at my school.	2%	8%	50%	39%	100%	n= 2813
Students who get good grades at my school are respected by other students.	6%	25%	54%	15%	100%	n= 2813
My school helps me to develop challenging academic goals.	6%	23%	54%	17%	100%	n= 2813
Someone at my school helps me understand what subjects or courses I need to be promoted to the next grade or graduate.	6%	19%	56%	18%	100%	n= 2813

Hattie's (2012) synthesis of the research found 150 factors that correlate to student achievement. Table 61 shows the factors that are at or above the .40 hinge-point and directly relate to a safe, orderly, and positive learning environment (Marzano, 2013).

Table 61

Hattie's Factors That Relate to a Safe and Orderly Environment At or Above the Hinge-Point

Rank	**Factor**
12	Teacher-student relationships
16	Classroom behavior
25	Not labeling students
38	Classroom cohesion
41	Peer influences
42	Classroom management
47	Professional development
49	Play programs
52	Small group learning
54	Concentration/persistence/engagement
56	Motivation
62	Teacher expectations
65	Cooperative learning
69	Reducing anxiety

Classroom Management

Research on classroom management and discipline suggests certain practices that contribute to positive classroom climate and to improved student achievement. According to Brophy, "Classroom management has been broadly defined as actions taken to create and maintain a learning environment that supports instructional goals" (as cited in Shannon & Bylsma, p. 113). LePage suggests the following practices to manage classrooms effectively:

- Creating meaningful curriculum and engaging pedagogy to support motivation.
- Developing supportive learning communities and encouraging parent involvement.
- Organizing and structuring the classroom, including decisions about timing and other aspects of instructional planning.
- Repairing and restoring behavior respectfully.
- Encouraging moral development. (as cited in Shannon & Bylsma, pp. 113-114)

Le Page identified six major kinds of procedures or routines that support a "well-functioning classroom." They include:

1. The physical setting of the room
2. Transitions in and out of the room
3. Procedures during group work

4. General procedures such as distributing materials or being on the playground
5. Procedures specific to particular classroom routines, such as attendance or putting homework on the board
6. Procedures or routines associated with student-initiated and teacher-led instruction (as cited in Shannon & Bylsma, p. 114)

Classroom management should not be equated with discipline. Discipline is one small part of classroom management.

Conclusion

Students are more likely to perform at high levels in a school environment in which they feel physically and emotionally safe and supported, and which communicates high expectations for achievement. Schools that are effective in promoting such learning environments are driven by a clear code of conduct that is enforced fairly, consistently, and equitably across all demographic groups. There is also a wide consensus that schools need to hold students who misbehave accountable for their actions through appropriate and proportional consequences, while also using the disciplinary process itself to help students acquire new behaviors and strategies to prevent future instances of misbehavior.

School culture is integral to school improvement. Shaping a school's culture is a complex process – a combination of leadership, relationships, trust, learning focus, values, beliefs, norms, patterns– developed over months and years (Barth, 2002; Valentine, 2006). What is needed to develop and sustain a positive and supportive school culture will vary from school to school. High-performing schools create positive school climates and healthy school cultures that support all students, while holding students to high expectations.

Understandings

- A safe, caring, and positive environment foster a child's ability to learn.
- The climate of the class is seen as fair; students know it is okay to make mistakes or ask for help. There is a high level of trust and students know the purpose of the class is to learn and make progress.
- District, school, and family/community relationships will be built on trust, respect, and an understanding that we have a mutual responsibility for student success.
- Improvement of the organization requires consciously collaborative participation by its schools, families, and community members.

High Levels of Family and Community Support and Engagement

The community at large – families, businesses, social service agencies, colleges and universities, and other citizens – not just teachers and staff in schools, assume responsibility to educate students. It is a shared effort.

Essential Questions

- Do our families believe that their involvement in CFSD schools creates a meaningful partnership between home and school for the benefit of their children's education?
- Are we optimizing the opportunities for collaboration with businesses, social service agencies, and institutions of higher learning to increase student learning?
- Have we done all that we can do to inform CFSD citizens about the benefits of their local override and bond election tax dollars to help our students achieve their academic and personal best?

Introduction

The public education of children is a community-based effort. The primary responsibility for involving parents and the larger community in the life of the schools lies with the school district. The local governing board elected by the community is charged with setting the strategic direction of the school district in response to the educational interests of the citizens who live there and who help pay for the school system via their tax dollars.

Family Involvement

The research is clear that family involvement is a key factor in a student's improved academic performance. "This relationship holds across families of all economic, racial/ethnic and educational backgrounds and students at all ages." The benefits for students include higher GPAs, enrollment in more challenging classes, better attendance, improved behavior, and better social skills (Henderson & Mapp, 2002, p. 24).

High-performing schools intentionally link family involvement strategies to academic goals. In CFSD there are numerous school-based activities that engage parents in the academic life of their children (e.g., parent-teacher conferencing, student-led conferences, science fairs, Love of Reading events, geography and spelling bees). Family involvement is part of each school's improvement plan to intentionally address the needs of parents to understand their students' learning progress.

Strong school, family, and community partnerships are based on mutual commitment, responsibility, and respect. These partnerships move family and community involvement beyond traditional activities such as fund raising and chaperoning school activities to include shared decision making and home and community-based support of student learning.
The National Parent Teacher Association (PTA) has published standards to guide the development of parent/family involvement programs. The PTA standards include:

- Standard 1: Welcoming all families into the school community – families are active participants in the life of the school, and feel welcomed, valued, and connected to each other, to school staff, and to what students are learning and doing in class.
- Standard 2: Communicating effectively – Families and school staff engage in regular, two-way, meaningful communication about student learning.
- Standard 3: Supporting student success – Families and school staff continuously collaborate to support students' learning and healthy development both at home and at school, and have regular opportunities to strengthen their knowledge and skills to do effectively.
- Standard 4. Speaking up for every child – Families are empowered to be advocates for their own and other children, to ensure that students are treated fairly and have access to learning opportunities that will support their success.
- Standard 5. Sharing power – Families and school staff are equal partners in decisions that affect children and families and together inform, influence, and create policies, practices, and programs.
- Standard 6. Collaborating with community – Families and school staff collaborate with community members to connect students, families, and staff to expanded learning opportunities, community services, and civic participation.

CFSD: Collaborative Work with Families

We believe that the relationship between school and home is strong in CFSD. There is a mutual expectation that both family and school staff support student learning. Family involvement is a way of thinking and doing that recognizes the central role that parents play in their children's education and the benefits of working together. "Children have advantages when their parents support and encourage school activities" (Constantino, 2003, p. 7-8).

At the school level, parent and community professionals who are content experts engage students in learning that connects them with the real world. Some examples are STEM (science, technology, engineering, math) professionals – astronomers, plant scientists, mathematicians, engineers – who work with students to heighten their knowledge of the world around them; tutors who help students one-on-one or in small groups; Game and Parks personnel who advise students about wildlife; University of Arizona world language experts who interact with our Spanish and Chinese language students; local attorneys who assist with mock trials; University of Arizona business students supporting digital citizenship; community garden; and Chinese New Year Festival.

Parents are members of school site councils and advisory committees. They are active volunteers in their students' classrooms and serve as chaperones for field trips. Numerous school-based activities/events are organized by parents to strengthen relationships among families and with the school. The Family-Faculty Organization at each school, the CFSD grassroots PTA-type group, contributes significant funding and volunteer support to help the school achieve its mission.

Leadership in schools and the district has particular responsibility for engaging family, communities, and policy makers in improving student learning, according to Knapp, Copland,

For, Markholt, McLaughlin, Milliken, and Talbert (2003). In *Leading for Learning*, they suggest these essential tasks:

1. "Making efforts to understand community, professional, and policy environments.
2. Building relationships with individuals and groups. To foster general good will to support specific aspects of the learning improvement agenda, learning-focused leaders open lines of communication, develop alliances, and form coalitions with whoever has greatest relevance (positive or negative) for the learning improvement agenda.
3. Anticipating resistances and devising ways to manage conflict. Leaders engage in the political work of neutralizing resistance, heading off attacks, or strategically confronting external resistances when it makes sense to do so.
4. Garnering the full range of resource (fiscal, intellectual, human, etc.) that support that learning agenda" (p. 31).

On a regular basis, CFSD surveys parents about their level of satisfaction with their students' educational programming. In response to a 2013 survey, parents chose the four issues that they thought were the most important to the school district's future. The top four were the hiring and retention of quality teachers, academic standards and expectations, maintaining the lowest possible class size, and student academic achievement. Figure107 below shows the total results of that survey question.

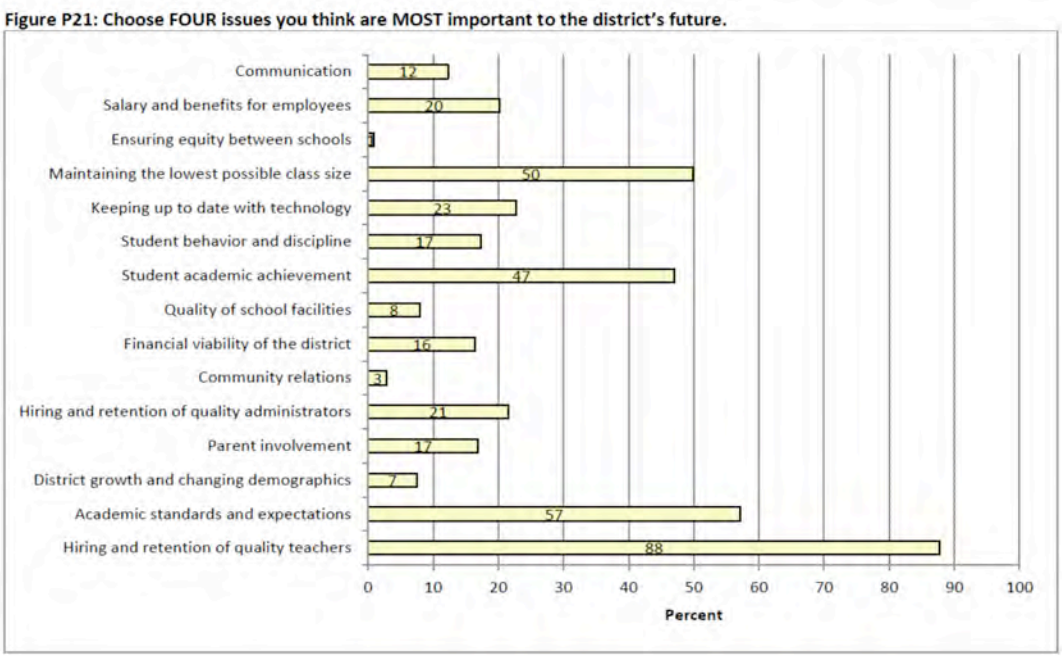

Figure 107. Parents' top four issues to CFSD's future.

In the same survey, the parent respondents also told us what improvements they would most like to see at their students' schools. Figure 108 below indicates the parents' opinions. In this case, the top four areas for school-based improvement are more relevant, real-life learning context and topics, more hands-on learning, better communication with parents, and more effective teaching.

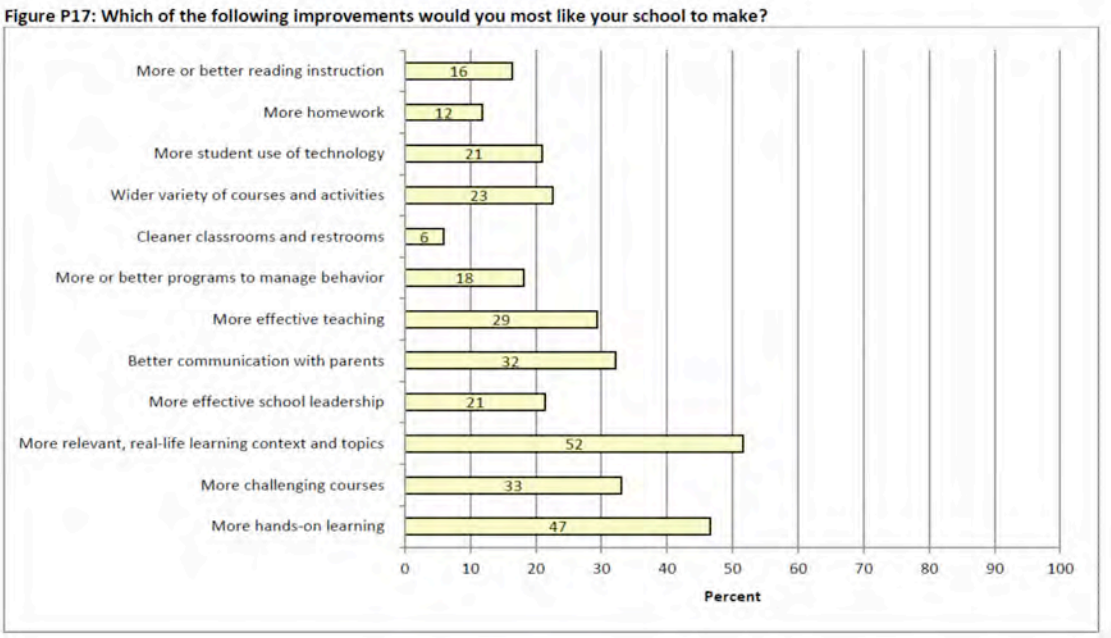

Figure 108. Parent opinions about desired school-based improvements.

Community Involvement in Schools

Dryfoos (2000) reviewed forty-nine (49) evaluations of community-school initiatives. She found that thirty-nine (39) programs reported academic gains for the students they served. Additionally, the programs reported improvements in student behavior and development, family well-being, and community life. The programs were open to students before and after school and promoted both educational achievement and positive youth development.

CFSD offers comprehensive programming through its Community Schools' (CS) offerings of before and after childcare, enrichment classes for K-12 students (e.g. chess, American Sign Language, animal friends, 3D animation, rocketry), high school summer for credit classes, adult education, and vacation options during school year breaks as well as summer weeks (e.g., Spanish immersion camp, musical theatre camp, Mountain Lemmon backpacking, Lego robotics, Claymation moviemaking, airplane design). CS is a valued partner with parents and the community at large to provide exciting, safe, and educationally strong programs for youth and adults throughout the year.

The larger community also does its part to support the school district through local taxation and education-business partnerships. Voters have consistently approved Maintenance and Operation (M & O) budget overrides; capital budget overrides for curriculum resources including technology; and bonds for new construction, facility upgrades, and equipment. As a result, we are able to create and maintain an excellent learning environment for students.

The CFSD Foundation provides support for the entire K-12 system by serving as key communicators throughout the community to help citizens understand key issues affecting the district. It has also established important partnerships with local businesses that support the mission of the Foundation. The CFSD Foundation's Board of Directors is a composite of parent

and community activists who are dedicated to raising dollars to help teachers across the district. The Foundation has contributed millions of dollars over the years to add teaching positions and support specific programs through its endowment funds.

Conclusion

The education of children is a community-based collaborative endeavor. “It takes a village” may be a cliché, but it is evident in CFSD that a variety of educational stakeholders living and working here contribute positively to the student learning outcomes that are achieved. It is also obvious that our citizens value their schools, evidenced by their consistent support for local operational and capital budget overrides, and bond elections. They are willing to pay for strong public schools in their neighborhoods.

Understandings

- Students achieve to higher levels when their parents are actively engaged with the school to support their children’s learning.
- The broader the base of community support, the more the local public schools are able to successfully serve the educational interests of its citizens.
- The responsibility for establishing partnerships lies primarily with the staffs of schools and the district.

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CONCLUSION

Reframing CFSD's System for Learning in the 21st Century is a resource about the eleven research-based characteristics of high-performing schools districts, CFSD's performance relative to the characteristics, and recommendations for the focuses of future improvement efforts.

The research is clear about how improvement processes must go beyond superficial activity. Classroom learning and teaching need to reflect and be influenced by all of the characteristics depicted in the four categories:

- Support for District-wide Systemic Improvement
    - Policy and Program Coherence
    - Strategic Allocation of Resources
- Quality Teaching and Learning
    - High Expectations and Accountability
    - Cohesive and Aligned Curriculum
    - Focused Professional Learning
    - Frequent Monitoring of Teaching and Learning
- Effective Leadership
    - Shared Focus on Student Learning
    - Dynamic/Distributed Leadership
    - Sustained Improvement Efforts
- Positive and Supportive Learning Environment
    - A Culture of Cooperation and Collaboration
    - High Levels of Family and Community Engagement

The characteristics are interrelated. The research literature is clear that student learning increases in schools that systematically attend to all of these characteristics.

The district and its schools make a difference in successful learning outcomes for students; with the quality of teachers and instructional practices being the most influential. Therefore, it makes sense that we continue to focus our primary CFSD improvement goals on teaching for learning.