DEFINING DEEP LEARNING IN CFSD

The strategic plan is designed to advance our capacity to support student and adult learning. Defining the key concepts in the strategic plan, and building a collective common language around them, enables us to more consistently and effectively design professional learning and implement the goals and associated strategies that will lead to student success. Unless we have developed a common language with a shared understanding of the key concepts in our strategic plan, our call for deep learning will remain a worthy goal, but almost impossible to translate into purposeful classroom practice.

The primary focus of the Envision21 – Deep Learning Strategic Plan is to support and improve academic achievement. Six (6) key concepts were built into the plan that we believe will positively influence this outcome. They are Deep Learning, Transfer, Deep Learning Proficiencies (DLPs), College and Career Readiness, Academic Mindsets, and Learning How to Learn. These concepts are more explicitly discussed and defined below.

Deep Learning

CFSD defines *deep learning* as requisite knowledge and skills that students need to learn efficiently to succeed in college, careers, and civic life. It is a process that enables students to become more proficient at developing a deeper understanding of rigorous academic content, and the ability to transfer and apply that understanding to novel problems and situations. It is also an outcome that results from the self-directed transfer of knowledge and skills to the understanding and mastery of complex content.

In classrooms where deep learning is the focus, students develop a range of skills to deeply engage in and take ownership of their learning. They have positive mindsets that help them learn more efficiently, and they believe what they are learning is important. The product of deep learning then is transferable knowledge and skills, and an understanding of how, why, and when to apply this knowledge to answer questions and solve new problems.

The table on the next page shows the four interconnected dimensions that are associated with our definition of deep learning. They have collectively become the focus of a system-wide effort to promote and create deep learning in our schools.

DEEP LEARNING IN THE CATALINA FOOTHILLS SCHOOL DISTRICT			
ACADEMIC SKILLS	**DEEP LEARNING PROFICIENCIES**	**LEARNING HOW TO LEARN SKILLS**	**ACADEMIC MINDSETS**
			
Mastery of Rigorous Academic Content Actively Participate in Learning Appropriate Level of Challenge Structure of Knowledge Foundational & Technical Knowledge and Skills Acquire, Apply, and Transfer Knowledge and Skills	**Application of Deep Learning Proficiencies** (5c + s = dlp) Citizenship Creativity and Innovation Critical Thinking and Problem Solving Communication Collaboration Systems Thinking	**Learning How to Learn** *Self-regulation and Ownership of Learning*: Planning & Goal-setting Self-instruction Help-seeking Collaborating Progress monitoring Reflection *Learning Techniques:* Time Management Study Skills	**Developing Academic Mindsets** ***Belonging*** I belong in this learning community. ***Growth*** My ability and competence grow with my effort. ***Self-efficacy*** I can succeed. ***Relevance*** This work has value and purpose for me.
KNOWLEDGE AND SKILLS THAT *TRANSFER* TO COLLEGE, CAREERS, AND CIVIC LIFE			

KEY CONCEPTS OF ENVISION21 – DEEP LEARNING

Mastery of Rigorous Academic Content and Transfer

A definition of deep learning is not complete without the element of transfer. When students go out into the world and encounter new experiences, they will need to draw on previous learning to solve new problems and challenges.

Transfer is the ability to apply or extend what one has learned in one context to new contexts. In some sense, the whole point of school learning is to be able to transfer what is learned to a wide variety of contexts outside of school. Yet the ability to transfer knowledge and skills is not a given. Quite often, information learned in a specific way, or in a particular context, does not transfer to another context. For example, students may memorize vocabulary words for a quiz, but they cannot use the words in their writing. Students may learn how to solve percentage problems at the end of a percentages unit, but they do not know how to apply percentages when they are confronted with a different kind of problem outside of school. Learning that is not applied or put into practice reduces the likelihood of later transfer. Real life

application is almost always much more complex than decontextualized= instruction or rote learning of discrete skills.
If transfer is the primary goal of instruction, then learning needs to be organized around the kinds of authentic problems and projects that are most often encountered in non-school settings. Students need time to understand the meaning of new ideas, to draw connections to other ideas, to apply what they are learning to real tasks, to determine patterns of relationships, and to practice new skills.

"Active" learning in which students are asked to use ideas by writing and talking about them, apply what they have learned to more complex problems, and construct projects that require the integration of many ideas has been found to promote deep learning and stronger transfer. We are committed to helping our students actively put knowledge and skills into practice in new and challenging situations.

Deep Learning Proficiencies

Our students' preparation continues to require an expanding skill set if they are to flourish in a constantly changing world as lifelong, creative, connected, and collaborative problem solvers. CFSD reframed the previous 21st century skills and titled them "deep learning proficiencies" (DLPs). There are 5Cs + systems thinking (5c + s = dlp). The CFSD deep learning proficiencies are as follows:

- Citizenship
- Critical Thinking and Problem Solving
- Creativity and Innovation
- Collaboration
- Communication
- Systems Thinking

CFSD developed a set of rubrics (K-2, 3-5, 6-8, and 9-12) for each DLP. Specific performance areas and indicators are used for teaching and measuring skill development. The rubrics provide a common vocabulary and illustrate a continuum of performance. By design, the rubrics have not been aligned to any specific subject area. They are intended to be contextualized within the academic content areas based on the selected performance area(s) and indicator(s) that will be taught and assessed. In practice, this means that not every performance area and indicator in each of the rubrics will be necessary in every lesson, unit, or assessment.

Academic Mindsets

The research evidence suggests that one of the best levers for increasing students' perseverance and improving their academic behaviors is by supporting the development of academic mindsets. Academic mindsets are students' beliefs about themselves in relation to school and learning. It has been shown that students with positive academic mindsets work harder, engage in more productive academic behaviors, and persevere to overcome obstacles to success.

One of our goals is to help our students understand how they can positively influence their own learning. We plan to intentionally develop academic mindsets so that our

students can set and achieve challenging goals. CFSD is focusing on four mindsets:

- Belonging: I belong in this community.
- Growth: My ability and competence grow with my effort.
- Self-efficacy: I can succeed.
- Relevance: This work has value and purpose for me.

Belonging refers to students' sense of connectedness to peers and adults in their classes and school. Students with a strong sense of belonging see themselves as members of not only a social community, but also an intellectual community. This is a strong motivator and helps students interpret setbacks as a natural part of the learning process.

Students with a *growth mindset* believe that they can change their abilities and competence with effort. They see effort as what makes people smart, persist in the face of setbacks, and are motivated to focus on continued growth. The growth mindset is the most powerful lever to improve learning because it is the driver of student behavior.

Related to the growth mindset is *self-efficacy* – the belief that one can succeed. Students must believe they are likely to achieve their goals if they are to sustain the hard work of learning something challenging. If students need help or resources, they must see a path they can take in order to obtain them. The stronger their growth mindset, the more students will seek ways to overcome adversities and search for alternate strategies to achieve their goals.

When students find academic work to be *relevant* to their lives, interests, and concerns, they are much more likely to engage in their learning in a sustained way and to perform well. It takes more energy to focus attention on a task that does not have direct value to the student.

In summary, when students feel a sense of belonging in a classroom and school community, believe that their efforts will increase their ability and competence, believe that success is possible and within their reach, and see work as interesting or relevant to their lives, they are much more likely to persist at academic tasks and to demonstrate the learning behaviors that lead to school success.

Learning How to Learn

The sixth and final key concept of the Envision21 – Deep Learning strategic plan is "learning how to learn." We define learning how to learn as a skill-set that students need to own and manage their learning. Students set learning goals and keep track of their progress; they know and apply a range of strategies and study skills (e.g., time management, note taking, strategic reading, technological proficiency); they reflect on their learning experiences and are aware of their strengths and weaknesses; they seek out new learning; they use failures and/or setbacks as opportunities for feedback; they care about the quality of their work; and they continue to seek new ways to learn challenging material (Conley, 2014; Hewlett Foundation, 2013).

While mastery of content knowledge and proficiency with complex thinking skills are certainly important, students must be able to employ a range of skills and techniques that are essential to the learning process and the transition to postsecondary pathways. Over the long term, these skills end up being just as important as content knowledge and thinking strategies. It is important that our students learn to master these skills to succeed in their academic courses and to also continue to learn once they have concluded their formal education. To learn something deeply, students need to internalize it and make it their own. To be able to use that learning and influence issues that matter to them, students need to participate substantively in the learning process. These key learning skills and techniques prepare our students to be lifelong learners.