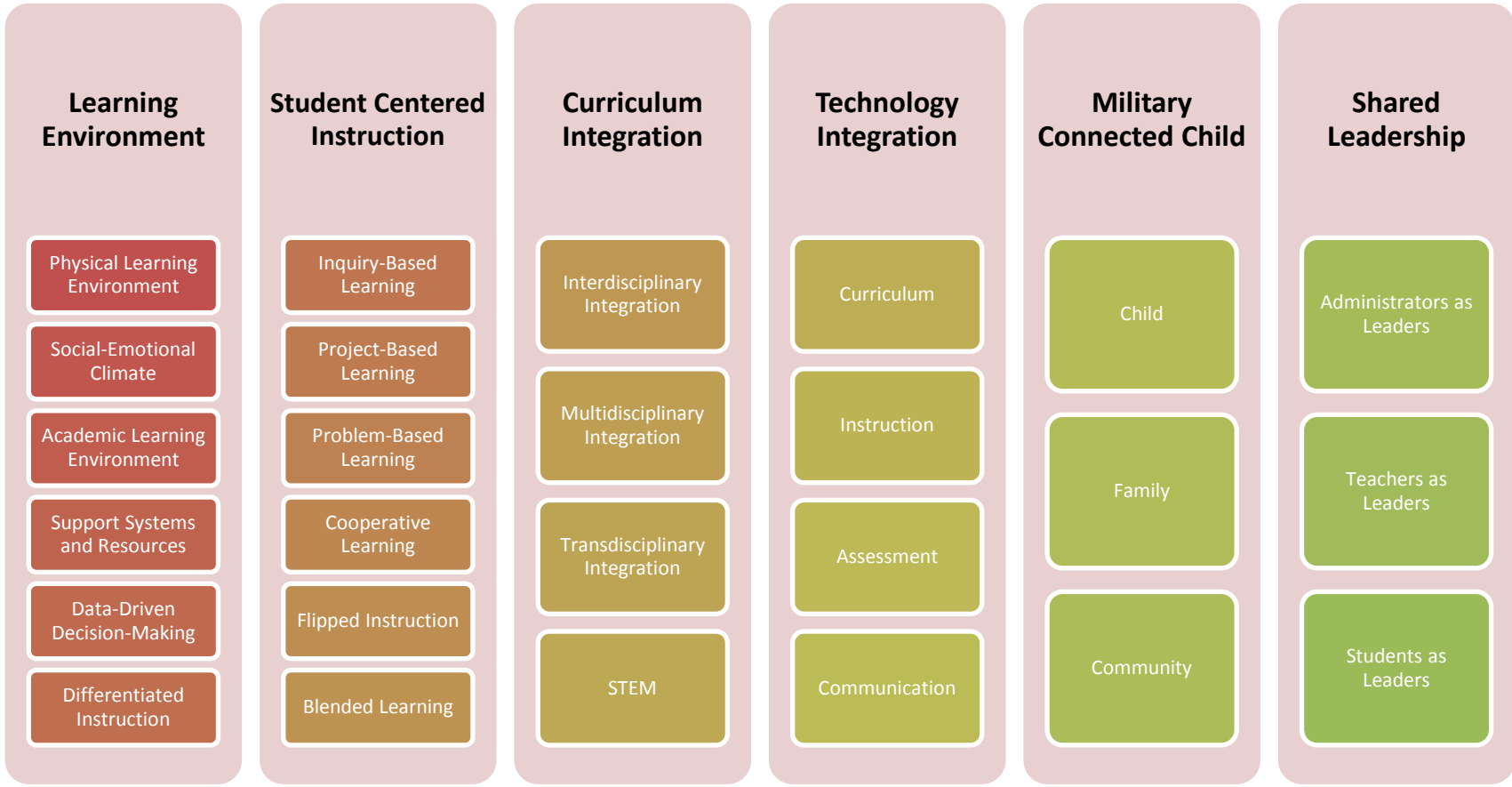
21st Century Strands and Strategies: At-A-Glance

There are six strands or categories of learning, each having a set of skills to be mastered for effective instruction and improved learning outcomes for students. The six strands are: Learning Environment, Student-Centered Instruction, Curriculum Integration, Military-Connected Child, and Shared Leadership.



Strand

A **strand** is a means through which dynamic, rigorous 21st Century student-centered teaching and learning practices are categorized (AdvancED Glossary of Terms). Each strand has direct connections to the military-connected student. A strand is defined by its categorical type. The 21st CTLL strand categories are as follows:

- Military Support
- Pedagogical
- Leadership

Strategy

A **strategy** is a category of professional learning (AdvancED Glossary of Terms). Educators or educational leaders can select the category they want to learn more about and then select one of the strategies to learn more about the strand and its specific strategies. At least three relevant research-based strategies fall under each strand. Educators and educational leaders will have options as they design learning goals based on baseline data specific to their unique teaching and learning environments throughout the world.

The strands and strategies are one of the components of the Professional Learning Framework (PLF). The strands and their respective strategies provide educators professional learning choices and the ability to apply the learning within their classroom. Every strand includes instructional practices that focus on engaging and empowering learners through a student-centered, collaborative approach.

The strands and strategies support DoDEA's vision to be among the world's leaders in education, enriching the lives of military-connected students and the communities in which they live. The strands and strategies were specifically designed to support DoDEA's vision and mission as well as the Community Strategic Plan (CSP). While educators and leaders engage in studying a specific strand, they will be able to make direct connections to critical elements in their schools, such as Continuous School Improvement (CSI), AdvancED, assessments, and standards. The strands are the descriptors of a 21st century school.

Strands and Strategies: Overview

1

Learning Environment

The Learning Environment strand includes physical spaces, support systems, and the social-emotional climate, and actively seeks the involvement of all stakeholders within the community, school, and classroom. The environment allows students to reason, solve problems, collaborate with others, and apply technology effectively.

1.1 Physical Environment

Physical Environment: The Physical Environment facilitates teaching and learning through providing equitable access to quality learning tools, technologies, and resources allowing the support and collaboration needed to integrate 21st Century skills into classroom practice.

1.2 Social-Emotional Environment

Social-Emotional Environment: When students are supported academically, socially, and emotionally, the classroom environment is more conducive to learning.

1.3 Academic Environment

Academic Environment: Students learn best in an environment that is academically challenging and engaging.

1.4 Support Systems and Resources

Support Systems and Resources: Leveraging a variety of support systems and resources meets individual learning needs and empowers students to become lifelong learners.

2

Student Centered Instruction

Student-centered Instruction is the intentional integration of innovative pedagogy which promotes inquiry-based learning through the effective use of differentiation strategies and technology to engage and empower learners. Inquiry-based learning is inherent in all of the student centered strategies. In real inquiry, students follow a trail with their own questions that leads to a search for resources and the discovery of answers which ultimately leads to generating new questions, testing ideas, and drawing their own conclusions. Real innovation is the drive for answers, new products, and solutions to problems.

2.1 Inquiry-Based Learning

Inquiry-Based Instruction is an approach to learning that involves a process of exploring the natural, empirical, and material world, which leads to asking many questions, making discoveries, and rigorously testing them in the search for new understanding (Chambers, C. 2002).

2.2 Project-Based Learning

Project-Based Learning (PBL) is "a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic question and carefully designed products and tasks" (Buck Institute for Education).

2.3 Problem-Based Learning

“Problem-Based Learning is an instructional (and curricular) learner-centered approach that empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem” (Savery, J. R. 2006).

2.4 Cooperative Learning

Cooperative Learning is the instructional use of small groups so that students work together to maximize their own and each other’s learning. (Johnson and Johnson, Holubeck, 1998).

2.5 Flipped Instruction

Flipped Instruction is a model of instruction in which students receive direct instruction outside of class; in order to create time for student centered learning activities with teacher and peer support in order to demonstrate mastery of learning objectives (Bergman, J. and Sams, A. 2012).

2.6 Blended Learning

Blended Learning has face-to-face interaction, synchronous conversations, asynchronous interactions, as well as constant feedback. Course materials are delivered electronically while at the same time students can email their teachers and participate in chat rooms and threaded discussion forums. Electronic instruction and online learning activities are followed up by face-to-face interaction (U.S. Department of Education. September 2010).

3

Curriculum Integration

Curriculum Integration is a planned, multidisciplinary approach to instruction that provides relevant and rigorous learning experiences that make connections within and across subjects and within and across learners. Embedded in Common Core State Standards, curriculum integration provides real world opportunities for students to become analytical problem solvers. Rigor is the foundation of curriculum integration as students are able to transfer their learning to real-life situations. The strategies that support curriculum integration are tiered to differentiate across teacher readiness levels to include multidisciplinary, interdisciplinary, and trans-disciplinary approaches to learning.

3.1 Multidisciplinary Integration

Multidisciplinary Integration approaches focus mainly on the disciplines. Teachers organize standards from the disciplines around a theme. This approach offers teacher a simpler, more efficient way to base instruction on standards in meaningful ways (Meeth, L. R. 2012).

3.2 Interdisciplinary Integration

Interdisciplinary Integration is the organization of curriculum around common learning across the disciplines. It is the attempt in practice to integrate the contributions of several disciplines to one problem, issue or theme from life. Interdisciplinary integration involves relating whole to part, part to whole, and part to part (Meeth, L. R. 2012).

3.3 Transdisciplinary Integration

Transdisciplinary Integration occurs when teachers organize curriculum around student questions or concerns. Students develop life skills as they apply disciplinary and interdisciplinary skills into real-life contexts (Drake and Burns, 2004). Transdisciplinary integration starts with the problem and through problem solving uses the disciplines that contribute to the solution (Meeth, L. R. 2012).

3.4 STEM

STEM education is an approach to teaching and learning that integrates the content and skills of science, technology, engineering, and mathematics. The DoDEA STEM initiative is an educational program designed to provide students with opportunities to be successful in the fields of Science, Technology, Engineering, and Mathematics. Our purpose is to ignite the passion of students to pursue education and careers in STEM disciplines. The three goals of the DoDEA STEM initiative are to:

- Create K-12 student interest, participation, and achievement in higher levels of math, science, and technology through the engineering design process,
- Attract and retain students to STEM fields with a focus on underrepresented and female populations, and
- Support the national security focus on the shortage of STEM professionals.

4

Technology Integration

Technology integration empowers learners to share self-generated knowledge and make real world connections that reach beyond school walls. Technology provides educators opportunities to utilize innovative and engaging teaching practices, expanded learning communities, and current information.

4.1 Curriculum

With the appropriate integration of technology with curriculum, students will have access to broad a range and depth of content and resources that are relevant and engaging. A digital environment provides and organizational structure for efficient access to current information from multiple locations.

4.2 Instruction

The tools of technology enable teachers to design and facilitate instruction that is engaging, responsive, inclusive, and collaborative. As a result, students are involved in real world connections beyond the walls of the classroom, apply 21st century Learner Outcomes to their work, and have access to instruction tailored to their individual learning style.

4.3 Assessment

The tools of technology assess progress by collecting, analyzing and organizing student information. The immediate feedback can be used by students to promote ownership of learning and provide multiple opportunities for growth. Teachers can use the information compiled and analyzed by technology to inform instructional

decisions (differentiated instruction, flexible grouping, readiness, enrichment, etc.) that result in increased student achievement.

4.4 Communication

Technology integration and communication includes the processes for online communication/production/access both synchronous and asynchronous among all stakeholders.

5

Military Connected Child

The Military Children are those whose parents serve the nation. In turn, the military connected children face many challenges and special circumstances that are different from those experienced by civilian children and their families. These challenges and circumstances include gaps in school attendance and learning due to frequent moves, families being separated due to parental deployment, and a sense of isolation when they transfer to schools in the midst of a civilian community.

5.1 The Child

American service men and women are parents of about 2,000,000 children. These children are primarily young; of those children who are in school, 57% are between the ages of six and eleven. These children move to a new duty station every three to four years, on average, with some moving with much more frequency.

5.2 The Family

Military family is an all-inclusive term representing the parents and guardians of school-age children of military members.

5.3 The Community

The greater military community recognizes its role as a support to the families of those who serve and provides many resources to that end. Local installations offer a variety of resources to which our military families and their students are able to access.

6

Shared Leadership

The Leadership Strand focuses on school leadership, transformational leadership through shared leadership model. Leaders who build their school culture around shared leadership develop strong ownership of the work, collaboration, strong relationships, and ownership of the results of the work. The Leadership Strand supports the various roles of the 21st century roles of leaders in the school; principals, teachers, and students.

6.1 Administrative Leadership

21st Century administrators transform the educational community through a powerful and dynamic presence that promotes continuous school improvement, effective professional practice, and digital age learning and citizenship.

6.2 Teacher Leadership

Teacher leaders are embedded into the school site through teaching in classrooms, serving as instructional coaches, and fostering change through the CSI process. The role of the teacher leader is to enhance student achievement through promoting effective teaching practices in all classrooms and contributing to collective leadership in the building.

6.3 Student Leadership

Students act as leaders in the classroom by demonstrating competency in using and applying tools to process, organize, and analyze information. They work collaboratively with peers and teachers to support and empower others to use the tools successfully.