

## White Paper #2: Creating a Plan to Teach 21<sup>st</sup> Century Skills

It's almost a waste of time to say that the world is changing rapidly around us. To prepare students for the evolving workplace, it's necessary to instill in them the competencies relevant today. We call these 21<sup>st</sup> Century Skills. These skills, though, are not necessarily limited to the world of technology. In fact, many of them have little to do with technology. Here's a short list of the some of the kinds of skills we call 21<sup>st</sup> century:

- Critical Thinking
- Creativity
- Collaborating
- Informational Skills
- Media Literacy
- Technology Literacy
- Leadership
- Flexibility
- Initiative
- Social Skills
- Productivity

You'll notice that a lot of these skills have just as much to do with the 21<sup>st</sup> century as the 20<sup>th</sup>. The students now need them just as much—but some skills even more so. “Successful problem solving in the 21<sup>st</sup> century requires us to work effectively and creatively with computers, with vast amounts of information, with ambiguous situations, and with other people.”<sup>1</sup>

Benchmark 5 of the T-STEM blueprint addresses 21<sup>st</sup> century skills in these standards:

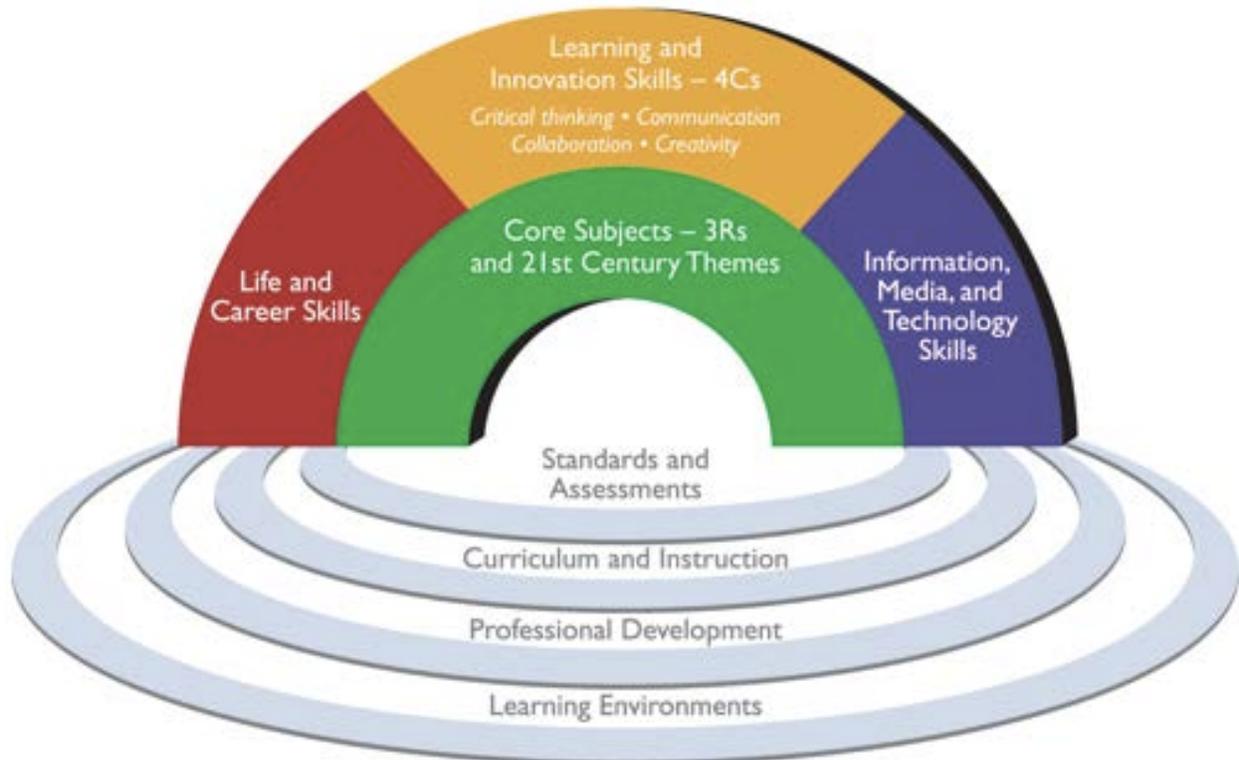
5.1A	Aligns curriculum, instruction, and assessment (such as, but not limited, <u>THECB CCRS</u> , national and state standards, content, context, culture, cognitive level, competencies, skills, processes, 21st century skills, and <u>STEM</u> synthesis).
5.2A	Delivers innovative <u>STEM</u> programs that are well defined, embed critical thinking and problem solving, innovation and invention, and are aligned to state and/or national standards and industry expectations.
5.4A	Promotes instructional strategies that challenge students to think critically, innovate and invent to solve real-world, contextual problems.
5.5B	Graduates 21st century literate students proficient in: English, reading, speaking, writing, numeracy, arts, health, sciences, and world languages; government, civics, history, and geography; environmental science; global awareness; information, communications, and media technology; and financial, economic, business, and entrepreneurship.
5.5D	Provides opportunities for students to demonstrate the relevancy of the content through reading, writing, speaking, and presenting.

The following graphic is the Framework for 21<sup>st</sup> Century Learning, as published by the Partnership for 21<sup>st</sup> Century Learning:

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<sup>1</sup> [The intellectual and policy foundations of the 21st Century Skills Framework](#). Partnership for 21<sup>st</sup> Century Skills

## 21st Century Student Outcomes and Support Systems



The rainbow sections represent student outcomes, and the rings beneath represent the support systems the school and district need to implement in order to reinforce 21<sup>st</sup> century skills. It is very important to note that the undergirding layer of the rainbow (the green section) is comprised of core subjects—content standards. According to P21, “students who can think critically and communicate effectively must build on a base of core academic subject knowledge. For this reason, core academic subjects are a bedrock component of the P21 Framework for 21st Century Learning. All 21st century skills can and should be taught in the context of core academic subjects.”<sup>2</sup>

The top level, Learning and Innovation Skills, is comprised of what the National Education Association (NEA) calls the “four Cs”: Critical thinking, communication, collaboration, and creativity. These four are considered by the NEA to be the primary rubric for 21<sup>st</sup> century teaching and learning<sup>3</sup>. Many schools that focus on purposeful teaching of 21<sup>st</sup> century skills focus on these four.

Critical thinking and problem solving skills are critical for developing the habits of mind that most promote student success. These skills include inductive and deductive reasoning, systems thinking, the ability to evaluate claims, to synthesize and analyze data, to draw conclusions based on that analysis and synthesis, and

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<sup>2</sup> [Curriculum and Instruction: A 21<sup>st</sup> Century Skills Implementation Guide](#)

<sup>3</sup> For more information about the four Cs, see the NEA’s [“A Guide to Four Cs”](#)

to reflect critically on what they learn. Critical thinking prepares students not only to solve complex problems but also to ask critical questions which promote insight and guide inquiry.

Skills in communication are important in all areas of life. Students must learn to articulate ideas clearly, both in oral and written forms. They must learn to listen and to understand the variety and depth of all ideas they come across. Communication skills are especially important in our modern digital and multicultural age. Barriers between languages and across cultures and other forms of media demand an evolution in the way we experience and deal with contexts.

The importance of collaboration has increased dramatically over the past several years. The traditional values it instills, such as teamwork, flexibility, respect, and accountability, remain necessary, but that is no longer the end of the matter. Students no longer live and work in an arena where their efforts are solely their own. New technologies and new media are designed around cooperative and social environments. The Internet allows complete strangers across the world to work through the same material at the same time, and to rely on each other. Collaboration teaches what to trust, how to trust, and how to use contemporary means to deal with the unknown.

Creativity is the spine of innovation. The 21<sup>st</sup> century workplace demands an adaptability of mind that requires inventiveness as well as evaluation. Building a teaching environment that facilitates creativity encourages students to broaden their perspectives, to critique what they see around them and evaluate it, and to move beyond their preconceptions of the world and learn to shape the world around them.

All schools have the responsibility to produce students that are work-ready and college-ready. Beyond the content, students need to be fluent in the 21<sup>st</sup> century skills that they need after graduating from high school. Thus schools must be deliberate in teaching these skills instead of relying on them to acquire the skills on their own.

## **Creating a Plan for Vertical Alignment of 21<sup>st</sup> Century Skills**

21<sup>st</sup> Century Skills are a part of current teaching. However they are often taught “by accident” rather than as part of a comprehensive plan for learning. One way to ensure that students graduate from high school with a broad array of well-developed 21<sup>st</sup> Century Skills is to create a vertical alignment. The vertical alignment is much like a curriculum for a core class. This alignment focuses on the growth from grade-to-grade of students’ abilities to use these skills to learn and to demonstrate their learning.

Below is an overview of a step-by-step way to ensure that students graduate from your school graduate with the 21<sup>st</sup> Century Skills necessary to compete in college and in the work place.

### **Step 1: Creating a vertical alignment committee**

In order to provide the most comprehensive plan for teaching 21<sup>st</sup> century skills, a committee composed of personnel from a feeder pattern of schools should be convened for the express purpose of understanding the skills and creating a vertical alignment that supports them. This collaborative group must understand the needs of their local community and have the power to create the alignment that will be followed by each of the schools in the feeder pattern. The committee should consist of:

- One administrator from each campus
- One teacher from each of the core content areas from each campus
- One elective teacher from each campus

Other optional members may include a representative from the district curriculum office or other district personnel, librarians, and counselors from the campus.

### Step 2: Prior to the first meeting

- Contact schools to ascertain interest.
- Set communication including dates, locations, desired members of the committee, purpose of the committee, expected outcomes, and tentative meeting schedule.
- Gather research on 21<sup>st</sup> century skills, focusing on the 4 C's.
- Create agenda for the first meeting including a timetable for each part of the meeting.

### Step 3: First meeting and beyond

The first meeting should focus on understanding the purpose of the vertical alignment and building consensus. Discussion should center on what 21<sup>st</sup> century skills are and making a tentative decision on which skills to focus on.

Considerations in choosing focus skills:

1. Do you want to focus on different skills at different grade bands so that as students leave a grade band they are fluent in those skills?
2. Do you want to focus on a different aspect of all of the skills at each grade so that, as students progress through the grades, they grow more sophisticated at implementing each of the skills?
3. The 21<sup>st</sup> century skills are broad and, therefore, need some definition. For example, what does *creativity* mean to STEM ISD? How do we want our students to demonstrate *creativity*? These definitions need to be built into the plan for implementation.
4. Do the content standards already include a focus on certain 21<sup>st</sup> century skills? If so, how can you build on the learning that is already taking place? What needs to be enhanced?
5. What skills do you want your graduates to be fluent in? How can you build the scaffold to ensure that their skills grow to proficiency?

Other considerations:

1. What professional development is needed for teachers?
2. What communication needs to be given to parents?
3. Are there experiences that each student should have in the 21<sup>st</sup> century skills in each grade? If so, how do those experiences fit into the curriculum?
4. What resources do the schools already have to support this effort? What resources need to be purchased?

### Step 4: Implementing the 21<sup>st</sup> century skills on individual campuses

Now that the 21<sup>st</sup> century skills have been chosen along with specific activities that teach the skills, the real work begins—implementation of the plan.

It is critical to the implementation that the members of the committee spend time with the rest of the campus gaining buy-in for teaching the skills. Be careful not to assume that the teachers know about the work, agree with it, or plan to teach the skills. Remember that they have not been part of the research and planning, so they do not understand the project, no matter how well the committee members on their campus do. While you can use faculty meetings to begin the process of gaining buy-in, one 10-minute discussion after school will not do it. Gaining buy-in takes time, especially if many of your teachers are ingrained in their own habits.

Each campus should create its own professional development plan that is based on individual teachers, their individual campuses, and on the needs of their students. This cannot be a one-size-fits-all plan for every campus involved. Nevertheless there are likely some common experiences among most or all of the campuses. Because the 21<sup>st</sup> century skills are broad, one part of the professional development plan should include research into the focus skills in order to understand what they mean, how students show that they have the skills, and ways to teach them within the required state standards.

Ideally each campus should have working professional learning communities (PLCs) that meet regularly, and ideally they should be allowed to meet during school hours. During PLC meetings, they can study the skills, make plans for implementing them, and study the effectiveness of the activities. A focus on PLCs should last at least a year. Be sure to include the electives teachers and librarians.

Use the 21<sup>st</sup> century skills and point them out, even when doing the daily work of schools. Use collaboration to make campus decisions and make it clear that the decision was collaborative. Reward creative problem solving. Accept mistakes and celebrate efforts. In other words, be sure that the 21<sup>st</sup> century focus skills permeate your existing campus structures.

Be sure to reach out to your campus stakeholders. Include an article in your campus newsletters about the skills and how families can support students in learning the skills. Ask your business partners how they can help. Plan virtual field trips and bring in speakers to spark interest and excitement.

### **Step 5: Keeping the energy going**

Education is a business of initiatives and implementing the 21<sup>st</sup> century skills will be one of them. Take care not to separate the 21<sup>st</sup> century skills from the other learning on campus. For example, every campus does interventions. Be sure to weave the 21<sup>st</sup> century skills into how the interventions are run. For example, if critical thinking is one of your focus skills, be sure that students in interventions are taught to think deeply about the content, not just circle the right answer. If B is right, why are A, C, and D wrong? Beyond getting a right answer, understanding why answers are wrong and justifying why an answer is right involves critical thinking.

After a year or two, if teachers have stopped talking about 21<sup>st</sup> century skills, look around your campus. Do you still see evidence of the use of the skills or did instruction revert back to “normal”? If you see the evidence, then the project will have made an impact, even if teachers do not talk about it as much anymore.

The 21<sup>st</sup> century skills have certainly been around in schools longer than the 21<sup>st</sup> century. But the teaching of them has largely been an accident. With evidence that colleges and businesses see a lack of these skills and the

knowledge that the use of these skills is engaging to students, creating a specific plan for teaching them is a powerful way of improving student outcomes within schools and beyond.

**Sources:**

[Partnership for 21st Century Skills](#)

[Framework for 21st Century Learning](#)

[Nine Lessons on How to Teach 21st Century Skills and Knowledge](#)

[MILE Guide Self-Assessment School](#) (P21's Vertical Alignment Document for Self-Assessment)

[21st Century Skills: The Challenges Ahead](#)

[Curriculum and Instruction: A 21st Century Skills Implementation Guide](#)