# 21st Century Skills Professional Development

**A Partnership for 21st Century Skills e-paper**

**Why do we need professional development that supports 21st century skills?**

The success of education in the 21st century calls upon educators to confront broad pressures now shaping our children's future.

- **Global Competition in Education.** The U.S. can no longer claim unparalleled educational results. Students around the world now outperform American students on assessments that measure 21st century skills. Today's teachers need to be better equipped and supported in addressing this growing problem.

- **International Innovation.** Innovators around the world rival Americans in breakthroughs that fuel economic competitiveness. Innovation and creativity, long considered a hallmark of U.S. students, no longer sets U.S. education apart.

- **Greater Demands in the Workplace.** Rising qualifications levels and the automation of routine work is transforming all workplaces into highly skilled environments. Every student, whether he/she plans to attend 4-year college, trade school, or start an entry-level job, requires a wide range of skills, content knowledge, and practical experiences to succeed. The goal is to ensure that all students are qualified to succeed in work and life in this new global economy.

The rapid pace of globalization, the shift from an industrial to an innovation economy and the explosion of networked communications, have all created the need to work and interact in new ways and to gain fluency in new tools and paradigms. All young people today need to be critical thinkers and good problem solvers no matter what life path they choose. They also will need to be creative, innovative, and show aptitude in evolving skill areas, such as information, media and technology skills. In addition, showing global awareness as well as knowledge in areas such as finance and civic literacy is increasingly necessary to navigate in today's world.

If students are to be prepared for these future challenges, schools and districts must recognize that teachers need to expand their skill set and receive training and support to infuse those new skills into the classroom. Teachers not only have to teach traditional subjects in new ways that acknowledge our digital future, they also have to introduce topics that they

may not be familiar with and have never taught before. Likewise, district and state administrators must recognize that teacher professional development should be a part of a comprehensive emphasis on 21st century skills, including updates to standards and assessments.

## What is 21<sup>st</sup> century skills professional development?

Twenty-first century skills professional development prepares teachers and principals to integrate 21st century skills into their classrooms and schools. It should be a part of a comprehensive emphasis on these skills, including an alignment with standards, curriculum and assessments. Successful 21st century professional development programs share several common characteristics:

- Ensure educators understand the importance of 21st century skills and how to integrate them into daily instruction.

- Enable collaboration among all participants.

- Allow teachers and principals to construct their own learning communities.

- Tap the expertise within a school or school district through coaching, mentoring and team teaching.

- Support educators in their role of facilitators of learning.

- Use 21st century tools.

## What are the best ways to deliver professional development that supports 21<sup>st</sup> century skills?

There are many ways in which educators can acquire 21st century skills training. Pre-service teachers should undertake programs of study that include 21st century skills instruction, especially in emerging fields, such as Information and Communication Technology (ICT). It is also recommended that teacher education institutions add 21st century skills competency to the accreditation criteria for teacher education programs.

For in-service teachers, "just-in-time" preparation that includes coaching and identification of new pedagogical tools and approaches to weave 21st century skills into content areas should be made available. Ideally, teaching academies, or other special initiatives, should exist so that teachers can develop and renew 21st century skills and pedagogy in structured programs.

## What are the characteristics of good professional development programs that support 21<sup>st</sup> century skills?

The Partnership for 21st Century Skills has identified several key characteristics of effective professional development that supports 21st century skills.

| An effective 21$^{st}$ century skills professional development program skills should: | | Example* |
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| *Focus on 21$^{st}$ century skills and content (as defined by the P21 Framework)* | 21$^{st}$ century subject matter includes, in addition to the standard core subjects, important areas of study, such as global awareness and civic literacy, as well as skills, such as ICT literacy, critical thinking, problem solving, and life skills. | EdTech Leaders Online includes courses that cover both 21$^{st}$ century skills and content. |
| *Illustrate how a deeper understanding of subject matter can actually enhance problem solving, critical thinking, and other 21$^{st}$ century skills.* | Building higher-order thinking skills in a student goes hand-in-hand with her mastery of a subject domain. For instance, the ability for a student to "see the math in an everyday problem" will naturally improve as that student's math knowledge deepens. | EMentoring for Student Success emphasizes inquiry into science content and into the ways students think and learn about science. |
| *Cultivate teachers' ability to identify students' particular learning styles and intelligences.* | Certain types of intelligence, such as those having to do with information synthesis or technological know-how, are becoming increasingly relevant as the advent of new technologies and media trigger a constant and vast deluge of information. | The Cognitively Guided Instruction professional development program increases teachers' understanding of the knowledge that students bring to the math learning process and how they can connect that knowledge with formal concepts and operations. |
| *Help teachers develop their abilities to use various strategies (such as formative assessments) to reach different students as well* | Teaching 21$^{st}$ century skills successfully to an uninitiated classroom undoubtedly will require enhancing teachers' capacities. While most experienced teachers are adept at providing multiple ways for students to engage in a lesson, it may be necessary to | The WIDE program provides online courses designed to foster teachers' application of research-based strategies in planning curriculum, fostering, and assessing |

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* All examples in this document are just that: individual illustrations of a particular idea or concept. The Route 21 database contains many more examples.

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| *as create environments that support differentiated teaching and learning.* | change commonly used tactics in the face of teaching 21st century skills. In addition, it is important to provide teachers with enough practice and time to reflect on new behaviors as they experiment outside their comfort zones. | students' learning. |
| *Provide models of instruction that show what 21st century skills look like in real classrooms and allow ample time for teachers to observe and learn from them.* | Observing real world examples of effective 21st century skills instruction is an invaluable component of any PD program. Case studies can be in the form of a video, photo montage, web site, or report. | The George Lucas Educational Foundation's free teaching modules include video clips of actual teaching and learning. |
| *Highlight ways teachers can seize opportunities for integrating 21st tools and teaching strategies into their classroom practice — and help them identify what activities they can replace/de-emphasize.* | Incorporating real world examples of actual teaching and learning may be a good way to accomplish this. | The Apple Learning Interchange is a collection of teacher-created lesson ideas, presented via a video, set of images, or audio clip. |
| *When appropriate, take advantage of 21st century tools, such as real world, rich media examples, video clips, interactives, simulations based on historical or real-time data sources, acoustically- and visually-rich primary sources and digital repositories, to support 21st century skills.* | Given that a main objective of building students' 21st century skills is to prepare them to communicate across multiple media as well as manipulate and make sense of complex data sources, it is important that teachers are aware of such resources and feel comfortable about incorporating them into their curricula. | WGBH's Teacher's Domain PD courses utilize a digital library (www.teachersdomain.org) of rich-media science resources that support standards-based K-12 teaching and learning. |
| *Encourage knowledge sharing* | This can be accomplished via listservs, chat rooms, wiki pages, | EMentoring for Student Success provides science |

| among communities of practitioners, using face-to-face, virtual and hybrid exchanges. | and/or regular telephone/video conferencing with educators within a single school building or among a wider, more dispersed community (larger district, state, or alternative community of practice). | teachers with science-specific mentoring and professional development through an online learning community. |
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| Be scaleable and sustainable. | It is important for a PD program to be continuously woven into the everyday fabric of the teaching profession, through modeling, coaching, and collaboration. Helpful activities to achieve this include monthly discussions to explore the "21st century" pedagogical paradigm, as well as online features, which have the benefits of added flexibility to accommodate teachers' busy schedules as well as the means to provide work-embedded support. | The Intel Teach program is a scalable, sustainable professional development model that has reached over four million teachers worldwide since 1999. Teachers learn from other teachers how, when, and where to incorporate technology into their lesson plans, with a focus on developing students' 21st century skills. |

### How can district and state leaders implement 21st century skills professional development into their schools?

Implementing a 21st century skills professional development program in a school is a serious undertaking that requires ample planning and forethought to ensure that both teachers and administrators fully understand the importance of this endeavor and are willing to put in the time to create what is in effect a sea change in their current practice. With that in mind, it is important to start with the following actions:

1) **Complete a self-assessment to determine what resources and training the staff needs.** The first step is for educators and administrators to assess where their school stands in implementing 21st century skills and to identify specific strategies for improvement. This process initiates discussions with staff, administrators, technology directors, school board members, and community leaders about improving the school's plans for 21st century skills. And, early reflection and goal-setting will help stakeholders measure the progress of a school or district in defining, teaching, and assessing 21st century skills over time.

2) **Develop a professional development strategy that uses a phased approach and focuses on 21st century skills.** This can be done at the school, district, or state level. A key feature of large-scale professional development initiatives is that they all take a phased, "pilot" approach to development, enabling them to try out and assess

different goals, strategies, target audiences, partners and resources, and make key adjustments before moving to scale. In addition, it is important that educators undergo sufficient practice in familiarizing themselves with 21st century skills in order to master the pedagogical strategies needed to impart learning in these subject areas to their students. Only after they can masterfully model those areas will they be able to translate those skills to the classroom. It is also recommended that administrators gain an understanding of 21st century skills so that they can be effective role models and decision makers for integrating 21st century skills into every aspect of teaching, learning, and administration.

3) **Organize a 21st century skills study group or leadership team at the school for interested teachers and staff members.**
Involvement among all appropriate stakeholders will help ensure that a self-sustaining culture of collegiality, knowledge, and experience sharing is cultivated.

Once these three actions have been accomplished, the school, district, or state should have a clear sense of the resources and training that the staff requires, as well as an action plan and timeline for rolling out the professional development program. For their part, teachers and staff should feel they have sufficient means to provide support to one another once the program gets underway. The next step is to select a program that best fits the school, district, or state's needs.


### What are the different levels of 21st century skills professional development?

Although teachers may be the best-known recipient of professional development, professional learning is an ongoing process and can occur at multiple levels of the educational system. For example, professional development in support of 21st century skills can target:
- State-level leaders

- District- and building-level leaders

- Classroom teachers


### Where can I learn more about 21st century skills professional development programs?

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