PATTERNS OF INNOVATION
Showcasing the Nation’s Best in 21st Century Learning
Introduction

The Partnership for 21st Century Skills (P21) has teamed with the Pearson Foundation to capture and share exemplary 21st century learning practices that are improving schools, student learning and opportunities in classrooms and communities across the United States. This work includes the use of a structured observation protocol designed in collaboration with Dr. Jonathan Plucker from the University of Connecticut and with support from the Hewlett Foundation.

In addition to identifying, documenting, sharing and celebrating the 21st century practices of exemplar schools (for more information see: P21.org/Exemplars) we are reporting on the broader common features—the patterns of innovation—that emerge across exemplar schools and appear to be at the heart of their effective transformation into 21st Century Learning Environments. This is a work in progress, as exemplar school visits are ongoing.

So far, with roughly 25 exemplar schools identified, we have confirmed that each school and community is unique and there is a great variety in the specific models they use and the manner in which they have implemented parts of the P21 Framework for 21st Century Learning (learn more at: P21.org/about-us/P21-framework). Still, from what we have observed and from our conversations with the schools, it appears that the exemplar schools are fueled by five essential and interacting ingredients (there are others in effect in a given school but these appear to be both common and strong). We believe these ingredients represent the essential conditions for transformation into a 21st Century School. It is our hope that this work will assist schools and communities to make this transformation that is so important to our future: preparing students who are ready for college, career and citizenship.

Please note: This qualitative analysis is based on a convenience sample of schools. The patterns of innovation will evolve and be validated as more data is gathered. Because of the qualitative nature of the investigation, these findings cannot be projected to a larger population of schools. More information on the schools cited in this paper can be found within their case study descriptions at the Patterns of Innovation website: P21.org/Exemplars.

The following is a Venn Diagram of the essential conditions as we see them emerging at this early stage. The elements of Student Agency, Distributed Leadership, a Climate of Achievement, an Engaged Community and the application of Evidence and Research appear to be the common, overlapping and powerful ingredients that are fully integrated throughout the school and/or school district’s specific 21st Century School DNA. The implementation of the P21 Framework for 21st Century Learning is found threaded across each of these areas.
Student Agency

The Raikes Foundation describes student agency as a “cluster of academic mindsets and learning strategies that have been demonstrated to advance learning and achievement.” Moreover, they consider that “academic mindsets are more evident in students who feel a sense of belonging in a certain subject, class or school; believe that they have the capacity to learn, and see value in their participation.” Integrated within student agency, perhaps as a precursor, is the exercise of student voice and aspirations. According to the Quaglia Institute for Student Aspirations, in order for students to reach their academic potential they must actualize feelings of self-worth, engagement and purpose.

At the heart of student agency is the belief that schools are for and about students, and students need to deeply participate in their learning. The exemplar schools epitomize this: they are not about adults and their goals or needs, but rather, they are about students and their needs and aspirations. This is evident in the exemplar schools that have a focus on careers and/or college (e.g. Carl Wunsche High School, Spring, TX; Dayton Early College Academy, Dayton, OH; and Highland High School, Fort Thomas, KY). However, it is also true for the other exemplars, regardless of their grade level, as students collaborate with other students, teachers and their community in project based learning and work on building their cognitive skills, inter-personal skills (such as communication and collaboration) and intra-personal skills (such as persistence and character building) through discovery-based activities.

Across the exemplar schools it’s clear that students exercise an uncommon degree of autonomy and independence and take full responsibility for their learning and behavior. Since students who are purposefully engaged in their learning are likely to persist and excel, building student agency may be the most powerful of all ingredients for the 21st Century School.

The following behaviors and activities were observed in the exemplar schools related to Student Agency:

- School supports student aspirations and provides opportunities for building agency
- Learning and achievement are valued and expected by students
- Goal setting and other intra-personal skills, e.g., metacognition, persistence, grit
- Students build awareness of opportunities, role models and exposure to college, careers and citizenship
- Autonomy is paired with responsibility
- Respect for others and other inter-personal skills, e.g., collaboration, communication
Distributed Leadership

Distributed leadership is a framework for understanding leadership that moves beyond the examination of individual leaders and their characteristics and activities. Distributed leadership instead sees leadership as “constituted through the interactions of leaders, teachers and the situation as they influence instructional practice” (Diamond 2007). Distributed leadership is “stretched over the school’s social and situational contexts” (Spillane, Halverson & Diamond, 2001). It encapsulates both the managerial functions of leadership that are necessary to sustain a school or school system as well as the leadership skills needed to transform it.

In the exemplar schools, powerful, distributed leadership is evident in several ways. There is a clear vision and mission for the school and it is widely visible in strategic planning documents and improvement plans as well as in school activities, signage, slogans and other artifacts (e.g., The “Danville Diploma,” Danville School District, KY). The mission is forged with stakeholder and teacher involvement as well as significant student voice. Data is used to continually evaluate progress toward the accomplishment of the mission and there is ongoing, active stakeholder involvement. A key aspect of distributed leadership in the exemplar schools is its extension to students themselves. It is evident that students know and live the school mission together with the principal and teachers (e.g. Dana Elementary, Henderson County Public Schools, NC). The principal, faculty and students all identify themselves as leaders and yet they are quick to credit others for the success of the school.

The following behaviors and activities were observed in the exemplar schools related to Distributed Leadership:

- Principal owns and communicates vision
- Superintendent and district support vision
- Contribution to the vision, execution and ownership are distributed through faculty, students and community and is evident in their interactions
- Continuous engagement and assessment of community needs
- Systemic coherence across the school and schools in the district
A Climate of Achievement

Educators and communities have recognized the importance of school climate for many years. More recently, its importance has been elevated in terms of the impact it can have on school reform and transformation. In school turnarounds, the school climate is often one of the first things to be addressed by new leadership.

School climate refers to the “quality and character of school life” (National School Climate Center). In its definition of a school climate, the National School Climate Council in 2007 said it “reflects [the] norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.” Furthermore, a positive school climate is one which “fosters youth development” where people feel “socially, emotionally and physically safe” and where everyone is “engaged and respected.” It is a pervasive characteristic in a school as “students, families and educators work together to nurture an attitude that emphasizes the benefits of, and satisfaction from, learning.”

All of these aspects of a positive school climate are evident in the exemplar schools. But more than just “satisfaction” from learning, within the exemplar schools there is an expectation of learning and achievement–so exemplars have more than a positive climate—they exhibit a climate of achievement. As one student put it, at his school, “learning is considered cool.” There is a norm of persistent effort and a celebration of success among students and faculty.

There is agreement that student expression and achievement of student goals, not limited to academic success, are key purposes for the school. At Meadow View Elementary in Jacksonville, NC, the A+ Schools Program is a whole school reform model that leverages the arts as the central vehicle towards achievement; fostering creativity, collaboration, critical thinking and communication. Students attend the Dayton Early College Academy in Dayton, OH in anticipation of applying for and attending college, the first in their families to do so, and 100% of them go on to college.

The following behaviors and activities were observed in the schools related to a Climate of Achievement:

- Creation of a palpable school climate of success, recognition and high expectations
- Training and supporting effective teachers
- Recognition for positive results
- Respectful and safe interactions and attention to conflict resolution as a learning opportunity
- Aligning programs and assessments to 21st Century themes and framework, thereby underscoring their importance while strengthening performance
Engaged Community

In the words of the ancient African proverb, “It takes a whole village to raise a child.” So important is an engaged community as a condition for exemplar schools to flourish, that each of the ingredients so far discussed touches on some aspect of community.

Exemplar schools engage their communities of teachers, students, families, civic and community organizations, as well as leaders, businesses, others schools and colleges in deep and meaningful ways. This includes strategic planning (e.g., the “Think Tank” process in District 41, Glen Ellyn, IL) the formation of the school mission and perhaps even the location of the school building (e.g., the Dayton Early College Academy on site at the University of Dayton, OH). The engagement extends to partnerships with organizations and businesses to participate in service learning, project based learning, internships and college and career academies. These activities are deeply embedded in the mission, curriculum and instructional practices of the schools.

The exemplars serve their communities, from school boards to families, and derive great strength and resilience from their trust and support. Such community trust has been shown to be important to successful school reform (Bryk & Schneider, 2003). The community’s needs, unique assets and support are powerful drivers in the mission and operation of the exemplar schools.

The following behaviors and activities were observed in the schools related to Engaged Community:

- Agreement of the school board on the vision for the school
- Use of evaluation and performance evidence to sustain resources and to promote conversation with stakeholders
- Active and frequent engagement with local businesses and other partners in activities such as internships, service learning, job-site visits, project/problem based learning, etc.
- Engagement with higher education and other partners in activities like investigating research-based interventions and programs, participation in dual credit community college courses and so on
- Teachers with professional backgrounds and experience often gained in the local community
The exemplar schools apply deep practice experience and effective research-based approaches and theory in the formation of their overall mission, the development of supports to the mission and in their everyday practice. The approaches used by the individual schools are diverse yet they have drawn upon and deeply implement many aspects (if not all) of the P21 Framework for 21st Century Learning.

And, while the approaches across exemplar schools are diverse, within a given school, coherence is the watchword; to the mission, practice and in everything they do.

While each school has constructed its own individual theory of change and applied research-based approaches accordingly, some of the more common and muscular approaches observed in the exemplar schools are the application of the Habits of Mind (Costa & Kalick, 2000) (e.g., Dana Elementary, Henderson County, NC), Charlotte Danielson’s Framework for Teaching (e.g., District 41, Glen Ellyn, IL), the Science, Technology, Engineering & Math (STEM) framework (e.g., Wheeling High School, IL), Expeditionary Learning (e.g., Genesee Charter School, Rochester, NY) and the A+ Schools Program (e.g., Meadow View Elementary, Jacksonville, NC). Additionally, most of the schools are engaging in Common Core and appreciate its intention to focus on fewer standards in a deeper way (e.g., Kenton County School District, KY).
Perhaps the most common and most transformational approach observed across the exemplar schools is Project-Based Learning (PBL) (e.g., Danville School District, KY & the Ben Franklin Elementary School, District 41, IL). PBL is a model that organizes learning around engaging projects. It is defined and practiced in various ways but essentially involves “complex tasks, based on challenging questions or problems, that involve students in design, problem-solving, decision making or investigative activities; give students the opportunity to work relatively autonomously over extended periods of time; and culminate in realistic products or presentations” (Jones, Rasmussen, & Moffitt, 1997; Thomas, Mergendoller, & Michaelson, 1999, from Thomas, 2000). This can involve the sciences or the humanities and is a very different model than typical instruction and learning in the United States. Moreover, the exemplar schools engaged in PBL also employ the powerful element of authenticity. That is, the problems or projects are centered on salient issues among the students, the school and/or the community and are therefore more relevant to the students. In some cases, the broader community outside the school participates in some way and the outcomes are put into effect, creating powerful lessons about the value of learning, achievement and the direct contributions students can make (e.g., the Community Water Project, Stanford Middle School, Orange County, NC).

Illustrating the rich variety of approaches employed in the exemplar schools, the following is a partial list of approaches and activities that were observed in the schools and/or cited by school leaders as important to their work:

- Habits of Mind
- Problem/Project Based Learning
- Charlotte Danielson’s Framework for Teaching
- Quaglia Institute for Student Aspirations
- John Nash’s Design Thinking
- Pathways to Prosperity
- Bloom’s taxonomy
- P21 Framework
- Expeditionary Learning Process
- Common Core
- STEM
- Assessment for Learning
- QUEST
- ACT
- AIMSWeb
- ASCD’s Whole Child
- Education for Life and Work (NRC report)
- Fordham Foundation, Needles in a Haystack
- David Conley, Redefining College Readiness
- National Commission on Time and Learning, “Prisoners of Time”, 1994
- Gateway progression
- Capstone projects
- AVID
- Project Lead the Way
- IB Curriculum
- A+ Schools Program
- Buck Institute for Learning (PBL)
- Jobs for the Future
- Dual Credit Courses
- I do, We do, You do Coaching Model
Conclusion

In response to calls from many in the education and policy communities to illuminate what 21st Century Learning Environments look like and what powers them, P21 and the Pearson Foundation have collaborated to identify, highlight and celebrate exemplar schools that are models of 21st century learning and communities in action. While there is considerable variety in the approaches schools adopt to achieve their 21st century visions, there are strong commonalities, exemplified by Student Agency, Distributed Leadership, an Engaged Community, a Climate of Achievement and the application of Research and Evidence. From our observations and conversations with the exemplary schools, we believe these form the fundamental conditions that help build and make 21st century learning possible.

We would like to thank our exemplar schools for participating in the pilot program, and for sharing their successes and lessons learned so that the education community at large can benefit from their experience. It is our hope that education leaders and advocates will find the compelling stories of these schools useful in creating and fostering 21st century learning opportunities for students everywhere.
References

By order of appearance. Specific Exemplar School references can be found online at: P21.org/Exemplars

8. Trust in Schools: A Core Resource for School Reform, Anthony S. Bryk and Barbara Schneider, Educational Leadership, March, 2003 V. 60 #6

Photo References

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A. Bate Middle School, Danville, KY
B. Benjamin Franklin Elementary, Glen Ellyn School District 41, IL
C. Dana Elementary, Henderson County, NC
D. Bate Middle School, Danville, KY

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4. Dayton Early College Academy, Dayton, OH
5. Fond du Lac School District, Fond du Lac, WI
6. Van Meter Community School District, Des Moines, IA
7. Des Moines North High School, Des Moines, IA
9. Green Lake School District, WI
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