Re-engineering Schools for the 21st Century
By Patrick F. Bassett

Twenty years after the publication of *A Nation at Risk* and three years into the new millennium, we seem to be in jeopardy again.

Of concern to educators who pause to contemplate what school is really meant to prepare students *for* is the dawning realization that schools seem ill-equipped to bridge the gap between what employers and universities are indicating will be the skills needed to succeed in the future with the values and cultures of schools in the present. In a recent assessment by The Manhattan Institute, research indicates that only around 70% of students graduate from high school with their class, and only about one-third of those are equipped to complete 4-year college programs. Visionary school leaders are needed to confront this chasm of 21st C. expectations on the one side and seemingly permanent 18th C. school values and practices on the other.

What is ironic, of course, is that there is a growing consensus among the corporate community, the university world, AND informed educators regarding the skills needed for success in college and in the marketplace. According to *Building a Nation of Learners—The Need for Changes in Teaching and Learning To Meet Global Challenges* (2003) from the Business-Higher Education Forum, “…Today’s high-performance job market requires graduates to be proficient in such cross-functional skills and attributes as leadership, teamwork, problem-solving, and communication” (listening, speaking, reading, and writing) as well as time-management, self-management, adaptability, analytical thinking, and global consciousness. These same proficiencies and skills are also identified specifically in the new study by 20 of America’s most prestigious research universities in their assessment of “Standards for Success”: what’s needed for students not only to matriculate to college but to succeed there. Likewise, at the pre-collegiate level, we have now articulated standards of learning, state by state and nationally, all of which are remarkably similar in what we know students should know. The issue, then is not that we have any lack of clarity about what to teach but rather that we are stuck in antiquated means of thinking about how to teach, and more specifically what exercises and experiences best produce proficiency in the skills and attributes that are critical. What we also know is that the legislative mandates (“high stakes testing”) and slavish allegiance to traditional teaching practices and to one’s own discipline of study are a diversion away from serious attention to developing these more global mindset and the skills and attributes our children truly need to succeed.

**A New Framework for 21st C. Schools**

All over the world, we see examples of schools resolving to resolve the contradictions between our vision of quality education in the future and our past and current practices. Reggio Emilia schools, Coalition of Essential schools, Montessori schools, Waldorf schools, Multiple Intelligence schools, environment- or farm-based or expedition-based schools, core-curriculum schools, technology charter schools with mid-week/full-day apprenticeships in the tech industry, and individual schools with no specialized philosophy or common theme but a will to experiment are experiencing amazing success in redefining what to teach and how to teach. That commitment itself is a 21st C. attitude.
It is likely the new definitions will comprise four universal expectations for students, that we will divide the school day, week, month or year accordingly, and that promotion will depend on whether not when a student meets the expectations.

One will know when one is in a 21st C. school by the hallmarks of four recognizable expectations:

1. **Proficiency** (in literacy, numeracy, the empirical method and technology—as demonstrated by assessments in various and complementary forms: tests, portfolios, demonstrations).
2. **Fluency** (in communications, ethical decision-making, leadership and teaming—as demonstrated in project-based and experiential activities and products).
3. **Multicultural Literacy** (conversant familiarity with one’s own native canon, language, geography, and ecologies plus that of at least one other place—as demonstrated by common intercourse in real and/or virtual exchanges with students of another language and culture).
4. **Performance** (in the fine and practical arts and athletics—as demonstrated by recitals, exhibitions, and competitions).

Samplings of all of these achievements will be captured in each student’s digital portfolio, marking progress points across each of the four continua at successive stages in school. These four expectations will become in a 21st C school the four hallmarks of how the school organizes itself, its program, and its assessment system.

**Hallmark #1: Proficiency** *(in literacy, numeracy, the empirical method, and technology—as demonstrated by assessments in various and complementary forms: tests, portfolios, demonstrations).*

The first hallmark will be the proficiency curriculum that is, in the words of Grant Wiggins, “backward designed” so that preferred outcomes dictate program and assessment. A student well-educated for the 21st C. would be technically proficient vis a vis...

- literacy (including skills of reading with comprehension, writing with accuracy and cogency, and speaking in public with confidence and persuasiveness);
- numeracy (mathematics skills and mathematical reasoning through advanced levels);
- empiricism (the scientific method, as applied in scientific inquiry);
- technology (not only computer technology but expanded to include other tools as well: digital imaging, laser operations, robotics, etc.).

It is likely these proficiencies will continue to be taught as subjects in classes, but increasingly by customized “high tech” means so that assessments themselves are instant feedback loops that allow students to progress according to their developmental readiness. Promotion from level one proficiency to level two or three or four proficiency will be dependent upon demonstrations (tests, performances, electronic portfolios) of successively sophisticated indicators, and students may “graduate” from school at a stage rather than an age, when they have the level of proficiency required for the workplace, the military, or the university.

**Hallmark #2: Fluency** *(in communications, ethical decision-making, leadership and teaming—as demonstrated in project-based and experiential activities and products.)*
The second hallmark will be the understanding that beyond the technical proficiencies, a number of “fluencies” that stretch students beyond the technical proficiencies. Fluency is developed less by instruction from the teacher and more by habituation of the student via practice and coaching by a mentor. A student well-educated for the 21st C. would be fluent in leadership because he or she would have had leadership experiences, inside the classroom (taking leadership for one task in a division of labors in a team project) and outside the classroom (on the athletic field or on the stage or in the editorial offices). A student well-educated for the 21st C. would be fluent in ethical decision-making because he or she would have been trained to use principles to resolve real ethical dilemmas (the “teachable moments” that inevitably arise in the messy business of schools), since, ethical behavior is ingrained when the young begin to develop the habit of acting ethically. "We are what we repeatedly do. Excellence, then, is not an act but a habit” (Aristotle). A student well-educated for the 21st C. would be fluent in writing persuasively and speaking confidently because he or she would have done so *weekly* in the various presentations of the project-based learning environment, whether it be the puppet show on nutrition for the homeless shelter kids or the water quality PowerPoint presentation to city council. Teaming happens in physics class when the project, building a solar-powered vehicle in teams of three is evaluated by seeing which team’s vehicle goes the farthest around the track, which one produces the least waste and has the lowest impact on the environment, etc.. Indeed, as students and their teacher-mentors develop the various experiential projects and products they will pursue, each of these fluencies will be built into the design and outcome: leadership, ethical-decision-making, communication.

**Hallmark #3: Multicultural Literacy** *(conversant familiarity with one’s own native canon, language, geography, and ecologies plus that of at least one other place—as demonstrated by common intercourse in real and/or virtual exchanges with students of another language and culture)*

A student well-educated for the 21st C would be, in the words of education reformer E.D. Hirsch, “culturally literate.” For US students, for example, that would mean first being conversant with the often conflicting “idea of America” and the themes that have emerged from our collective history, literature, and art. These themes of course include the idea of “the experiment in democracy”; the idea of the “rights of man” borrowed from the French philosophers but codified by the American *Declaration of Independence*, *Constitution*, and *Bill of Rights* and the persistent tension in America between individual rights vs. communitarian responsibilities (the latter a value much more prominent in most other cultures, for example). The other dominant themes of being a “land of immigrants,” the idea of the “frontier,” the idea of the land, the idea of the “American dream,” the idea of the “melting pot” vs. a “mosaic” are all manifest in what should be basic in teaching about America. As controversial as the notion of “canon” may be, in fact its persistence suggests how important it is in the process of identification of one’s “cultural fingerprint”: There is a reason why in school we study the American Revolution, the Civil War, the Depression, the Civil Rights movement, placing a man on the moon, and other watershed and iconic events in the American experience. There is a reason why we continue to read in school English classes *The Scarlet Letter* and *Huckleberry Finn* and *Red Badge of Courage* and *Walden Pond* and *The Great Gatsby* and *Death of a Salesman* and *A Raisin in the Sun* and Emily Dickinson and Robert Frost and Langston Hughes poetry. They embody those key stories and themes that define us. At the same time, the 13-year
span of school before college affords plenty of room for the canon to flex, to become more inclusive, embracing the voices of Amy Tan, Maya Angelou, Chinua Achebes, Isabel Allende, and many, many others.

It is equally critical to say that a student well-educated for the 21st C. would be fluent in globalism in general, multiple perspectives on world events (the British vs. Colonial vs. Chinese interpretation of the American Revolution as a context for the competing world perspectives on the War in Iraq), and the interrelationships of the global economy and sustainable environments. At the same time student well-educated for the 21st C would be fluent in at least one other culture in depth (steeped in a non-English-speaking country’s geography, religious beliefs, language, art, and political viewpoints). What we know is that immersion in another language begun at pre-school is the gateway experience for the acquisition of the language skills but also for interest in another culture. What we know is that experience with peers in another culture via exchanges, virtual and real, is what produces the empathy that is requisite for deeper appreciation and understanding.

**Hallmark #4: Performance** (in the fine and practical arts and athletics—as demonstrated by recitals, exhibitions, and competitions).

A fourth hallmark will be the “high touch” commitment to the centrality of the arts and their place in giving meaning to human life and experience. A student well-educated for the 21st C. would be practiced in the practical arts (woodworking and paper-making and computer-assisted design, for example) and fine arts (graphic and performing). A student well-educated for the 21st Century would be practiced in “teaming” by participating on teams in athletics, debate, theatre, the school yearbook or newspaper or online publications.

All of these endeavors will be measured on a “performance basis,” literally: It is evident to all when one’s jazz band is mediocre and when it is exceptional; likewise one’s literary magazine, cross-country team, sculpture exhibit, annual declamation or extemporaneous speech, and the like. Literally, the exhibits and performances and competitions will be captured, over time, via video and added to each student’s electronic portfolio.

**Re-engineering Schools**

As schools evolve, we will redefine our goals in terms of the four hallmark expectations and redesign how we achieve them, allowing time to be the flexible variable and learning the fixed variable. In a re-engineered school program the academic disciplines of middle school and secondary school will succumb at last to a much more thematically based and project-oriented program, much like that already in place in the best elementary schools. While the technical proficiencies will be taught and tutored in more skill-oriented formats of instruction, assisted by technologies available to customize and give feedback to students as they progress, the fluencies will be taught as teacher-leaders co-define with students units and themes related to real-world challenges and tasks.

One might imagine the day or week or month or year divided into thirds:
- one-third for customized coursework in the technical proficiencies;
- one-third for arts and sports and leadership development activities;
- one-third for academic team projects that require and develop cultural literacy and several of the fluencies simultaneously, in the context of active experience. Examples might include:
  - scientifically and operationally assessing the town’s waste management system and its impact on the local environment, studying how the political system works, and making a PowerPoint presentation to local authorities in an attempt to influence policy;
  - undertaking a “Habitat for Humanity” service-learning building project in a poor Latino part of town (or in Central America for that matter) where students utilize their Spanish language skills, develop literally “hands-on practical skills” and provide a commitment to the community, then study the issues of the community back at school;
  - filming a documentary based on oral histories and folk tales that develops American themes across history and literature and art and compares them to themes from other traditions (e.g., a study of universal stories and varying cultural perspectives: creation and resurrection myths across cultures; the portrayal of women and “outsiders”; the relationship to the land).

**How and Where To Begin**

Find the individuals in your school who want to create the next iteration of your school and invest in them. Experiment at first, reducing the structure of “5 courses 5 days per week” for middle and secondary school students and teachers to “5 courses 4 days per week” to liberate one day per week for experiential learning or take all of January to do so between semesters. Create an experimental school-within-a-school to involve only those students, parents, and faculty eager to try something different and willing to commit their energies to do so. Above all, remember Margaret’s Meade’s dictum: “Never underestimate the power of a handful of individuals to change the world. After all, it’s the only thing that ever does.”

**Footnotes:**
3 See *Understanding University Success* ([http://www.s4s.org/](http://www.s4s.org/)) for a substantial study commission by 20 research universities on what students who matriculate to college need to know in order to succeed at the university level. While the study proposes standards organized by academic disciplines, its introduction indicates the “proficiencies” these standards are meant to develop: “…habits of mind including critical thinking, analytical thinking, and problem solving; an inquisitive nature…; a willingness to accept critical feedback…; openness to possible failures from time to time…; the ability to express oneself in writing and orally…; to discern the relative importance and credibility of various sources of information; to draw inferences and reach conclusions independently; to use technology as a tool to assist the learning process rather than as a crutch.” (“Introduction,” University of Oregon, 2003, p. 8.)
4 See for example the concise statement of Standards produced by the AERO Project, a collaboration between NESA (Near East South Asia Council of Overseas Schools) and CBE (The Council for Basic Education): [http://www.nesacenter.org/AERO/AEROhomepage.html](http://www.nesacenter.org/AERO/AEROhomepage.html).