

DESIGN PRINCIPLES FOR 21ST CENTURY LEARNING

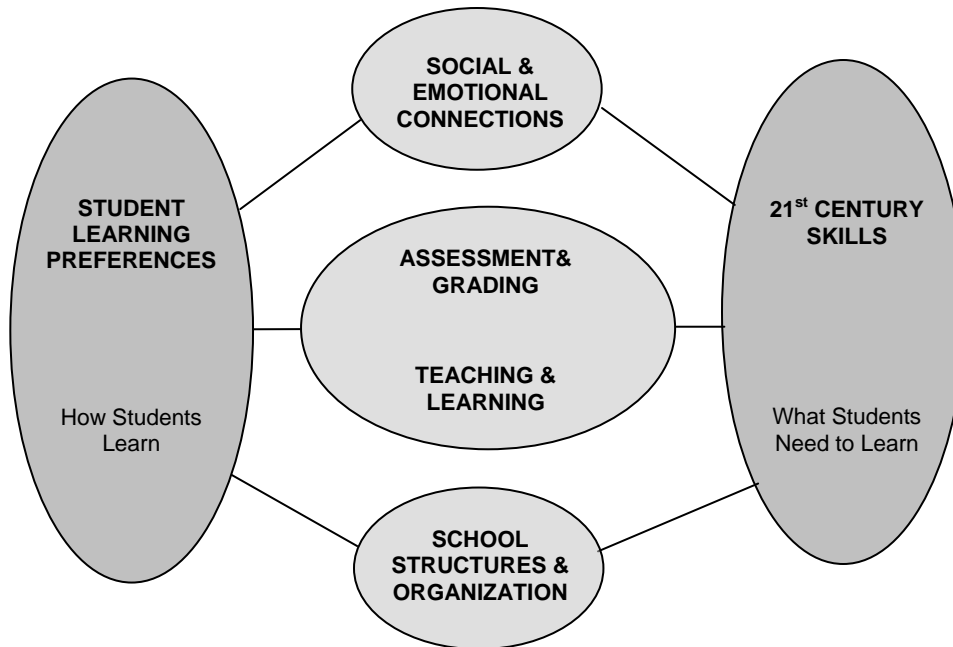
Rethinking the High School Experience for a New Generation

"Our task is to provide quality education for the kids we have, not the kids we used to have, want to have, or kids that exist in our dreams"

Colleen Politano

In this era of rapid and relentless social, economic and technological change, there is a pressing need to re-examine the very nature of secondary schooling in order to ensure that it continues to serve our students well now and into the future. The educational community is being asked to ensure that graduates be proficient in a growing list of "essential skills". These societal expectations, coupled with our understanding of how people learn, have strong implications for district leaders, school administrators and classroom teachers. The purpose of this document is to help high schools move closer to creating the kind of learning environment this generation of students needs, wants, and expects so that they will be fully engaged in their learning until they graduate from high school.

The following illustration and the accompanying design principles provide a framework for examining our current practices, determining what needs changing, and clarifying the desired end that our high schools need to work toward.



Attention must be given to four closely inseparable and intertwined dimensions of secondary schooling: (1) social and emotional connections, (2) teaching and learning, (3) assessment and grading, and (4) school structures and organization. This is not a menu from which to choose. It is by attending to these dimensions that schools respond to the learning preferences of today's generation of students and help them attain the skills necessary to be contributing members of an ever changing society and economy.

FROM LEARNING PREFERENCES TO ESSENTIAL SKILLS

LEARNING PREFERENCES

“Kids growing up in a digital world are being exposed to new kinds of input from digital experiences for sustained periods of time on a daily basis. Consequently, their brains are reorganizing to handle the digital environment more effectively. Kids are quite literally thinking differently than those who teach them.

Ian Jukes, (2009) Teaching the Digital Generation

Students from the “Digital Generation” prefer to learn in ways that are significantly different than those from the past. They are accustomed to:

- Receiving and retrieving information quickly from multiple multi-media sources
- Engaging in parallel processing and multi-tasking
- Being actively engaged learners
- Processing visually and auditorily through pictures and video before processing text
- Randomly accessing multi-linked information
- Networking and interacting with many people simultaneously
- Seeking the relevance in what they are learning and making connections with prior knowledge and experience

Students are intrinsically motivated to learn by

- Feeling ownership and having a sense of control and choice in their learning
- Getting frequent and specific feedback on their performance
- Encountering tasks that are challenging, but not threatening
- Being able to self-assess accurately
- Encountering learning tasks related to everyday life

Learning design needs to be highly responsive to these learning preferences.

21ST CENTURY SKILLS AND OUTCOMES

The primary focus of the high school learning experience is to teach students to use their minds well. To this end:

“It is an emphasis on what students can do with the knowledge rather than what units of knowledge they have that best describes the essence of 21st century skills”

Elena Silva, (2008) Measuring Skills for the 21st Century

In order to be well positioned to achieve success in a highly complex and rapidly changing world, students need to be

- literate
- numerate
- effective communicators



- creative thinkers, innovators, and problem solvers
- skilful at accessing, evaluating, synthesizing and presenting information
- responsible self-directed learners
- effective collaborators
- socially responsible
- flexible and able to adapt to change

The Ministry of Education’s “Attributes of a BC Graduate” also provides a useful framework for program and learning design.

Learning design needs to incorporate these skills to the fullest extent possible.

RETHINKING THE HIGH SCHOOL EXPERIENCE

A series of guiding principles for each of the four dimensions provide specificity as to what it is that our schools need to attend to in order to be responsive to students’ learning preferences while ensuring that essential skills are acquired.

SOCIAL AND EMOTIONAL CONNECTIONS

A normative feature of the school’s culture is that every student is valued and cared for and this is clearly demonstrated through positive productive inter-personal relationships between teachers and students in and outside the classroom. Efforts to build quality relationships begin from the earliest time that students enter the school.

“Human relationships are the heart of schooling. The interactions that take place between students and teachers and among students are more central to student success than any method of teaching literacy, or science, or math.”

Martin Krovetz (1999) Fostering Resiliency

- The core human values of compassion, fairness, honesty, responsibility and respect are taught, modeled and reinforced as part of the school’s way of being.
- Students are developing social competence and emotional intelligence through their learning experiences and their relationships with peers and adults.
- Tutoring and mentoring by both students and adults in support of those who struggle with learning, connecting with the school community or having a sense of purpose are an integral part of the school’s culture.
- Conflict resolution and problem-solving skills are taught and practised throughout the school. Students are seen mixing easily across grades, cultures, ethnicity and gender.
- Student voices are heard. They have meaningful roles in the decision-making processes that affect them.
- There are processes in place that effectively monitor student social and emotional connections to school.



TEACHING AND LEARNING

Rethinking what we teach must come before we can rethink how we teach. Learning design should move further along the continuum from content knowledge acquisition to an essential understandings/skills development orientation.

- A “less is more” depth over coverage approach to curriculum implementation should be undertaken. “Essential” learning outcomes are the primary focus of attention and are treated in greater depth.
- Students are engaged in relevant and contextual problem-based and project-based learning designed to address 21st century skills. A multi-disciplinary approach to learning design is taken wherever possible.
- Development of creative and critical thinking skills and problem-solving strategies are pervasive across all curriculum areas.
- Collaboration and teamwork skills development are incorporated into both physical and virtual spaces.
- Diverse learning needs are met with differentiated content, process, and product incorporated into learning design.
- The use of technology as a learning tool is pervasive and extensive.
- Students are able to influence and actively participate in shaping their learning agenda. Learning is personalized to address individual interest and needs to the fullest extent possible. Students set learning goals in relation to required learning outcomes.

ASSESSMENT AND GRADING

“Effective classroom assessment, when implemented effectively, can lead to remarkable gains in student achievement, especially for students who are struggling or “at-risk”
Black and Wiliam (1998)

There is considerable evidence that classroom assessment is a powerful process for enhancing learning. When teachers use classroom assessment to become aware of the knowledge, skills, and beliefs that their students bring to a learning task, use this knowledge as a starting point for new instruction, and involve students in the assessment process, student learning is enhanced. It is important for educators to understand the distinct but inter-related purposes of formative and summative assessment (assessment *for* learning and assessment *of* learning), recognize the need to reconfigure the balance between them, know which one they are using and why, and use them both wisely.



- Formative assessment guides instruction. It gives teachers information about what students know and can do, and what confusions, preconceptions, or gaps they might have. It is the primary means by which learning is assessed.
- Student work is assessed frequently (formative assessment) and graded occasionally (summative assessment)
- Students are able to demonstrate their learning in multiple ways with authentic tasks.
- Students are provided with specific, criterion-based descriptive feedback that guides and supports learning. It focuses attention on the task and reflects what needs to be done to move forward to the next stage of learning.
- Teachers foster student independence by helping them develop the capacity to monitor the quality of their own work. This requires that students 1) know what high quality work looks like; 2) be able to objectively compare their work to a standard; 3) have the opportunity to improve the quality of their work
- Students learn to articulate and defend the nature and quality of their learning. When students reflect on their own learning and communicate it to others, they intensify their understanding of the content studied, their learning strengths, and the areas they need to develop further.
- Student-led parent-teacher conferences epitomize the learner's involvement in self-critique, self-correction, and awareness of their own progress. For secondary students, learning to present their own learning is preparation for learning after school and moving into the workplace. It represents an acceptance of adult responsibility.
- Grading and reporting practices are valid, reliable, understandable and reflect current research and thinking around effective practice
- Reporting is outcome-based, rich in context, and user friendly. It uses a variety of descriptors and symbols that have a clear, agreed-upon, and stable meaning. This kind of reporting provides rich, detailed information and evidence (not just a single grade).

SCHOOL STRUCTURES AND ORGANIZATION

The organization of time and space in our high schools needs to be enabling rather than restrictive by serving the learning agenda as opposed to driving it. Given the large size of our high schools, it can also play a significant role in attending to the sense of student belonging in the school community and to student/peer as well as student/teacher relationships.



- Consideration is given to grade 8 and 9 as the “transition years leading into the grade 10-12 graduation program” as a basis for the organization of time and space and the delivery of programs and services.
- Students are organized into cohorts and teachers are teamed to the fullest extent possible.
- Schedules are organized to provide for interdisciplinary approaches to teaching and learning wherever possible.
- Time within the school day is seen as a resource that is both flexible and variable, and within the control of the learning cohort or teacher team.
- Recognizing that students learn at different rates, schedules are made more flexible, so that the learning is less time bound by the school day or school calendar.

REFERENCES

- ACOT² (2008) *Learning in the 21st Century*. Apple Classrooms of Tomorrow--Today
- Barth, Roland (2002). *The Culture Builder*. In Educational Leadership 59:8:May 2002
- Brown Easton, Lois (2007) *Engaging the Disengaged: How Schools Can Help Struggling Students Succeed*, Corwin Press, Thousand Oaks, CA
- Canadian Education Association (2009) What Did You do In School Today?
Four key documents can be accessed at www.cea-ace.ca/res.cfm?subsection=wdy
- Coalition of Essential Schools (2008). *The CES Ten Common Principles*,
www.essentialschools.org
- Conference Board of Canada (2001) Employability Skills
http://calsca.com/conference_board.htm
sso.conferenceboard.ca/Libraries/EDUC_PUBLIC/esp2000.sflb
- Eisner, Elliott (2003). *Questionable Assumptions About Schooling*, in Phi Delta Kappan, May 2003
- Fullan, M.; Hill, P.; Crevola, C (2006) *Breakthrough*. Corwin Press, Thousand Oaks CA
- Gibbons, Maurice (2004) *Pardon Me, Didn't I Just Hear a Paradigm Shift?* In Phi Delta Kappan, February 2004



Guskey, Thomas; Anderman, Eric (2008) *Students at Bat*. In Educational Leadership November 2008

Hargreaves, Andy (2003). *Teaching in the Knowledge Society*. Teachers College Press, New York, NY

Jukes, I.; McCain, T., Kelly, F.; (2009) *Teaching the Digital Generation: No More Cookie Cutter High Schools*. Corwin Press, Thousand Oaks, CA

Knapp, Michael (1995). *Teaching for Meaning in High Poverty Classrooms*. Teachers College Press, New York, NY

Krovetz, Martin L. (1999) *Fostering Resiliency: Expecting All Students to Use Their Minds and Hearts Well*. Corwin Press, thousand Oaks, CA

ISTE (2008). *Maximizing the Impact: The Pivotal Role of Technology in a 21st Century Education System*, International Society for Technology in Education www.iste.org

Lewis, Cynthia (2009) *Guildford Park Secondary: Helping Students Learn to Be Successful*, Society for the Advancement of Excellence in Education

Marx, Gary (2006). *Sixteen Trends: Their Profound Impact on Our Future*. Educational research Service, Alexandria, VA

McKay, Mike (2009) *Enhancing School Effectiveness Through Performance Assessment, Quality Feedback, and Strategic Improvement*. Unpublished

McTighe, Jay; O'Connor, Ken (2005) *Seven Practices for Effective Learning*, in Educational Leadership November 2005

McTighe, Jay; Wiggins, Grant (2007) *Schooling By Design* Association for Supervision and Curriculum Development, Alexandria, VA

NASSP (1996) *Breaking Ranks: Changing An American Institution*. National Association of Secondary School Principals, Reston VA.

NASSP (2004). *Breaking Ranks II: Strategies for Leading High School Reform*. National Association of Secondary School Principals, Reston VA.

Pace Marshall (1997) *Creating Sustainable Learning Communities for the Twenty-first Century*. In Organizations of the Future by Hesselbein, F. goldsmith. M Beckhard, Jossey Bass, San Francisco, CA

Partnership for 21st Century Skills (2007) *Framework for 21st Century Learning* www.21stcenturyskills.org

Silva, Elena (2008) *Measuring Skills for the 21st Century* www.educationsector.org



Surrey School District (2001) *A Report to the Board of School Trustees on Developing "Small School" Units within Large Secondary Schools* Unpublished

Surrey School District (2009). *Assessment: Declaring the District's Vision, Values, and Beliefs*, Unpublished

Surrey School District (2008). *Grade Seven to Grade 8 Articulation in Surrey: Examples of Best Practices*, Unpublished

Zmuda, Allison (2008) *Springing Into Active Learning*, in Educational Leadership, Nov08

