

# Learning Today for Tomorrow's World<sup>1</sup>

## Understanding 21<sup>st</sup> Century Learning

Our job is to prepare students to be positive, productive, citizens for the world they are entering. What is that world? It is a world of unlimited access to information, ideas, and resources. It is a world characterized by personal entitlement. It is a world where our youth can expect to have multiple, varied jobs. It is a world where fact is fluid and reality blurs with fiction. As reason replaced faith based thinking in the Renaissance; rationalization is replacing linear, authority-based thinking in our current metamorphosis. Thoughts and beliefs only have meaning or value as they relate to individual needs, interests, and paradigms. Our students need to be able to make sense of this world. They need to be able to find their place in it and find fulfillment. They need to have the skills, attitudes, and thinking required to create valuable and positive relationships (personal and intellectual). The paradigm (a system imbued with the values and protocols of the Industrial Age) from which we are working has questionable validity; however, there are many parts that are valuable. Hard work is still valued; it is just that it looks different. Our core value system and culture are still worth imparting to our youth, but they need it to make sense to them in their context. We need to provide all students with a broad-based, meaningful curriculum (*Modern Ode to a Modern School* by John Erskine<sup>2</sup>). What is a broad-based curriculum? What do we need to do to prepare them for their world? Make no mistake about this daunting task, we need to prepare them for their world and that poses many challenges for us.

There is a movement gaining momentum across the western world that attempts to address these challenges. Many high profile speakers; i.e. Sir Ken Robinson<sup>3</sup>; thinkers, i.e. John Abbott<sup>4</sup>; and researchers, i.e. Dr. Robert Marzano<sup>5</sup>, are pointing this out; however, few have presented solutions to the problems they are identifying beyond, "we need more meaningful instruction." This is not constructive or illustrative. What follows is an attempt to clarify my understandings of 21<sup>st</sup> Century Learning, to generate deeper discussion, and to create a plan for moving toward this pedagogy.

### What?

To begin we need to identify the attributes of 21<sup>st</sup> Century Learning. Attributes are the characteristics, elements or qualities of a thing. The critical attributes<sup>6</sup> of 21<sup>st</sup> Century Education are:

- Integrated and Interdisciplinary learning;
- Use of Technology and Multimedia;
- Global Classrooms, Globalization, Global Awareness;
- Student-Centred Learning (I prefer the term *Student Led Learning*<sup>7</sup>);
- Project-Based and Research-Driven Learning;
- Relevant, Rigorous and Real-world Learning;
- Adapting to and Creating Constant Personal and Social Change, and Lifelong Learning;
- 21<sup>st</sup> Century Skills.

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<sup>1</sup> Sherry Elwood

<sup>2</sup> <http://sd71.bc.ca/sd71/school/laketrail/School/Staff/Fussell/Classes/English%209/Index.htm>

<sup>3</sup> <http://www.youtube.com/watch?v=zDZFcdGpL4U>

<sup>4</sup> <http://www.21learn.org/site/activities/staff/john-abbott/>

<sup>5</sup> <http://www.marzanoresearch.com/site/>

<sup>6</sup> [http://www.21stcenturyschools.com/What\\_is\\_21st\\_Century\\_Education.htm](http://www.21stcenturyschools.com/What_is_21st_Century_Education.htm) (Attributes)

<sup>7</sup> From the work of Avi Luxenburg

These are the elements that we need to integrate into our daily practice. This can be done by being mindful of what they are, looking for opportunities to do so, and by working collaboratively with others to explore possibilities. Each of these can be broken out into several contributing attributes; however, this list naming them places these traits into manageable chunks. Some are a lot easier to define than others. In addition, and connected, some are much easier to apply than others as well. I would argue it is easier to integrate technology and media than it is to make our schools student centred or the learning student led; it is easier to become more global in our approach and attitudes than it is to improve our teaching of *21<sup>st</sup> Century Skills*. Regardless, these are the attributes that we need used to describe our system.

So what? What does all of this mean? Well, I think we need to begin with the attributes to identify what we need to work toward. These attributes are a good guide as we plan. These are elements that we need to work to integrate into our daily curriculum as well as addressing them discretely. For example, the *21<sup>st</sup> Century Skills* can, and should, be taught directly. While they will be reinforced through cross curricular integration, we need to teach these skills explicitly to students. Much has been spoken of *21<sup>st</sup> Century skills*; what are they? *21<sup>st</sup> Century Skills*<sup>8</sup> are:

- Critical Thinking and Problem Solving;
- Collaboration across Networks and Leading by Influence;
- Agility and Adaptability;
- Initiative and Entrepreneurialism;
- Effective Oral and Written Communication;
- Accessing and Analyzing Information;
- Curiosity and Imagination.

In order to teach these skills, we need to plan consciously and designate certain areas, courses, curriculum, and/or levels that they will be taught. We need some overarching principles that we can all agree on and that can act as a filter for the various initiatives educators face. A global scope and sequence might help with this and some courses are more natural fits than others, but if the skills are reinforced in all courses, then students will be able to practice and develop them longitudinally, rather than just the fly-by methods being used now (one or two teachers who attempt to integrate a skill into their work in a given year).

Another area requiring explication and explicit instruction would be that of *21<sup>st</sup> Century Literacies*. Literacy is understanding and using targeted skills. *21<sup>st</sup> Century Literacies*<sup>9</sup> are:

- The Arts and Creativity;
- Ecoliteracy;
- Financial Literacy;
- Media Literacy;
- Social/Emotional Literacies;
- Globalization and Multicultural Literacy;
- Physical Fitness and Health Literacies;
- Cyberliteracy.

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<sup>8</sup> [http://www.21stcenturyschools.com/What\\_is\\_21st\\_Century\\_Education.htm](http://www.21stcenturyschools.com/What_is_21st_Century_Education.htm)

<sup>9</sup> [http://www.21stcenturyschools.com/What\\_is\\_21st\\_Century\\_Education.htm](http://www.21stcenturyschools.com/What_is_21st_Century_Education.htm) (*21st Century Literacies*)

The Arts and Creativity Literacy refers to the highest expression of every culture. To be truly well educated one must not only learn to appreciate the arts, but must have rich opportunities to actively participate in creative work. The arts are languages that most people speak, cutting through individual differences in culture, educational background, and ability. They can bring every subject to life and turn abstractions into concrete reality.<sup>10</sup>

Ecoliteracy is understanding and being able to apply the principles of organization that ecosystems have developed to sustain the web of life.<sup>11</sup> Ecological thinking is for the environment not just about it; it is an awareness of the Earth as our life-support system.

Financial Literacy is the ability to understand finance. It refers to the set of skills and knowledge that allow an individual to make informed and effective decisions through their understanding of finances.<sup>12</sup>

Media Literacy is the ability to sift through and analyse the messages that inform, entertain and sell to us every day. It's the ability to bring critical thinking skills to bear on all media from music videos and Web environments to product placement in films and virtual displays on NHL hockey boards.<sup>13</sup>

Emotional Literacy is the ability to recognize, understand and appropriately express our emotions.<sup>14</sup> Social Literacy is an individual's ability to successfully and deliberately mediate their world as family members, workers, citizens and lifelong learners.<sup>15</sup>

Globalization and Multicultural Literacy refers to two different but related literacies. Globalization describes the process by which regional economies, societies, and cultures have become integrated through a global network of political ideas through communication, transportation, and trade.<sup>16</sup> Multicultural Literacy is the awareness and appreciation of different beliefs, appearances and lifestyles.<sup>17</sup>

Physical Fitness and Health Literacy is an individual's ability to read, understand and act on health and fitness information.<sup>18</sup>

Cyberliteracy means being able to sort fact from fiction, to detect extremism from reasonable debate, and to identify gender bias, commercialism, imitation, parody, and other aspects of written language that are problematic in online communication.<sup>19</sup>

I feel it is important to note here that this does not exclude the traditional literacies (reading, writing, and numeracy) which also need to be taught; however, we need to adjust what we are doing so that we also teach these "new" literacies. We know that many of these have been important in certain groups for many years/decades; however, I posit that we need to clearly and effectively teach these much like we have taught reading, writing, and arithmetic over the past eons.

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<sup>10</sup> [http://www.newhorizons.org/strategies/arts/front\\_arts.htm](http://www.newhorizons.org/strategies/arts/front_arts.htm)

<sup>11</sup> <http://www.21stcenturyschools.com/Ecoliteracy.htm>

<sup>12</sup> [http://en.wikipedia.org/wiki/Financial\\_literacy](http://en.wikipedia.org/wiki/Financial_literacy)

<sup>13</sup> [http://www.media-awareness.ca/english/teachers/media\\_literacy/what\\_is\\_media\\_literacy.cfm](http://www.media-awareness.ca/english/teachers/media_literacy/what_is_media_literacy.cfm)

<sup>14</sup> [http://www.feel.org/emotional\\_literacy.php](http://www.feel.org/emotional_literacy.php)

<sup>15</sup> <http://www.socialliteracytoday.com/?p=87>

<sup>16</sup> <http://en.wikipedia.org/wiki/Globalization>

<sup>17</sup> <http://www.authorstream.com/Presentation/bsndev-300010-Multicultural-Literacy-ppt-what-is-multicu-Education-powerpoint/>

<sup>18</sup> <http://www.csg.org/knowledgecenter/docs/Toolkit03HealthLiteracy.pdf>

<sup>19</sup> <http://yalepress.yale.edu/book.asp?isbn=9780300101577>

Constructive Literacies do not appear in much research or writing about 21<sup>st</sup> Century Learning; however, they are crucial for our students and for society. In our drive to become more relevant and connected to life experiences our students will encounter, we need to include those disciplines that involve constructing things no matter what the media would be. The principles, skills, and attitudes required to work with wood are similar to those of metal or machinery. Our students should all have a rudimentary understanding and appreciation of how to construct products using specific materials. Thus, I suggest that we add Constructive Literacy to the list of literacies bringing the total to an even dozen.

With this triumvirate of attributes, skills, and literacies we have the architectural pieces of the much talked about 21<sup>st</sup> Century Learning. So, now what? Where do we do this? How do we do this? These are the questions thus far elusive in my research and work in this area. It seems to me that there are two significantly conflicting forces at play: we have an entrenched system that has all of the power of legislation and cultural reinforcement in place that is grossly out of step with what society is demanding. Schools and jurisdictions that have responded to this shift are dramatically different than where the majority of mass education institutions are.<sup>20</sup> What follows are my musings, thoughts, and ideas about how we can put these thus far nebulous ideas, terms, and wishes into practice as we work to transform the leviathan that is my context.

### **How?**

What would the ramifications be if we were to declare that the Literacies (including constructive, reading, writing, and numeracy) were to be discretely taught through several courses and students would need to take at least one course in each section each year? Now, some courses could cover several literacies, i.e. English Language Arts/French Language Arts cover reading and writing based on their Prescribed Learning Outcomes (do they cover enough of media and cyber literacy? Could they?); however, many of the others have been left to random, incidental “coverage.” What would it look like if we structured our course selection around these headings rather than the traditional “Required” and “Electives”, or “Fine Arts” and “Applied Skills”? This would ensure that each student learn and develop their literacy in the prescribed areas rather than hoping that “by gosh and by golly” they pick some of them up by osmosis. This should not imply that these literacies not be taught/developed in other courses, but that certain ones will declaratively be responsible for teaching these literacies (kind of like where we were with reading literacy 7 years ago).

For example, at École Mark R. Isfeld Secondary School we could have all grade 8 and 9 students do their core subjects plus exploratory blocks that include courses in citizenship, leadership, health and career Education (at both grades 8 and 9), visual arts, dramatic arts/public speaking, technology education, and domestic studies.

The Graduation Program (grades 10-12) would be changed to feature elective courses with three levels – Introductory, Developing, and Preparatory. This would apply to our main elective courses such as Art, Drama, Foods, Woodwork, etc. It would not include standalone courses like History 12, Literature 12, Chemistry 12, etc. The introductory level courses would be designed to guide students toward a rudimentary understanding of the discipline. The developing level would feature skill and appreciative development, and the preparatory level would be designed for those students who want to pursue the discipline after high school.

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<sup>20</sup> <http://www.ccsso.org/>; <http://www.hightechhigh.org/>; <http://www.kunskapsskolan.com/>

As for the literacies, all students would have to take at least an entry level course from each of the following sections:

1. The Arts and Creativity – i.e. Band, Visual Art, Dramatic Art, Media Arts
2. Ecoliteracy – i.e. Social Studies 10, new course(s) to be designed/offered
3. Financial Literacy – i.e. Planning 10, All About Money
4. Media Literacy – i.e. English 10, Media Arts
5. Social/Emotional Literacy – i.e. Planning 10, Psychology 11
6. Globalization and Multicultural Literacy – i.e. Social Studies 10, Global Studies
7. Physical Fitness and Health Literacy – i.e. Physical Education
8. Cyberliteracy – i.e. new course(s) to be designed/offered, Independent Learning Class<sup>21</sup>
9. Constructive - Woodwork, Metalwork, Textiles, Robotics, etc.
10. Reading – i.e. English 10
11. Writing – i.e. English 10
12. Numeracy – i.e. Apprenticeship and Workplace Math, Pre-Calculus Math

Within this we would need to, by necessity, build in a clause that insures the Ministry required courses, i.e. Science 10, be included and not avoided. One way to do this is to limit the offerings, but that flies in the face of personalized learning (see attributes). Also, based on the way Ministry required courses are set up, several of these literacies could be removed from the formalized list, but I'm not sure what benefit that would serve. While students would only be required to take one course in each literacy area (those courses would be charged with discrete instruction in said literacy) we would encourage students to maintain a balanced program between all literacies.

### **Utilizing Attributes**

With respect to the attributes, by declaring their importance and challenging ourselves to use them as filters for our own practice, we will increase the number of attributes our work embodies. These could be the framework/language on which we base many of our conversations, professional development, and reflection. Already we are dabbling with integration and interdisciplinary work through our Humanities program and our grade 8 and 9 program. We do have some integrated courses at the senior level (Honours Liberal Arts 11, English Language Arts 12 and Honours Marine Biology 10), however, where do we create holistic learning environments? There is interesting work demonstrating the value of integrated work and intuitively it makes sense as there are few applications in life outside of school where we separate skills, knowledge, and aptitudes. We use some technology and multimedia applications; however, we prevent the use of much of it (i.e. YouTube) and overuse other elements – those we're comfortable with such as PowerPoint. Some are using Blogs for communication, but are we using the tools/resources available to maximize learning?<sup>22</sup>

Globalization and Global Awareness can be integrated throughout the formal curriculum whether it is piece selection in English and Band, or exploring newspapers from different countries on an issue in Social Studies. Project-based learning has been used for a number of years in a variety of disciplines; however, how much do we use research to inform our practice or the practice of our students? Lifelong Learning has been a buzz-phrase for years; however, I question whether we have broken it down and taught it. I.e. where do we specifically teach "reflection"? Where do we teach and declare the skills

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<sup>21</sup> The Independent Learning Class – piloted at Isfeld and Vanier with NIDES – could provide many of the literacies very effectively.

<sup>22</sup> <http://www.khanacademy.org/>; <http://www.edutopia.org/>; <http://www.changelearning.ca/>

needed for learning? Where do we teach them to adapt to and create personal and social change? For that matter, where do we actually teach students to learn independently? Many of our structures are antithetical to independence (“do this because you have to”).

This brings us to “Student-Centred Learning”. What does this mean? This seems to be at the core of *21st Century Learning* as it is also called *Personalized Learning*. Personalized learning gives control of the learning to the students; however, with control comes responsibility. What do we do when students refuse to learn what we have determined to be important? We need to guide and support our students. We need to make sure the curricula and programs we have are relevant, real, and meaningful. What motivates us is autonomy, mastery and being part of something big and important.<sup>23</sup> I believe that if we do that, we will have much less resistance from students. Do we engage them in the conversations about their education? The days of “because we said so” are gone. Also, if they are not rigorous, students will not be getting the value that they deserve. Our students need courses that are relevant, robust, and that don’t waste their time. I believe a better term would be “student led learning”<sup>24</sup> as we really want them to return to taking the lead with their learning so we can support them in their quest. Students enter our system with a passion for learning (if you doubt this, watch an infant’s fascination with just about anything). At the primary level, the number one job of the teacher is building a community of confident, caring learners. At intermediate we start to focus on “curriculum” more than kids. Guess what? The kids become disengaged. Some stay engaged in the “game of school” and succeed by following instructions, printing neatly and colouring their work well. As kids get older, the system moves the wrong way along the relationship - curriculum continuum.<sup>25</sup> This paradigm shift will also, by necessity, force the system to meet student needs not students to meet systemic needs.

The skills themselves need to be taught, used, and developed every year and, as much as possible, in every course. Few of them are unique to any one course or program. I would doubt that any teacher would say that they are not teaching critical thinking and problem solving, but I wonder how much of it is methodical and instructive and how much of it is a casual by-product. Do we know what critical thinking is?<sup>26</sup> Can we define, describe and apply it? We place students in groups and for a select few we create opportunities for them to work with groups beyond their classes, but I wonder how much skill building is done in these groupings. Do we teach them how to collaborate positively across networks? Do we teach them how to lead by influence? Are we declarative about what we are teaching them?

What is Agility and Adaptability? How do we teach it? Changing assignments midstream and having a lot of different teachers is not a constructive way of doing this. We need to create situations – individually and in group settings – that give students ample opportunity to practice their agility and adaptability. We also struggle to teach initiative, though we encourage it in some. We do not teach entrepreneurialism. While the latter is probably better left to several business related courses we have to offer but never run, the first can be taught through many curricula, though the teacher’s attitude will have a significant impact on how well and how completely this is done (i.e. Planning 10 – curriculum is good, our approach haphazard). Finally, if we are not tapping in to student curiosity and imagination, then we are missing a significant element required for a meaningful environment. Unfortunately, we need to re-teach imagination and curiosity, but one of the easiest ways we can create fertile ground for these skills is by making the environment we control positive, intellectually energetic, and supportive.

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<sup>23</sup> Pink, Daniel (2009). *Drive*. Riverhead Books: New York.

<sup>24</sup> From the work of Avi Luxenburg

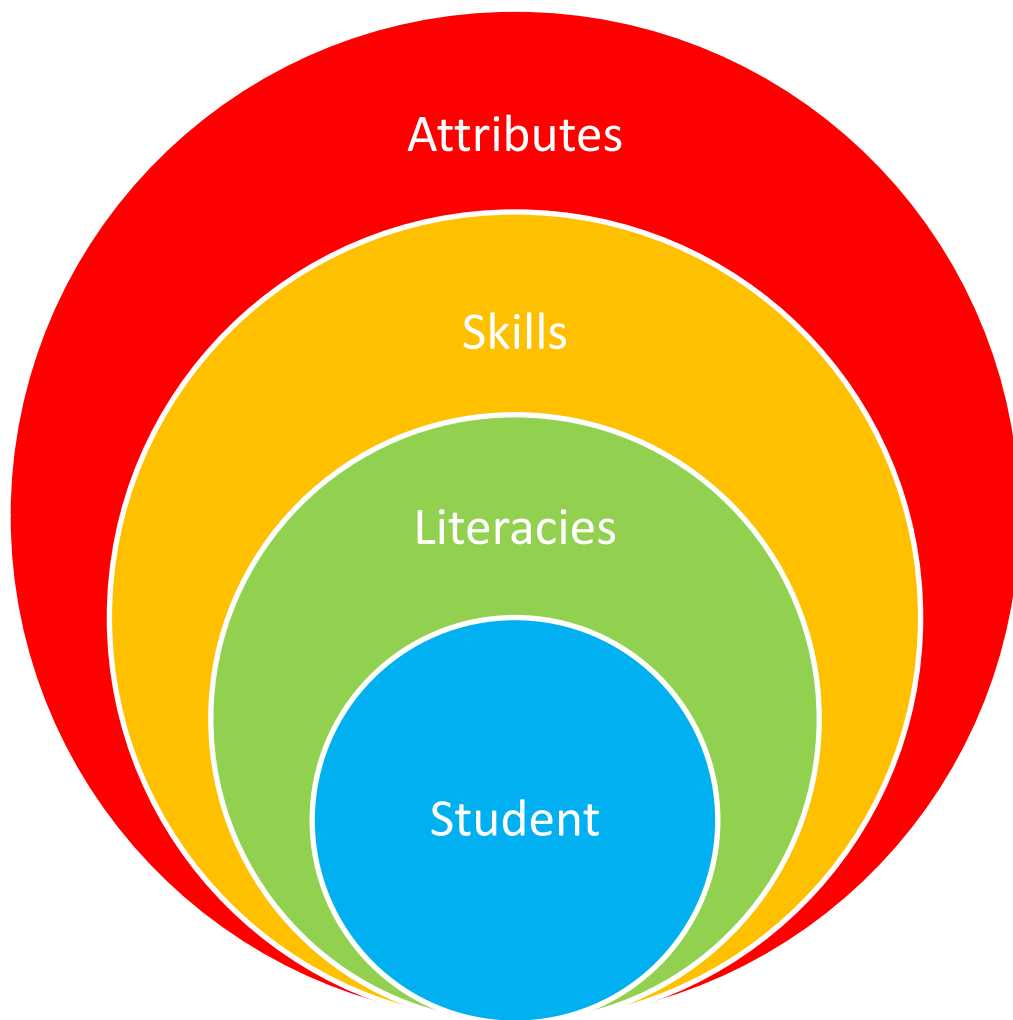
<sup>25</sup> From the work of Kyle Timms

<sup>26</sup> [http://www.criticalthinking.org/aboutCT/define\\_critical\\_thinking.cfm](http://www.criticalthinking.org/aboutCT/define_critical_thinking.cfm)

## Conclusion

The attributes described briefly are the place to start and we need to use them. They will provide us with the lenses necessary to guide our practice. Our curricula can be organized around the discrete literacies as they need to be taught directly; however, with our present timetable it will be particularly difficult. Finally, we need to teach each and every skill in all disciplines. This is doable, but professional development needs to be focused on skill development strategies, etc., and we need to develop a common language for our work in this area.

*21<sup>st</sup> Century Learning* is a complex, far reaching ideology; however, it is one that we need to understand and embody. What we are doing is not working and we need to start somewhere in order to break the cycles of mediocrity, disillusionment, disenfranchisement, and lack of relevancy. We are the ones who need to understand, initiate, and support our evolutionary shift. We are the ones who know the context, have the skills, and who have the responsibilities to make this shift a successful reality.



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