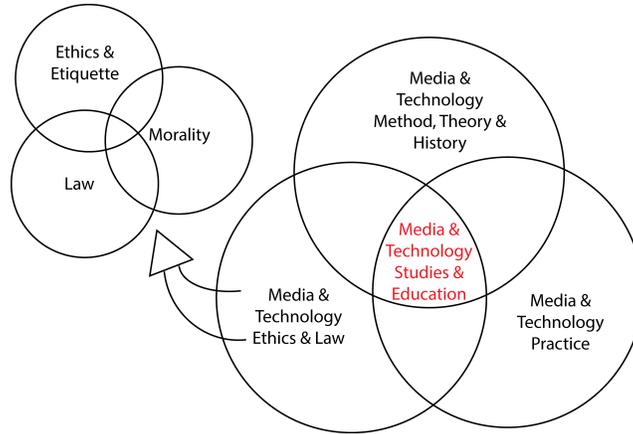




## EDCP 570: Seminar in Teaching ICT

### Lecture Notes

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## V. 21<sup>st</sup> Century Learning in BC

### 1. 21<sup>st</sup> CL

#### a. 21<sup>st</sup> Century Learning Semantics

##### i. 20<sup>th</sup> CL v 21<sup>st</sup> CL

1. Chute, Thompson, Burton & Hancock (1999, p. 206):

#### 20<sup>th</sup> Century Learning

(Instructor-Centered)  
 Lecture  
 Individual Learning  
 Student as Listener  
 Instructor as Source  
 Stable Content  
 Homogeneity  
 Evaluation and Testing

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

(Learner-Centered)  
 Facilitation  
 Team Learning  
 Student as Collaborator  
 Instructor as Guide  
 Dynamic Content  
 Diversity  
 Performance

##### ii. Past Learning v Future Learning

	Acquisition	Participation
<b>Key definition of learning:</b>	Learning as knowledge acquisition and concept development; having obtained knowledge and made it one's own; individualised	Learning as participation, the process of becoming a member of a community, "the ability to communicate in the language of this community and act according to its norms" (p.6); "the permanence of having gives way to the constant flux of doing" (p.6)
<b>Key words:</b>	Knowledge, concept, misconception, meaning, fact, contents; acquisition, construction, internalization, transmission, attainment, accumulation	Apprenticeship, situatedness, contextuality, cultural embeddedness, discourse, communication, social constructivism, cooperative learning
<b>Stress on:</b>	"The individual mind and what goes into it" (p.6); the "inward movement of knowledge" (p.6)	"The evolving bonds between the individual and others" (p.6); "the dialectic nature of the learning interaction: The whole and the parts affect and inform each other" (p.6)
<b>Ideal Role of Instructor</b>	Individualized learning, delivering, conveying, facilitating, clarifying	Mutuality, community building, facilitator, mentor, "expert participant, preserver of practice/discourse" (p.7)
<b>Nature of knowing</b>	Having, possessing	Belonging, participating, communicating

Table 1: Two metaphors of learning, adapted from Sfard, 1998, p6-7, (Collis & Moonen, 2006, p.3)

iii. 20th C v 21<sup>st</sup> C Classroom

<b>The 21st Century Classroom</b>			
21st Century Skills are a combination of cognitive processes and the technologies that enable individuals to leverage these processes for the greatest impact. The 21st Century classroom is one that is student-centered, project based and focused on creating life-long learners.			
Research & Information Fluency	Problem Solving & Critical Thinking	Collaboration & Communication	Creativity & Innovation
<b>Teacher:</b> <ul style="list-style-type: none"> <li>provides opportunities for students to develop and demonstrate essential skills.</li> </ul> <b>Students:</b> <ul style="list-style-type: none"> <li>select appropriate digital tools to assemble, evaluate, and utilize information.</li> <li>apply varied research skills to find and evaluate resources.</li> <li>use information and resources to accomplish real-world tasks.</li> </ul>	<b>Teacher:</b> <ul style="list-style-type: none"> <li>provides opportunities for students to develop and demonstrate essential skills.</li> </ul> <b>Students:</b> <ul style="list-style-type: none"> <li>use multiple resources to plan, design, and execute real-world problems.</li> <li>use technology to collaborate and solve authentic problems.</li> <li>develop and answer open-ended questions using higher order thinking skills</li> </ul>	<b>Teacher:</b> <ul style="list-style-type: none"> <li>creates structures, provides opportunities, and assesses student performances</li> </ul> <b>Students:</b> <ul style="list-style-type: none"> <li>Initiate communication in real and non-real time.</li> <li>communicate and collaborate with learners of diverse cultural backgrounds.</li> <li>form collaborative teams to solve real-world problems and create original works.</li> </ul>	<b>Teacher:</b> <ul style="list-style-type: none"> <li>provides opportunities for students to develop and demonstrate essential skills.</li> </ul> <b>Students:</b> <ul style="list-style-type: none"> <li>apply critical thinking, research methods, and communication tools to create original work.</li> <li>collaborate effectively with an audience beyond the classroom to create original work.</li> </ul>

iv. 20<sup>th</sup> Gen Youth v 21<sup>st</sup> Gen Youth

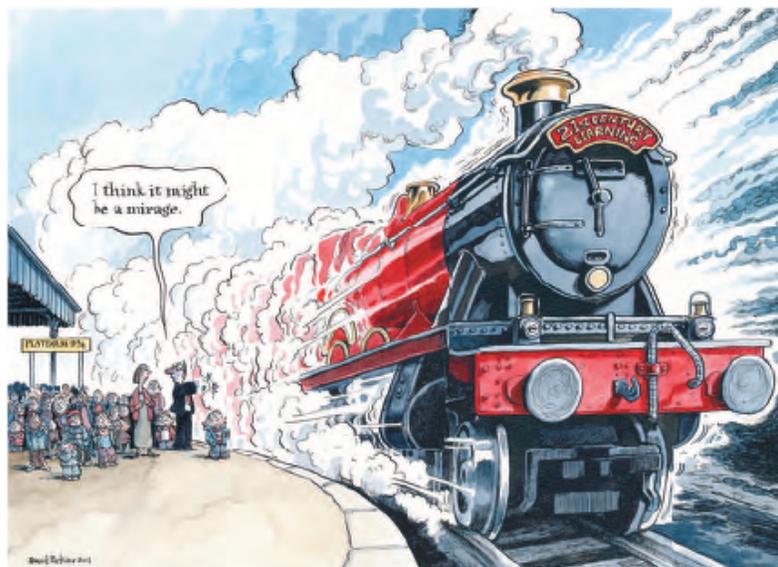
- Podcast CBC's The Current, "Introducing Generation Z"  
<http://www.cbc.ca/radio/thecurrent/introducing-generation-z-a-special-edition-of-the-current-1.2987293>
- Downes & Bishop (2012, p. 14): We have learned that preparing schools for 21st century learning is less about designing engaging activities for students and more about unleashing the learning potential of students and the technologies with which they are familiar. The infusion of technology in schools is merely an extension of the extraordinary expansion of technology available to students in their lives. Their spontaneous use of technologies in their out-of-school lives reflects, to a remarkable degree, young adolescents' applications

of 21st-century skills in pursuit of personal efficacy. One of our I-Leap teachers said it best: "The shift isn't in the students. The shift is in the teachers. We don't have to convince the students that this is the way to learn."

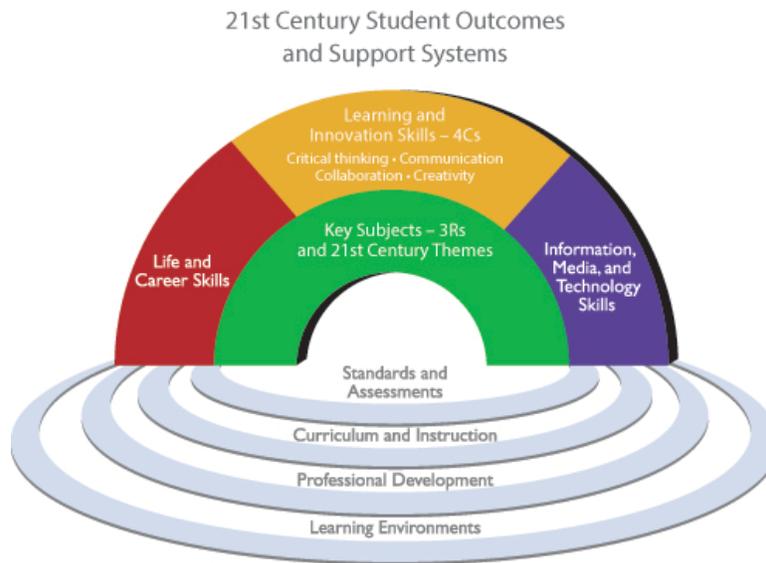
- 3.
- v. What is 21<sup>st</sup> Century Learning?
  1. See Frodsham (2012) thesis:  
[http://dspace.library.uvic.ca/bitstream/handle/1828/3846/Frodsham\\_Lauren\\_MEd\\_2012.pdf?sequence=1&isAllowed=y](http://dspace.library.uvic.ca/bitstream/handle/1828/3846/Frodsham_Lauren_MEd_2012.pdf?sequence=1&isAllowed=y)
  2. CCL (2010), *Framework for 21st Century Learning*: a discrete focus on 21st century student outcomes (a blending of specific skills, content knowledge, expertise and literacies) with innovative support systems to help students master the multi-dimensional abilities required of them in the 21st century.
  3. Bellanca (2010, p. 76): the combination of a set of discrete 21st century skills (for example, critical thinking, collaboration, information literacy, and so on), and academic standards to be implemented through digital innovations in the context of emergent research from the cognitive sciences on how people best learn.
- b. 21<sup>st</sup> CL in BC
  1. [http://www.bced.gov.bc.ca/dist\\_learning/21century\\_learning.htm](http://www.bced.gov.bc.ca/dist_learning/21century_learning.htm)
  - ii. BC MoE (2011, pp. 4, 5), *BC's Education Plan*
    1. While a solid knowledge base in the basic skills will be maintained, to better prepare students for the future there will be more emphasis on key competencies like self-reliance, critical thinking, inquiry, creativity, problem solving, innovation, teamwork and collaboration, cross-cultural understanding, and technological literacy.
    2. Personalized learning for every student
    3. Learning empowered by technology
  - iii. BC MoE (2016): Concept-based, Competency-driven Curriculum  
<https://curriculum.gov.bc.ca/curriculum-info>
    1. B.C.'s new curriculum brings together two features that most educators agree are essential for 21st-century learning: a concept-based approach to learning, and a focus on the development of competencies, to foster deeper, more transferable learning.
    2. These approaches complement each other because of their common focus on active engagement of students. Deeper learning is better achieved through "doing" than through passive listening or reading. Similarly, both concept-based learning and the development of competencies engage students in authentic tasks that connect learning to the real world.
  - iv. Premier's Technology Council (2010, p. 15):
    1. Needs of a Knowledge-Based Society
      - a. KBS is "a society that creates, shares and uses knowledge for the prosperity and well-being of its people.' Such a society is well educated, and 'relies on the knowledge of its citizens to drive the innovation, entrepreneurship and dynamism of that society's economy.' More specifically, the economy will be

‘directly based on the production, distribution and use of knowledge and information.’”

- i. Functional Numeracy and Literacy
  - ii. Critical Thinking and Problem Solving
  - iii. Creativity and Innovation
  - iv. Technological Literacy
  - v. Communications and Media Literacy
  - vi. Collaboration and Teamwork
  - vii. Personal Organisation
  - viii. Motivation, Self-Regulation and Adaptability
  - ix. Ethics, Civic Responsibility, Cross-Cultural Awareness
2. Transformations for 21<sup>st</sup> CL
    - a. From Learning Information to Learning to Learn
    - b. From Data to Discovery
    - c. From One Size Fits All to Tailored Learning
    - d. From Testing to Assess to Assessing to Learn
    - e. From Classroom Learning to Lifelong Learning
- v. BCTF
1. BCTF (2011, p. 9) AGM:
    - a. Education policy Recommendation 9: 21st century learning initiative
      - i. A number of conditions are identified as key for pursuing change that will enhance teaching and learning:
      - ii. the centrality of teachers in the learning process
      - iii. using varied forms of instruction including inquiry-based approaches
      - iv. integrating new technology into teaching and learning
      - v. recognizing the diversity of the student population
      - vi. assessment that supports students’ learning needs
  2. Parkins, D. (2011). 21<sup>st</sup> century learning. *BCTF Teacher*, 23(6), 7.



- c. 21<sup>st</sup> CL in Canada
  - i. Canadian Council on Learning (CCL) <http://www.21learn.org/>
    - 1. *Framework for 21st Century Learning*
- d. 21<sup>st</sup> CL in US
  - i. Clinton Administration, *Goals 2000*
  - ii. Partnership for 21<sup>st</sup> CL (P21)
    - 1. 21<sup>st</sup> CL skills
      - a. a blending of specific skills, content knowledge, expertise, and literacies with the necessary support systems that must be present to help students acquire these critical skills.



- i. Core subjects defined by NCLB; English, reading or language arts, mathematics, science, foreign languages, civics, government, economics, arts, history, and geography
- ii. Learning skills in three broad categories; information and communication, thinking and problem solving, and interpersonal and self-directional
- iii. 21st century tools for the purpose of using information and communication technologies to access, manage, integrate, and evaluate information; construct new knowledge; and communicate with others effectively and ethically
- iv. 21st century context learning through real world examples, applications, and experiences in the process of using 21st century tools
- v. 21st century content that integrates global awareness; financial, economic, and business literacy; and civic literacy
- vi. 21st century assessments that are balanced between high quality standardized testing and classroom

- assessments for improved teaching and learning  
(Policymakers Guide to 21st Century Skills, n.d., p. 11)
2. Sawchuk (2010), "Motives of 21st-Century-Skills Group Questioned:"
    - a. P21 is facing a vocal chorus of detractors of its initiative, primarily from among advocates for a liberal arts and sciences curriculum. ("Backers of '21st-Century Skills' Take Flak," March 4, 2009.) Recently, those critics have leveled a more serious charge at the organization. P21, they allege, is a veiled attempt by technology companies—which make up the bulk of the group's membership—to gain more influence over the classroom.
    3. For Ken Kay [2010, p. 2], the president of P21, such criticism amounts to a "cheap shot" by those who don't believe that the education system should be more responsive to business needs. "If you look at what we're doing and our advocacy in the states, this has not been about trying to sell products," he said in an interview. "All we're trying to do is lay down a thoughtful set of design specs [for education]."
  - e. 21<sup>st</sup> CL International
    - i. e.g., UNESCO
      1. International Commission on Education for the 21st Century (1996), [\*Learning: The Treasure Within\*](#) (1996): Report to UNESCO of the International Commission on Education for the Twenty-first Century
        - a. Learning to know
        - b. Learning to do
        - c. Learning to be
        - d. Learning to live together
      2. See also [\*Revisiting Learning: The Treasure Within\*](#)
    - f.