2019 Knowledge Building Summer Institute
OISE, University of Toronto, Canada
April 7-9 2019

The KBSI2019 Toronto program is built around a two-year plan to establish the Knowledge Building Research Institute (KBRI) so that it complements Knowledge Building International (KBI) to help in the transformation of education to achieve a more equitable knowledge society.

KBRI will operate through advancing Knowledge Building theory, pedagogy, and technology within a worldwide interdisciplinary network of sites of educational innovation. We propose four advances to define KBRI's work over the next several years. Those advances correspond to the four objectives listed below, followed by KBSI Related Presentations. After discussions in Toronto and at KBSI Lyon, France we will proceed with the following KBRI objectives—or not—as you prefer.

Day 1: Sunday, April 7, 2019
Location: OISE/University of Toronto
252 Bloor Street West, (St. George Subway Station)
Room – 12-199 (12th Floor)

Time	Description
10:00-11:15	*KBRI Objective #1* **Education for Innovation Program** Governments are pressing schools to educate for innovativeness. IKIT is uniquely positioned to deliver such a program. A new program will be designed that includes courses, summer institutes, and summer camps for a broad range of students (elementary to tertiary education) to be taught through degree-granting institutions in Canada and globally. A high quality research-based online and place-based program in Education for Innovation will be initiated with two offerings in two years. The first offering will be a university-level pro-seminar in Knowledge Building/knowledge creation taught by scholars of renown globally, with a parallel course for principals and teachers. The pro-seminar will be modularized so that content can be customized to enable mix-and-match of webinars, practica, and "edutourism" sites to accommodate user-generated alternatives. The second offering will be "Knowledge Building in Health Sciences to Support UN Sustainability Goals." This will be a summer camp taught in collaboration with the Michener Institute of Education at UHN, Toronto, using high-end simulation labs at Michener to make the summer camp unique and pivotal to KBRI's focus on *knowledge for public good*. **QUESTIONS: Should the title of the program be "Education for Innovation"? Should the first course be a pro-seminar in Knowledge Building/Knowledge Creation or focused on "Leadership Development on a Large Scale"? What type of course would be most useful in your context? Would you contribute to the design and teaching of courses?**
	Related Presentations *Ann Russell – The Michener Institute of Education at UHN* - Exploring knowledge building collaboration across sectors: bridging the gap between education, research and practice. (20 min.)

	Leila Lax, Biomedical Communications, University of Toronto - Curb Your Enthusiasm: Is there such a thing as too much Knowledge Building? (20 min.)
11:15-11:30	**Break**
11:30-1:00 Working Lunch	*KBRI Objective #2* **Globally Networked Knowledge Building Hubs of Innovation Supported by the Knowledge Building Collaboratory** According to Bryk and Grunow (2011), education networks typically "function as free-floating idea bazaars, contexts for self-expression and places 'to share.'" Education needs to advance beyond sharing networks to innovation networks defined by Gloor (2006) as "networks of people who not only share ideas but generate and refine new ideas through the dynamics of networked social interaction." IKIT is building a national and international knowledge base. At this point there are about 600 entries from 24 countries with subjects spanning the school curriculum: astronomy, business, chemistry, education, materials development, engineering, English, geography, health, history, instructional design, literacy, literacy (Chinese), math, physics, psychology, psychological sciences and techniques, science (climate change, leaves, soil, worms, electricity, human body, rocks and minerals, optics, biology, biomedical communication, water, technology, dinosaurs), social studies, visual arts. Resources are available for sharing; structures need to be put in place to gain the added power of an innovation network. This requires technical advances to enable users to go beyond traditional commenting and "thumbs up/thumbs down" voting to facilities that support improvement of ideas. KBRI will put in place a number of new structures to support repurposing, video annotating, tweaking, design iterations, and research-based results to demonstrate advances enabled by such facilities. But more important than new technical supports will be principle-based accounts that encourage design iterations to facilitate increasing levels of knowledge creation and innovation. If we succeed we will produce the first research-based innovation platform in education to engage teachers in continual improvement of teaching innovations within a global network of education designers. Ultimately the measure of success will be number and types of innovations reported and the research bases available for claiming improvements in practice. **QUESTIONS: How should we define Knowledge Building Hubs of Innovation? Will you be in position to support a local hub of innovation? Will you be able to support hubs starting up elsewhere? Will you use the Knowledge Building Collaboratory in your own teaching or research?**
	Related Presentations *Yu-Hui Chang, Bodong Chen, University of Minnesota* - Teachers as Co-designers of a Knowledge Building Environment. (10 min.) *WenQing Lyu, The Research Project Group of the Future School Theory and Practice of the Ministry of Education, China,* Development of Real Learning Environment Based on Knowledge Building. (10 min.) *Ronald Replan, University of Toronto* – Knowledge Building Design Framework (10 min.) (10 min.) *Juanita Lee Garcia, University of Toronto* – Conceptuality and Transformative Practices for an Innovation System (10 min.)

1:00-1:30	**Break**
1:30-2:45	*KBRI Objective #3* **Knowledge Forum Developments and Data Analytics to Support Idea Improvement** Knowledge Forum will undergo significant development; in the short term, improved interface designs and video annotation will be added to enhance knowledge building discourse moves and qualitative analysis of artifacts. In the longer term, more powerful rise-above supports and interface, including data analytics optimized for idea improvement, will be added. Our goal is to provide teachers and students with ongoing, productive feedback regarding their online work and to support work related to objective #2. At present data analytics show if students are contributing to the community, if they are using increasingly sophisticated domain vocabulary over time, if they are contributing in ways that support a discursively connected community, and other countable units of behavior. But are ideas improving? That is what teachers want to know above all and current analytics do not address their concern. We aim to provide analytics that support student reflections on the advances and gaps in understanding surrounding their community knowledge and to provide tools broadly useable by students to reflect on the evolution of thought in community knowledge: What specific ideas have improved? What ideas have not advanced? How should efforts be redirected to achieve greater idea improvement? A longer-term goal is to provide measures for use across contexts to support comparative analysis and discourse within a global network of hubs of innovation. **QUESTIONS: Are the proposed developments in line with your wishes? What is missing from this plan? Do you recommend a different plan/agenda?**
	Related Presentations ***Robert Huang, University of Toronto,*** Cultivating Sustained Creative Work on Ideas (10 min.) ***Bodong Chen, University of Minnesota,*** IdeaMagnets: Towards Knowledge Building on the Open Web (10 min.) ***Yoshiaki Matsuzawa, Aoyama Gakuin University,*** Video Annotation Update (10 min.)
2:45-3:15	*KBRI Objective #4* **A Rich Knowledge Building/Knowledge Creation Data Repository for Researchers Worldwide** Whereas Objective 2 envisages a database of innovative and improvable Knowledge Building/knowledge creation practices, Objective 4 envisages a repository of qualitative and quantitative data drawn from experiments and classroom application and mainly of use to researchers. We aim to enable interdisciplinary/ interdepartmental and comparative data analysis, to do for education for innovation what the CHILDES Project at Carnegie Mellon enabled for studying child language acquisition. Carnegie Mellon faculty created a computerized database with corpora from "30 different languages comprising transcripts of spontaneous verbal interactions ... with linked audio and video files." According to their site, the project "maintains a list of 4,000 child language researchers and students who have used the database, and has records of more than 3,000 published articles based on the use of these materials." The project has also constructed a set of computer programs useful for conducting research. Through KBRI's global network we will have corpora from many nations comprising discourse generated by students engaged in knowledge building. The resource will provide the most extensive records of knowledge creation in education we

	are aware of; our goal is to transform this into a rich knowledge building/knowledge creation data repository for researchers worldwide.
	Researchers at many different sites are identifying "Honest Signals" of Creativity (Gloor, 2006). Do these "honest signals" appear consistently in our data? At what age do they appear? Are they more present in some contexts or nations than in others? Governments and granting agencies call for data analysis on effectiveness and researchers look for comparative, longitudinal data to inform designs. As part of a global community we need to determine how environments and tools being built in all of our labs can advance our understanding of education for innovation. There are significant technical, ethical, financial, and linguistic issues that need to be resolved; for example, we need anonymized data, multilingual translators, available analytic tools, and so forth. At the same time there are models and precedents for proceeding and if we start now we would have the world's most impressive resource to drive education for innovation. We propose investing major resources in this component alone.
	QUESTIONS: Do you see this repository as an important asset for work in your local context? If not, how could we build it to increase its value in your context? Will data from your site be available for use by others (assuming anonymization of all data)?
3:15 – 3:30	**Break**
3:30-5:00	**KBI Business Meeting**
	KBI Issues: Presidents' Report (KBSI2019, Finances, Tax Decisions, Newsletter); location and dates KBSI2020; election of officers and directors
	KBRI Issues: We aim to position KBRI as a leader in Education for Innovation with a global network of sites as design, practicum, dissemination, and "edutourism" sites, helping to ensure sustainability and scalability of our work. KBRI faculty and students will then be in position to secure contracts, address open-innovation challenges, and benefit from engagement in high-calibre associations and publications. The proposed KBRI plan will cost approximately $500,000.

Day 2: Monday, April 8, 2019
<mark>Multiple Locations</mark>

Time	Description
10:25-11:55	*AERA Research in Reading and Literacy Distinguished Scholar Address (Invited Speaker Session)* <mark>**Location:** Metro Toronto Convention Centre</mark> <mark>255 Front St W, Toronto – 200 Level, Room 205C</mark> **Knowledge Building: Reading and Writing in Design Mode.** Marlene Scardamalia & Carl Bereiter, *Institute for Knowledge Innovation and Technology, University of Toronto, Canada*
11:55-1:00	<u>**Information for AERA Participations**</u> Bus transfer to JICS: AERA Conference badge is required for admission. Bus transportation to and from the Jackman Institute of Child Study Laboratory School and Metro Toronto Convention Centre.
1:00-2:00	*Knowledge-Building and Knowledge Building Technology: Natural and Not-So-Natural Curiosity in Action* <mark>**Location**: Jackman Institute of Child Study Laboratory School</mark> <mark>56 Spadina Road, Toronto – Gym/Auditorium</mark> **Why Knowledge Building?** Richard Messina, Principal, *Jackman Institute of Child Study Laboratory School (JICS)* **Knowledge Building: What's Distinctive/What to Look for** Marlene Scardamalia & Carl Bereiter, *Institute for Knowledge Innovation and Technology, University of Toronto, Canada*
2:00-3:30	*Parallel Sessions*
	JICS Classroom Visits **(2:00 – 3:00)** **Location: JICS – JK to Grade 6** **Poster Session: Innovators from Worldwide Knowledge Building Innovation Network** **Location: JICS – Gym/Auditorium**
3:30-4:00	**K-12 Student Panel** *Grade 6 students from the Dr. Eric Jackman Institute of Child Study; Grade 6 students from St. Anne's Elementary School, Halton Catholic District School Board; secondary students from Dundas Valley Secondary School, Hamilton-Wentworth District School Board; Leanne Ma & Monica Resendes, Institute for Knowledge Innovation and Technology, University of Toronto, Canada* **Location**: Jackman Institute of Child Study Laboratory School 56 Spadina Road, Toronto – Gym/Auditorium
4:00-4:30	**Leadership for Knowledge Building Innovation in Ontario and Singapore** *Linda Massey, Ontario Principals' Council, Mary Cordeiro, Catholic Principals' Council of Ontario, Canada* *Chew Lee Teo, National Institute of Education, Singapore* **Location**: Jackman Institute of Child Study Laboratory School 56 Spadina Road, Toronto – Gym/Auditorium

4:30-5:00	**Discussion with Researchers, Administrators, Teachers and Policy Makers** **Location**: Jackman Institute of Child Study Laboratory School 56 Spadina Road, Toronto – Gym/Auditorium
5:00	**<u>Information for AERA Participations</u>** Bus returns to Metro Toronto Convention Centre
5:00-6:30	**Celebration Dinner for KBSI Participants** **Location**: Jackman Institute of Child Study Laboratory School 56 Spadina Road, Toronto – Robbie Case Room, 3rd Floor

Day 3: Tuesday, April 9, 2019
Location: OISE/University of Toronto
252 Bloor Street West, (St. George Subway Station)
Room – 12-199 (12th Floor)

Time	Description
1:30-5:00	*Research Grant Planning Session* Several grant applications will be submitted within the next several years. Colleagues interested in collaborative grant-getting initiatives are invited to join this proposal planning session. **NOTE:** *Please let Susana know if you will attend, as we may change the location of the meeting*.