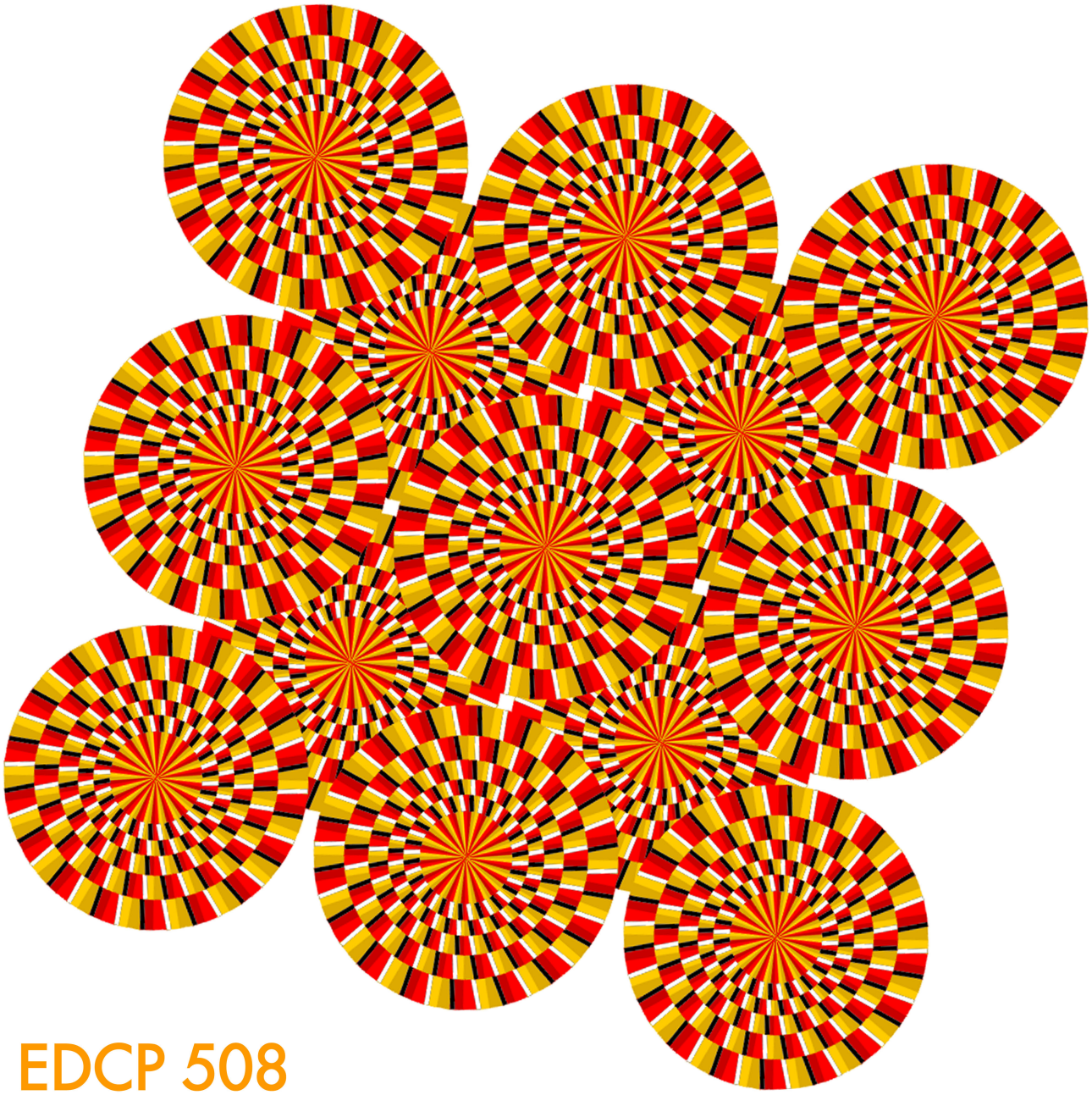

EDCP 508

CREATIVITY

& LEARNING IN A NEW TONALITY

THE UNIVERSITY OF BRITISH COLUMBIA

Paula MacDowell, PhD
Winter Term 2, 2016
Course Blog

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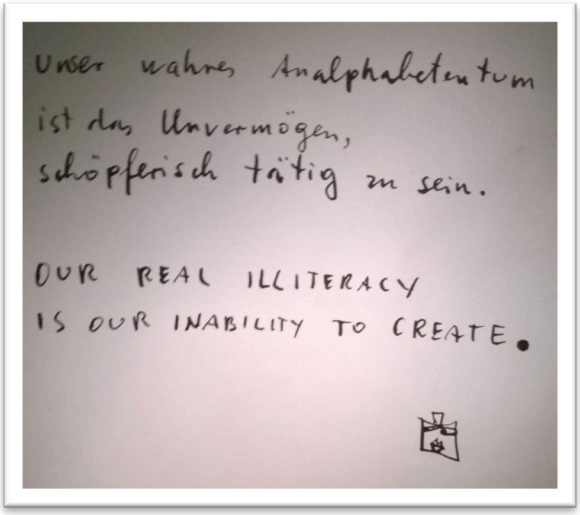
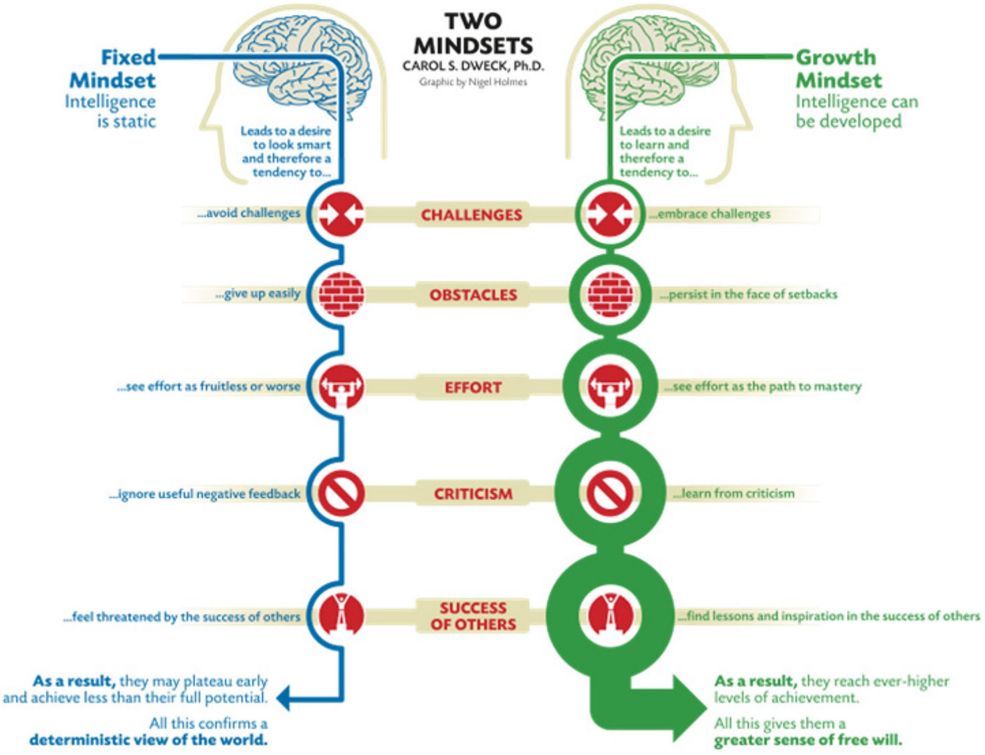
DESCRIPTION



This course offers graduate students a space to create and a community to explore empirical and theoretical ideas about creativity in curriculum and pedagogical design. Our six modules include critiquing scholarly readings and TED talks, expressing and challenging viewpoints, building upon each other's work, and experimenting with hands-on learning activities.

Students will engage in this course as instructional designers, content creators, and thinkerers working together on personally or socially meaningful projects. Learning involves defining educational problems and generating creative solutions, brainstorming, bodystorming, mindmapping, prototyping, observing, empathizing, evaluating, and experimenting with diverse ideas, materials, and perspectives. The operative word for this course is **CREATIVITY:** participants will be supported to develop creative leadership skills, increase creative confidence, become more creative listeners, take intellectual risks, push boundaries, question assumptions, expand research possibilities, and exercise ingenuity.

Students will benefit from a multimodal learning environment and creative instructional strategies (e.g., design thinking challenges, role-playing, and storyboarding). We will make and deconstruct learning artifacts using open-ended materials, develop prototypes for innovative classroom learning environments (on-site and online), evaluate educational apps, build and program robotics, ignite imagination through coding, be inspired by guest presenters, and have fun learning by collaborating and creating.



SCHEDULE

Module [1] **Maker Education: Making, Tinkering & Designing in the K-12 Classroom**

Readings [1]
Atwell, C. (2015). “Developing musical instruments for people with physical disabilities”
Crichton, S. & Carter, D. (2015). “Maker Day Toolkit #2”
Silver, J. (2013). “Hack a banana, make a keyboard!” (Video File)
Somerson, R. (2013). “The art of critical making”
Townsend, J. (2015). “Building the makerspace of your students' dreams”

Activities [1] **Hands-on Maker Workshop for Teachers:**

1. **Makey Makey:** http://makeymakey.com
2. **Black-Out Poetry:** http://www.makeblackoutpoetry.com
3. **Papertronics:** http://www.joywongdaniels.com/papertronics
4. **Google Cardboard VR:** https://www.google.com/get/cardboard
5. **Squishy Circuits:** http://www.sciencebuddies.org
6. **Tinkercad 3D Design:** https://www.tinkercad.com

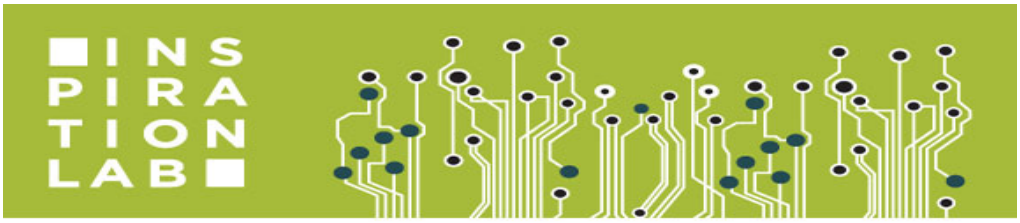
Resources [1] **MakerLabs** (http://www.makerlabs.com) is a 26,000 square foot makerspace in Vancouver that provides you with the tools, space, and skills to make almost anything.

Maker Mobile (http://www.makermobile.org) is a travelling classroom, hackspace, workshop, art studio, and laboratory on wheels.

The Tiny Community Centre (http://www.tinycommunitycenter.com) is the world's smallest mobile classroom, artist residency, and curiosity cabinet! Built using waste and recycled materials, the Centre provokes visitors to examine the waste generated in their own lives and consider how it can be re-purposed to create positive social change.

Vancouver Hive Learning Pop-Up (http://www.meetup.com/Vancouver-Maker-Education-Community/events/226440671) This annual event is a celebration of hands-on digital literacy and an opportunity to learn about the city’s various learning pathways. The pop-up makerspace is a creativity-inspiring experience for makers of all ages.

Vancouver Public Library’s Inspiration Lab (http://www.vpl.ca/programs/cat/C1051) is dedicated to digital creativity, collaboration, and storytelling. It offers sound studios, high-performance computers, video editing, self-publishing software, and thousands of online video tutorials on design, video, photography, production, and more.



Module [2] **Teachers as Designers of Creative Learning Environments**

Readings [2]

Eisner, E. (2002). "Teaching the visual arts" (pp. 46-69)
Palmer, P. (1997). "The heart of a teacher: Identity and integrity in teaching" (pp. 1-16)
Saavedra, A. & Opfer, V. (2012). "Learning 21st century skills requires 21st century teaching"
Wolk, S. (2008). "Joy in school: Joyful learning can flourish in school if you give joy a chance"

Activities [2]

Record an **Audio Selfie** using the StoryCorps app (https://storycorps.me). When you are finished, you have the option to archive "The Story of You" in the Library of Congress (American Folklife Centre). Enjoy listening to the stories, interviews, and meaningful conversations of people all around the world.

Resources [2]

Bennett, B & Rolheiser, C. (2001). "Beyond Monet: The artful science of instructional integration"
Koehler, M. J., & Mishra, P. (2005). "What happens when teachers design educational technology? The development of technological pedagogical content knowledge"
Pierson, R. (2013). "Every kid needs a champion" (Video File)
Ronson, M. (2014). "How sampling transformed music" (Video File)

Module [3] **Applied Design, Skills & Technologies: Inspiring Students' Creativity**

Readings [3]

BC Ministry of Education. (2015). "Applied design, skills & technologies framework"
BC Ministry of Education. (2015). "Creative thinking competency profiles"
BC Ministry of Education. (2015). "Introduction to BC's redesigned curriculum"
IDEO. (2012). "Design thinking for educators"
Statewide Afterschool Networks. (2014). "An introduction to design thinking"

Activities [3] **Playful Learning Lab for Teachers:**

1. **The EDCP 508 BrushBots Race:** http://maker-kid.com/instructions/brushbot
2. **Toys From The Trash:** http://www.arvindguptatoys.com/toys.html
3. **Learning Robotics Apps:** http://123dapp.com/make, http://lego.com
4. **3D Hologram Smartphone Technology:** http://www.instructables.com
5. **Paper Engineering:** http://wp.robertsabuda.com/make-your-own-pop-ups

Resources [3]

BC Ministry of Education. (2014). “Big ideas on BC’s redesigned curriculum” (Video File)
Hand, E. (2014). “War against science waged in B.C. classrooms”
Hyslop, K. (2014). “Enviro Ed ‘won’t be taught’ in new curriculum, teachers say”
Hoffman, G. (2013). “Robots with soul” (Video File)
McMurtry, J. (2013). “BC’s draft curriculum will dumb down education”
Musallam, R. (2013). “3 rules to spark learning” (Video File)

Module [4] **Coding & Gamification: Engaging Students in Creative Problem Solving**

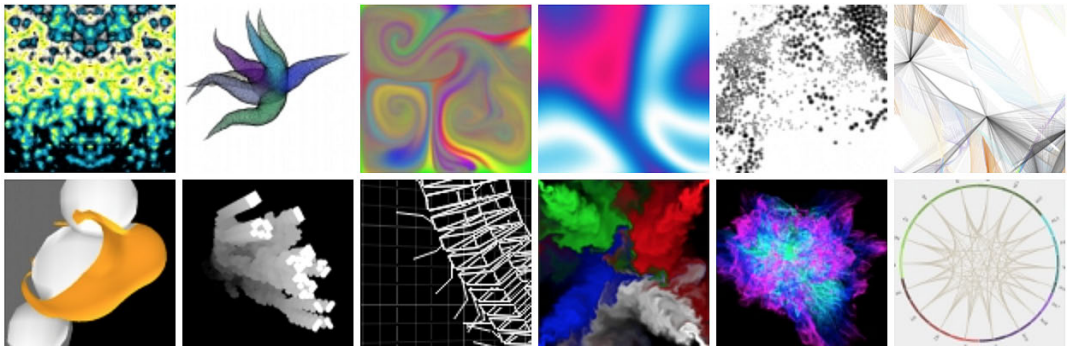
Readings [4]

Gee, J. (2013). “Games for learning”
Gillmore, M. (2015). “Code breakers: The ABC’s of digital education”
Resnick, M. (2007). “All I really need to know (about creative thinking) I learned (by studying how children learn) in Kindergarten”
Shapiro, J. (2015). “Five technology fundamentals that all kids need to learn now”
Simmons, B. (2015). “Gamification” (pp. 98-110)

Activities [4] **Coding & Gaming Apps To Explore:**

1. **Osmo Educational Games System:** https://www.playosmo.com
2. **Made With Code:** https://www.madewithcode.com
3. **CODE:** https://code.org/starwars
4. **Hour of Code (Angry Birds):** https://studio.code.org/hoc/1
5. **Daisy the Dinosaur:** http://daisythedinosaur.com
6. **Hopscotch Technologies:** https://gethopscotch.com
7. **Kodable:** https://www.kodable.com
8. **Scratch & Scratch Jr:** https://scratch.mit.edu
9. **Kids Ruby:** http://kidsruby.com

Learn basic programming concepts within a visual context using **Processing** open-source software (https://processing.org, http://openprocessing.org). Programs written using Processing are called sketches. Create and share your own computer-generated artwork, animations, and interactive content. No previous coding experience is necessary. Imagination and creative thinking are required!



Resources [4]

Davis, V. (2015). “15+ ways of teaching every student to code (even without a computer)”
Kafai, Y. & Burke, Q. (2014). “Connected code: Why children need to learn programming”
Koberg, D. & Bagnall, J. (1991). “The universal traveller: A soft-systems guide to creativity, problem solving, and the process of reaching goals”
Lange, G. & Ito, M. (2010). “Creative Production”
Resnick, M. (2012). “Let’s teach kids to code” (Video File)
Suarez, T. (2011). “A 12-year-old app developer” (Video File)

Module [5] **Creativity in Curriculum & Pedagogical Design**

Readings [5]

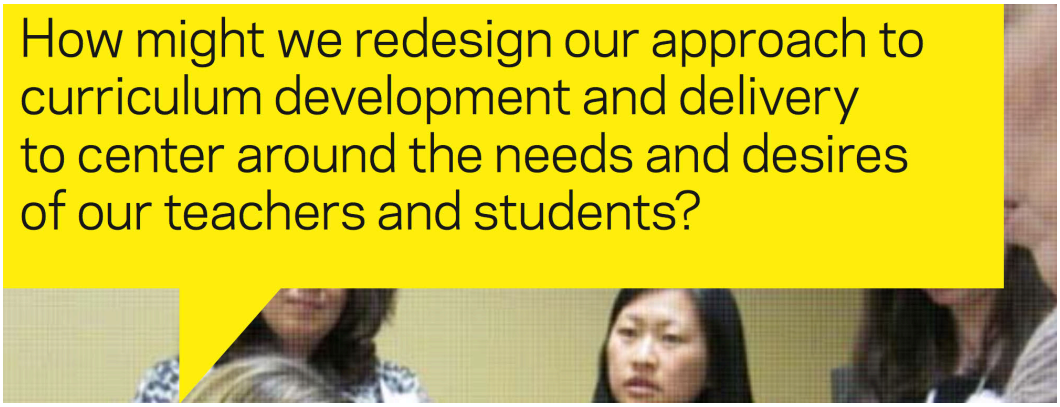
Blikstein, P., Martinex, S. & Pang, H. (2015). “Meaningful making” (choose one activity)
Dumont, H., Istance, D. & Benavides, F. (2010). “The nature of learning environments: Using research to inspire practice”
Martinez, S. & Stager, G. (2015). “How the maker movement is transforming education”
Milton, P. (2015). “Shifting minds 3.0: Redefining the learning landscape in Canada”

Activities [5] **You’re in charge! Generate solutions to the following design thinking challenge:**

Design an innovative school model that fosters creative learning approaches. Begin by examining your beliefs and philosophy about students’ social, physical, and cognitive development, and their learning needs. What is most important for students to learn within a dynamic reality, complex, and shared world?

Describe how your ideal learning environment sits within its community, in its landscape, and in the world. Evaluate ideas, features, and materials based on their sensory experiences (e.g., sound, smell, taste, touch, color, light, and movement).

Does the environment cultivate a sense of wonder and encourage inquiry? How do assessment practices reflect what we know about learning today? How do teachers and learners interact? Are students able to take responsibility for their learning? How might students communicate their ideas about their learning environment, including what changes they would like to see made?



Resources [5]

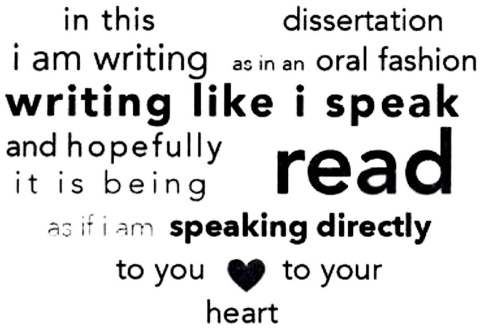
Mitra, S. (2013). “Build a school in the cloud” (Video File)
OWP/P Architects, VS Furniture, & Bruce Mau Design. (2010). “The third teacher: 79 ways you can use design to transform teaching and learning”
Scarfe, N. (1962). “Play is education”
Tezuka, T. (2014). “The best kindergarten you’ve ever seen” (Video File)
Washor, E. & Mojkowski, C. (2011). “Making their way: Creating a new generation of thinkerers”
Weller, C. (2015). “The 13 most innovative schools in the world”

Module [6] **Expanding the Space of the Possible in Your Research**

Readings [6]
Eisner, E. (2002). "The role of the arts in transforming consciousness" (pp. 1-24)
Gouzouasis, P. & Regier, C. (2015). "Adolescent love and relationships: An autoethnography of songwriting and guitar playing"
Hurren, W. (2009). Getting away with "it" (pp. 263-266)

Activities [6]
Using Flip HD cameras create a 2-3 minute video statement exploring the relationships between creativity, agency, and authenticity within the context of your own scholarly work. Reimagine possibilities for your research and share them with our learning community. Critique graduate essays, projects, and theses that challenge the orthodoxies of conventional academic discourses.

Resources [6]
Gouzouasis, P. (2011). "Pedagogy in a new tonality: Teacher inquiries on creative tactics, strategies, graphics organizers and visual journals in the K-12 classroom"
Robinson, K. (2013). "How to escape education's death valley" (Video File)



Theses [6]
Bakan, D. (2014). "A song of songs: A/r/tography, autoethnography, and songwriting as music education research" (Doctoral Dissertation).
Dr. Bakan explores how songs and stories about songwriting can serve as a means for theorizing new ways of conducting research in music education. Be inspired by his creative performance (view on YouTube): "The beauty of song (Gonna sing my way to a PhD)."

Harrison, S. (2014). "Not a freak show, growing up gay in rural Ontario: An arts-informed inquiry" (Doctoral Dissertation).
Dr. Harrison painted his PhD dissertation on a 19 x 15 foot circus tent titled Freak Show, a metaphor for his life experiences growing up a gay youth.

MacDowell, P. (2015). "Empowering girls as change makers in maker culture: Stories from a summer camp for girls in design, media & technology" (Doctoral Dissertation).
Dr. MacDowell studied the ways in which girls develop new skills and confidence in design, media, and technology. She collaborated with a team of female youth co-researchers to create the 101 Technology Fun makerspace.

Stewart, P. (2015). "Indigenous architecture through Indigenous knowledge: Dim sagalts'apkw nisim" (Doctoral Dissertation).
Dr. Stewart's deconstructionist writing style is a creative form of grammatical resistance. His 52,438-word dissertation has very little punctuation, no standard paragraphs, and he avoids using the upper case.

SHAPE OF THE DAY

8:30–9:00 **Opening Discussion & Questions**

9:00–10:15 **Seminar Leadership**

1. Maker Education: Making, Tinkering & Designing in the K-12 Classroom
2. Teachers as Designers of Creative Learning Environments
3. Applied Design, Skills & Technologies: Inspiring Students' Creativity
4. Coding & Gamification: Engaging Students in Creative Problem Solving
5. Creativity in Curriculum & Pedagogical Design
6. Expanding the Space of the Possible in Your Research

10:15–10:30 **Break**

10:30–11:30 **Activity**

11:30–12:30 **Create with iBooks Author** (design, feedback, inspiration, tech support)

12:30–1:00 **Lunch**

1:00–3:00 **Creative Learning Workshops**

1. Hands-on Maker Education Workshop for Teachers
2. Zoltan Virag: Teaching Music With Technology
3. Playful Learning Lab for Teachers (robotics & paper engineering)
4. Melody Ma: Using Hour of Code in Your Classroom
5. Design Thinking Challenge
6. Celebration of Learning

3:00–3:30 **Living Curriculum (Evernote journaling & sharing)**

ASSESSMENT

1. Creativity & Learning Notebook (20%, ongoing)

Becoming a creative "artisteacheresearcher" involves continual engagement, experimentation, and reflection over time. Prepare four creative responses (one-page or digital artifact equivalent) to the course materials, including: assigned readings, class discussions, hands-on activities, guest presentations, TED talks, and the unique work of your peers. The format: please sign up for a notebook in Evernote (free application) titled: **[Your Name] EDCP 508 Notebook**.

The weekly assignments (**choose four different class sessions**) are intended for you to explore and synthesize empirical and theoretical ideas about innovation in curriculum and pedagogical design. You are encouraged to be authentic, bold, creative, and include visual elements to express yourself (i.e., making your thinking visual). Please share your Evernote notebook with me so that I can respond to your work.

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2. Seminar Leadership (30%, ongoing)

Choose one topic from the schedule that interests you. Work in small groups of 3 (plus one group of 4) and coordinate our class seminar (90 minutes). Each group is responsible for re/presenting the weekly theme and readings in an interesting and meaningful way. This assignment gives you an opportunity to deeply engage with the course materials and design a unique learning experience for your colleagues. Guidelines to consider for seminar leadership, include:

1. Review the readings (e.g., define key terms and challenging theoretical concepts/issues)
2. Prepare discussion questions (including diverse viewpoints and for/against perspectives)
3. Design handouts, learning resources, and/or presentation media
4. Create learning activities to engage the group (with attention to inclusive participation)
5. Moderate and bring closure to our seminar

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3. EDCP 508 e-book: Creativity & Learning Essays & Artifacts (30%, due final day of class)

Your challenge is to write and design a significant text that explores the relationships between your current notions of creativity, curriculum, teaching, and learning based on your experiences during the MEd program. If your major project (EDCP 590) is going to be a collection of your best writing and creative works over the past two years, think of this short essay (1000-1500 words) as a 'preamble' to your major project. For example, consider the chapters that Kinnon (2011), Gerandol (2011), and Johnston (2011) wrote for *Pedagogy in a New Tonality* – those autoethnographic essays describe the conceptual framework for the curriculum writing they did (which was the core of their major project).

Alternatively, your essay can be completely unrelated to what you plan to do for a major project. It can be a creative activity through which you can frame visual journaling, creative activities (e.g., ceramics, acting, photography, creative writing, and journaling), and creative classroom practices (including the teaching you did in EDCP 562) as content for our class e-book. We will give each other constructive feedback and sequence all works into one multi-touch iBook (created with iBooks Author). Engaging elements that you can choose to create with your submission include: 3D objects, interactive images, infographics, pop-up sidebars, audio, video, recitation of stories and poetry, and widgets.

Our goal is to e-publish an influential resource that inspires and provokes discussion on creative ways to transform teaching and leaning. We will engage in creative thinking processes, collaborate to design a book cover, and select a descriptive title (e.g., **Creative Learning & Innovation in K–12 Classrooms**). Know that you are encouraged (and supported) to be creative, push beyond your comfort zones, learn new technical skills, and create new possibilities for innovation in curriculum and pedagogy.

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4. Participation in Seminars, Workshops & Activities (20%, ongoing)

RESOURCES

Atwell, C. (2015). Developing musical instruments for people with physical disabilities. *Make Magazine.* Retrieved from http://makezine.com/2015/06/22/developing-musical-instruments-people-physical-disabilities

Bakan, D. (2014). *A song of songs: A/r/tography, autoethnography, and songwriting as music education research* (Doctoral Dissertation). Retrieved from https://circle.ubc.ca/handle/2429/51903

BC Ministry of Education. (2015). *Applied design, skills & technologies framework (draft).* Retrieved from https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/pdf/applied-skills.pdf

BC Ministry of Education. (2015). *Creative thinking competency profiles (draft)*. Retrieved from https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/pdf/CreativeThinkingCompetencyProfiles.pdf

BC Ministry of Education. (2015). *Introduction to BC's redesigned curriculum (draft)*. Retrieved from https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/pdf/curriculum_intro.pdf

BC Ministry of Education. (2014). *Big ideas on British Columbia's redesigned curriculum* (Video File). *Retrieved from* https://www.youtube.com/watch?v=e_El-14MRec

Bennett, B & Rolheiser, C. (2001). *Beyond Monet: The artful science of instructional integration.* Toronto, ON: Bookation Inc.

Blikstein, P., Martinex, S. & Pang, H. (2015). *Meaningful making: Projects and inspirations for fab labs and makerspaces.* Torrance, CA: Constructing Modern Knowledge Press. Retrieved from http://fablearn.stanford.edu/fellows/sites/default/files/Blikstein_Martinez_Pang-Meaningful_Making_book.pdf

Crichton, S. & Carter, D. (2015). *Maker Day Toolkit 2.* Kelowna, BC: Innovative Learning Centre. Retrieved from http://issuu.com/ubcedo/docs/makerdaytoolkitver2revisemay31e

Davis, V. (2015). 15+ ways of teaching every student to code (even without a computer). *Edutopia.* Retrieved from http://www.edutopia.org/blog/15-ways-teaching-students-coding-vicki-davis

Dumont, H., Istance, D. & Benavides, F. (2010). *The nature of learning environments: Using research to inspire practice.* OECD Publications. Retrieved from http://www.oecd.org/edu/ceri/50300814.pdf

Eisner, E. (2002). *The arts and the creation of mind*. Harrisonburg, VA: R.R. Donnelley & Sons. Retrieved from UBC library (full text online).

Ellis, K., Keeling-Walter, W., Evans, M., & Reissner, C. (2006). *Instructional strategies for K to 12: Strategies for Teaching.* Otterville, ON: Otterville Public School Teachers. Retrieved from http://westwindplc.wikispaces.com/file/view/Instructional+Strategies+Handbook.pdf

Gee, J. (2013). Games for learning. *Educational Horizons, 91*(4), 16-20. Retrieved from http://www.jstor.org/stable/42927190

Gillmore, M. (2015). Code breakers: The ABC's of digital education. *TEACH Magazine.* Retrieved from http://www.teachmag.com/archives/8154

Gouzouasis, P. & Regier, C. (2015). Adolescent love and relationships: An autoethnography of songwriting and guitar playing. *Journal of Artistic & Creative Education, 9*(1), 70-98. Retrieved from http://jaceonline.com.au/wp-content/uploads/2015/11/JACE9-1-FA.pdf

Gouzouasis, P. (Ed.). (2011). *Pedagogy in a new tonality: Teacher inquiries on creative tactics, strategies, graphics organizers and visual journals in the K-12 classroom.* Rotterdam: Sense Publishers. Retrieved from https://www.sensepublishers.com/media/749-pedagogy-in-a-new-tonality.pdf

Hand, E. (2014). War against science waged in B.C. classrooms. *Desmog Canada.* Retrieved from http://www.desmog.ca/2014/02/13/war-against-science-waged-in-BC-classrooms

Hardy, J. (2010). *My green school dream* (Video File). Retrieved from http://www.ted.com/talks/john_hardy_my_green_school_dream?

Harrison, S. (2014). *Not a freak show, growing up gay in rural Ontario: An arts-informed inquiry* (Doctoral Dissertation). Retrieved from https://tspace.library.utoronto.ca/handle/1807/68374

Hoffman, G. (2013). *Robots with "soul"* (Video File). Retrieved from https://www.ted.com/talks/guy_hoffman_robots_with_soul

Hurren, W. (2009). Getting away with "it." In S. Kouritzin, N. Piquemal & R. Norman (Eds.), *Qualitative research: Challenging the orthodoxies in standard academic discourse(s)* (pp. 263-266). New York, NY: Routledge. Retrieved from http://blogs.ubc.ca/edcp508/files/2015/12/Hurren2009.pdf

Hyslop, K. (2014). Enviro Ed 'won't be taught' in new curriculum, teachers say: Educators keep pressure on ministry to rethink changes. *The Tyee.* Retrieved online: http://thetyee.ca/News/2014/05/10/Enviro-Ed-Not-Taught

IDEO. (2012). *Design thinking for educators.* Retrieved from http://www.designthinkingforeducators.com/DTtoolkit_v1_062711.pdf

ITA BC. (2014). *Maker Day Sicamous* (Video File). Retrieved from https://www.youtube.com/watch?v=5qfSG7yPJ0Y

Kafai, Y. & Burke, Q. (2014). *Connected code: Why children need to learn programming.* Cambridge, MA: The MIT Press.

Koberg, D. & Bagnall, J. (1991). *The universal traveller: A soft-systems guide to creativity, problem solving, and the process of reaching goals.* Menlo Park, CA: Crisp Publications. Retrieved from https://openlibrary.org/books/OL1539767M/The_universal_traveler

Koehler, M. J., & Mishra, P. (2005). What happens when teachers design educational technology? The development of technological pedagogical content knowledge. *Journal of Educational Computing Research, 32*(2), 131-152. Retrieved from http://punyamishra.com/publications/journal_articles/Koehler_Mishra_JECR05.pdf

Lange, G. & Ito, M. (2010). Creative Production. In M. Ito, S. Baumer, M. Bittanti, D. Boyd, R. Cody, et al. (Eds.), *Hanging out, messing around and geeking out: Kids living and learning with new media* (pp. 243-293). Cambridge, MA: The MIT Press. Retrieved from https://mitpress.mit.edu/sites/default/files/titles/free_download/9780262013369_Hanging_Out.pdf

MacDowell, P. (2015). *Empowering girls as change makers in maker culture: Stories from a summer camp for girls in design, media & technology* (Doctoral Dissertation). Retrieved from https://circle.ubc.ca/handle/2429/52669

Martinez, S. & Stager, G. (2015). Making matters! How the maker movement is transforming education. *We are Teachers.* Retrieved from http://www.weareteachers.com/blogs/post/2015/04/03/how-the-maker-movement-is-transforming-education

Martinez, S. & Stager, G. (2013). *Invent to learn: Making, tinkering, and engineering in the classroom.* Torrance, CA: Constructing Modern Knowledge Press.

McMurtry, J. (2013). B.C.'s draft curriculum will dumb down education. *Times Colonist.* Retrieved from http://www.timescolonist.com/opinion/op-ed/comment-b-c-s-draft-curriculum-will-dumb-down-education-1.688776

Milton, P. (2015). *Shifting minds 3.0: Redefining the learning landscape in Canada.* C21 Canada. Retrieved from http://www.c21canada.org/wp-content/uploads/2015/05/C21-ShiftingMinds-3.pdf

Mitra, S. (2013). *Build a school in the cloud* (Video File). Retrieved from http://www.ted.com/talks/sugata_mitra_build_a_school_in_the_cloud

Musallam, R. (2013). *3 rules to spark learning* (Video File). Retrieved from http://www.ted.com/talks/ramsey_musallam_3_rules_to_spark_learning

OWP/P Architects, VS Furniture, & Bruce Mau Design. (2010). *The third teacher: 79 ways you can use design to transform teaching and learning.* New York, NY: Abrams Books.

Palmer, P. (1997). The heart of a teacher: Identity and integrity in teaching (pp. 1-16). *The courage to teach: Exploring the inner landscape of a teacher's life.* San Francisco, CA: Jossey-Bass. Retrieved from http://www.couragerenewal.org/PDFs/Parker-Palmer_The-Heart-of-a-Teacher.pdf

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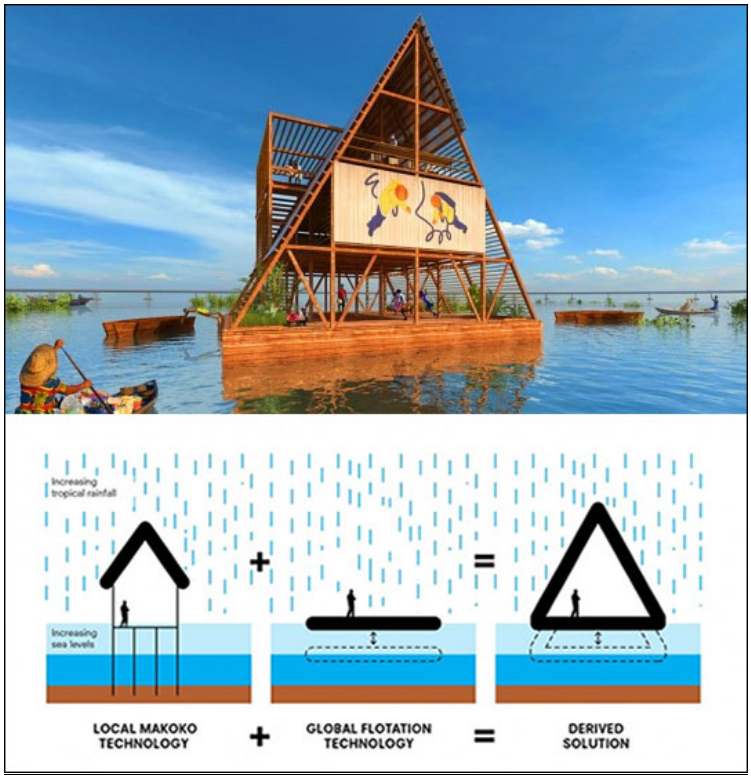

THE CREATIVE PROCESS
START
IDEA
END
DISPLAY
MOTIVATION
EXPRESS
SELF-STORAGE
HONESTLY, IS THIS ANY GOOD?
YES!
I DON'T KNOW
NO
TALENT?
YES
NO
OVERTHINKING?
FORGOT TO FILL UP!
EXPRESS ROUTE
CONFIDENCE
DELUSION
SCENIC ROUTE
SELF DOUBT
PROCRASTINATION
INSECURITY
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