



Forging an Activist Knowledge Ecology through Discovery Learning during COVID, Social Unrest and Ecological Crisis: An Online Graduate Capstone Experience.

Kelly Cobb, Elizabeth Savage, Lauren McDevitt, Lyndsey Attema and Molly Radin, University of Delaware

Context: Meeting the apparel industry's needs for knowledgeable professionals through innovative sustainability education (Cao, et. al 2017) requires holistic systems thinking (Hiller, et. al. 2012) .Yet most Sustainable curriculum does not recognize and cultivate diversity or foreground an ecological worldview (Williams, 2020). As LeHew, et al. (2005) states “educational programs that prepare young textile and apparel professionals must evolve” given the current response of the fashion sector (including research funding priorities in the fashion and textiles disciplines) to the intensifying ecological crisis has been– and continues to be – over-simplified, fragmented and obstructed by the unquestioned logic of growth economics (UCRF, 2020). The essential complexity of teaching and learning sustainability in an intensifying ecological crisis requires educators to model holism, ecology, and equity (Williams, 2015).

The purpose of this teaching narrative is to highlight a graduate capstone scenario, overview the process, and share outcomes experienced during COVID through the lens of Earth Logic Action research as a method to teach and learn in a time of crisis. The Earth Logic Action Research starts from the simple but radical idea of putting the health and survival of our planet earth and consequently the future security and health of all species including humans, before industry, business, and economic growth and to genuinely address both the scale and speed of change required within the climate emergency. Considering the implicit elements of relationship building, listening, and reflection (amid a global pandemic and social and political unrest) outcomes of this unique teaching and learning scenario generated courageous new insights, making sustainability research as critical discourse relevant, communicating findings to pluralistic stakeholders and sharing insights in “informal” accessible formats to generate broader discussion and connection (Tham and Fletcher, 2019). Resultant products exemplify a new generation of sustainable “change agents” nurtured virtually to generate knowledge for action, empowerment, and change intensifying crises.

Teaching Strategy and Implementation: As part of an online graduate certificate in a socially responsible and sustainable apparel business that provides a foundation of knowledge (needed to manage design, product development, buying, promotion, sourcing, and production of apparel, textiles, and footwear in ways that are socially responsible and sustainable) graduate students develop a capstone experience to demonstrate the competencies and skills gained in coursework. Curriculum topic foci include Apparel Supply Chains & Social Responsibility, Global Policy, Culture, work, and Apparel consumers, Sustainable Corporate culture, Labor compliance, Redesign, and Worker centric Social Responsibility among other courses. Pre-COVID Students worked under the direction of one of the teaching instructors on individual study through discovery learning or research with the teaching professor. Discovery learning is learning that takes place when students use their knowledge and skills acquired through traditional classroom experiences to discover for themselves effective actions, alternatives and solutions to situations and/or problems that occur in “real-life” contexts; that is, unpredictable contexts, where problems and situations are complex and lack clear definitions. During

COVID, a cohort of graduate certificate students and teaching instructors formed bi-monthly virtual learning during Spring 2020 and Fall 2022, however, the capstone meeting has continued after the coursework was complete (and still continues to this day.)

Methods: The Earth Logic Action Research (Tham and Fletcher, 2019) was the core reading during the course and this model guided student outcomes. Bi-monthly virtual meetings offered listening and reflective space, support, as well as opportunities to vision, and connect with a cohort of graduate students. In this space, real-world scenarios were unraveled and explored collectively, through the process each student adopted a strand or concept of deeper inquiry. The cohort identified real-world problems, real-world solutions, to be enacted by real-world people/knowledge holders (Tham and Fletcher, 2019) in real-time. The **resultant** student products are reflective of individual outcomes formed by student exploration of sustainability as a critical discourse with a receptive, reflective supportive space. Scholarly products varied by student, including an Industry collaboration (reported to Industry partner); (2) Sustainable consumption (platform development and testing-launched via website and Medium Op-Ed); (3) Consumer education bulletin (development and launch via local CSR women's group); (4) an Eco-Design Pilot (experimental design and presentation on fiber farm.) The Earth Logic plan inspired the informal dissemination of projects to foster change and action, including:

A Cradle to Gate Assessment and Comparison of Four Denim Products: This exploratory study was performed in partnership between the University and a premium denim label to generate cradle-to-gate assessments of four denim products to understand the environmental impacts of the brand's raw material selection and product manufacturing as well as provide recommendations to reduce the environmental impacts of these four products moving forward.

Mindful Consumer Checklist: Relearning Responsible Purchasing Habits: An Interactive virtual pre-purchase checklist and teaching tool offering a mindful approach to our wardrobe creation and maintenance introducing concepts of slow and thoughtful, deliberate care-full consumption.

A New Room with a Sustainable Perspective public service for consumers of fast furniture, this report offers recommendations to shift consumer priorities in furniture purchasing towards mindfulness, longevity, re-use, sustainable materials, durability, and transparency.

Designing Eco-Effective Products: A Seeded Textile Approach. An exploratory textile material development study meshing horticultural function with textile home design demonstrating an eco-effective process that produced tangible products as well as speculative samples that envision seeded textile architectures as a source of nourishment and growth.

Effectiveness of Strategy: To help students achieve learning goals for discovery learning, students participated in individual and group reflection (via shared google document) in addition to demonstrating mastery through project development. Data was also collected post-course via a survey. From an analysis of the responses of students and teaching instructor reflections insights were gained. **The space of support has been useful in that after the semester,** the group voted to continue meeting “*since completing the program, I've continued to participate in the group as we encourage each other to pursue new projects that build on what we've learned in the program.*” As recognized by one student, a group assessment of **current events makes it less daunting and working with wicked issues more likely** “*environmental topics can often be overwhelming and upsetting when one thinks about the enormity of the issues facing the world in the context of the environment and humanity's impact on it. This group provides a place of support, trust, expression, and inspiration.* As one student reflects, **the cohort was**

diverse, new perspectives broadened understanding “ *I think the varying backgrounds of group participants, as well as knowledge and curiosity of each individual played an important role in deep conversations, revelations and inquiries of future projects. For my particular project and experience, this group gave me inspiration to work on a project that was more relative to my world of hardgoods and present it in a medium where I felt more comfortable writing and connecting to an audience.*”

Discussion: As an Instructor the past two years has been teaching in “uncharted and potentially transformative” territory. The Earth Logic plan offered starting points for research in the fashion context (Fletcher and Tham, 2019) supported through relationship building, listening, and reflection. Outcomes of this unique teaching and learning scenario generated courageous new insights, making sustainability research as critical discourse relevant, communicating findings to pluralistic stakeholders, and sharing insights in “informal” accessible formats to generate broader discussion and connection. **Future plans** include embedding Earth Logic Action, developing better formats of self and group reflection (i.e. reflection journals) for students as well as identifying ways to build relationships, listening, and reflection (which requires trust-building) with multiple graduate cohorts.

References

Cao, H., Carper, M., Cobb, K., Silverman, J., & Jelenewicz, S. (2017). Applying problem-based learning (PBL) strategy to strengthen sustainability education in textile and apparel curriculum. Oral presentation at the 2017 annual conference of International Textile and Apparel Association, St. Petersburg, FL.

Hiller Connell, K. Y., Remington, S., & Armstrong, C. (2012). Assessing systems thinking skills in two undergraduate sustainability courses: A comparison of teaching strategies. *Journal of Sustainability Education*, 3(1). Online publication:
<http://www.jsedimensions.org/wordpress/wpcontent/uploads/2012/03/HillerConnellRemingtonArmstrongJSE2012.pdf>

LeHew, M. and Myer, D. (2005). Preparing Global Citizens for Leadership in the Textile and Apparel Industry. *Clothing and Textiles Research Journal*, September 2005; vol. 23, 4: pp. 290-297.

Williams, D. (2015). Fashion Design and Sustainability. In: R.S. Blackburn, ed., *Sustainable Apparel: Production, Processing and Recycling*, 1st ed. Cambridge: Woodhead Publishing, pp. 163-182.

Tham, M. (2020). Union of concerned researchers in Fashion. Retrieved March 31, 2022, from <https://concernedresearchers.org/>