

## Creative tools and design principles for sustainable classrooms

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Abstract: Standardized, assembly-line models of education have created significant momentum for unsustainable classroom situations. Classes are sustained throughout the term using ranking systems and proof of outcomes such as grading and reporting on content knowledge acquired. There is a clear ending in sight. Both students and instructors are often bound to this ending, often feeling a deep sense of relief at the end of each class session. As sustainability educators, we have become conscious that industrialized methods of education no longer serve societies re-envisioning ways of sustaining themselves. Sustainability Education necessitates sustainable classrooms – spaces that are alive, adaptive, and open to innovation. We explore design principles that can support sustainable classrooms, focusing on creativity, humanity, horizontality, and compassionate facilitation. We share examples of creative learning tools used in a 300-level Sustainability classroom in Arizona State University. Data collected through student interviews and journaling are woven throughout the article to ground our viewpoints with practical insight.

Keywords: sustainability education; creativity; experiential learning; sustainable classrooms; Arizona

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## Introduction

In the United States, “traditional” higher education classrooms often look identical. Bound within four walls, desks and chairs face forward where the professor is expected to give lectures and offer visual supplements. This transmissive model of teaching has roots in Taylorism and Fordism, training students with models of efficiency and top-down management to prepare for factory-working futures (Pitsoe & Letseka, 2013). Assembly-line efficiency has brought us rapid material technological advancements. Nonetheless, it should not be forgotten that this mechanized mentality was set up to promote compliance and hinder creative impulses. Path dependency has led many classrooms to inherit top-down education models that promote standardization and mindless repetition. Literature on sustainability higher education has recognized drawbacks of this method and offered criticism (e.g. Ferreira, 2017), but we are still learning how to implement alternative models that can operate within the constraints of current higher education institutions.

The industrial paradigm is no longer paramount in our digitalized society. Creativity is widely recognized as key for both employability and developing purposeful lives in a rapidly changing world (McIntyre et al., 2018). The socio-ecological challenges we face today require us to embrace the complexity and uncertainty inherent in our interconnected world and respond creatively (Sandri, 2013). The enormity of our global sustainability predicament is a challenge and opportunity for educational institutions. Can schools and universities update teaching models to help students engage with cumbersome and unpleasant realities without falling in despair, frustration, or paralysis?

We support our experiences applying creative pedagogical methods and tools upon literature that calls for pedagogical updates towards: creativity and innovation (Sandri, 2013); resilient learning (Sterling, 2010); love and emotional intelligence (Gorman, 2015); critical consciousness (Ferreira, 2017); and contemplative practices (Papenfuss et al., 2019). We build on their insights, describe some learning tools we have created and tested, and present students’ feedback to assess their effects.

Extending Sterling’s (2010) theoretical vision for “Sustainable Education”, we propose “sustainable classrooms” as a conceptual construct to characterize learning environments that are organically co-produced, stay alive, adaptive, and open to innovation. Students and instructors participate as whole human beings and form relationships that contribute to their reciprocal thriving and a sense of community. The key is that participants take ownership of their own learning process beyond the official class times, spaces, and institutional norms. As a result learning becomes a truly emergent phenomenon.

We expand Sandri’s (2013) work to offer practical examples of creative tools used in a formal education setting. Creative learning tools are experiential activities that are intentionally designed to offer necessary content knowledge while supporting the individual needs of subjective learning processes. These tools draw from the strengths of various forms of

embodiment and communication, such as interpersonal, visual, and movement-based expressions. Our experiences facilitating a 300-level Sustainability classroom at Arizona State University (ASU) have confirmed that creativity is key to sustaining learning within classrooms. We have witnessed how creative learning tools allow classrooms to become “spaces of possibility” for safe self-experimentation and innovation at the subjective level (Kagan et al., 2018). Our observations suggest that both inter- and intra-personal experimentation are key to support sustainable classrooms.

### Article Outline and Use of Student Testimonials

The next section discusses our context and positionality within Sustainability Education. We then review literature calling for transformations within Sustainability Education. We share our perspective on sustainability, define sustainable classrooms, and discuss the use of specific creative learning tools. We offer three design principles that have been found to support sustainable classrooms: humanity, horizontality, and compassionate facilitation. We end by discussing the limitations of this article and sharing how sustainable classrooms adapt with the times to provide future leaders with tools needed to work with an ever-changing, complex world.

We use quotes from students placed within the text along with an avatar they have created of themselves. Avatar icons seek to contextualize the quotes by offering a schema of the student’s self-image. The images express each student’s self-perceived identity, which is a key building block to supporting sustainable classrooms. Rather than providing our commentary or interpretation of the quotes, we allow them to stand alone. We recognize that we are sharing our interpretation through the bolding of certain phrases and strategic choice and placement of the quote in and of itself. You will also find first-person narratives from the authors woven into text. This method of writing is inspired by Milstein et al. (2017) to draw from personal experiences to support theoretical contributions.

### Context and Positionality

“Arizona State University’s School of Sustainability is the first comprehensive degree-granting program of its kind in the United States, with a focus on finding real-world solutions to environmental, economic, and social challenges (SOS, n.d.)” The School of Sustainability was established in 2006, and grants Undergraduate and Graduate degrees with a variety of concentrations.

David joined the School of Sustainability in 2012 and began teaching the 300-level course on “International Development & Sustainability” in 2013. His initial pedagogy was a conventional approach to liberal arts education. Critical thinking about international development was encouraged through the presentation of concepts, ideas, and case studies defined from a political ecology perspective. Content presentation and class discussions were supported with conventional teaching materials, including scientific papers, reports, webpages, and videos. As a culminating experience students produced a development project idea.

In Fall 2015, Neda joined David in supporting the course while completing her M.A. in Sustainability. Although Neda was technically David’s Teaching Assistant, he offered an equal

power dynamic to work as co-facilitators. We began taking pedagogical risks by integrating theatre, poetry, and contemplative practices. At times, we doubted our qualifications to be facilitating such methods. But support from one another allowed us to feel the confidence to experiment with intention.

We co-facilitated the course for two semesters and [created a video](#) about our experiences with transformative education for sustainability. Then, Neda took a year to travel before continuing her studies. During that time, David had two other graduate students co-facilitate with him where they experimented with indigenous knowledge and designing the class around integrated human development. When Neda returned for her Ph.D. in Fall 2017, we were asked to turn the course into an online experience. We wanted to imprint the experiential nature of our in-person course into the online format. In Spring of 2018, we facilitated the in-person course together again. A main step was to start sharing power with students by inviting them to lead classes and conduct self-grading evaluations that were accounted for in their final grade.

While David was on sabbatical from Fall 2018 to Spring 2019, Neda facilitated the course on her own. She introduced movement-based learning tools and cross-cultural practices into the classroom. Affirmations from students over the years led Neda to use this 300-level classroom as a field site for her Doctoral research. Part of Neda's multi-media dissertation includes compiling creative learning tools into this [open-access website](#). She has collected reflective portfolios from 81 students between Spring 2018 - Spring 2019. Feedback sessions using the "[Critical Response Process](#)" were held twice each term, both mid-way through the semester and once the course was completed to gain insight from students' perspectives. Additionally, in Spring 2019, Neda conducted 15 interviews with former students from the past three terms who self-selected involvement. The quotes you will see throughout the article come from student interviews, reflective portfolios, and feedback sessions. Permission has been granted to use these statements.

### Pedagogical Updates within Sustainability Education



**PAIGE:** *“Studying sustainability for me has brought on a lot of stress and borderline depression at some points because it is so sad to hear how everything is changing... I do try, I’m trying to make small gradual changes but... I’m trying to come to terms with the fact that I can only do so much?”*

Sustainability “wicked problems” require us to embrace the complexity and uncertainty inherent in our interconnected world by promoting transdisciplinary research (Lang et al., 2012), working with normative perspectives (Sneddon, Howarth, & Norgaard, 2006) and harnessing performative methods of communication (Castro-Sotomayor et al., 2018).

Yet, sustainability classrooms often perpetuate the path-dependent methods of mechanized education that prevent innovative thinking. There is a built-in tension where universities push for real-world impact, expecting originality and groundbreaking contributions, while teaching rarely exhibits innovation and fails to encourage students’ creativity. Sustainability Education has been criticized for reproducing dominant socio-economic and cultural teaching paradigms (Ferreira, 2017). A majority of sustainability courses, undergraduate and graduate, continue to follow

traditional formats of lectures, tests, and reports which arguably perpetuate hierarchy and disregard the full development of students' own humanity (Freire, 1972). We argue that this mechanized classroom model is becoming unsustainable for Sustainability Education classrooms.



*DANEILLE: When I think about saving the world, it actually makes me want to vomit!... I guess, I like to hone in on smaller things because when I try to think of the big picture it just makes me feel sick, it's a lot to think about. **There's a lot of people in the world, and they all think really differently.** And they live very differently. So **not one solution is ever going to be applicable to everyone in all the spaces that they live.**"*

Unique pedagogical needs have been recognized within the field of Sustainability Education given the complexity of topics studied, but less attention has been paid to the anxieties that arise from working through the messy, interwoven nature of these topics. Transmissive methods of learning that view "knowledge" as something "out there" to be acquired by the teacher and placed within the student are insufficient (Sterling, 2010). Disempowering methods do not trigger creativity (Freire, 1972). And worse, transmission of bare facts can leave students feeling overwhelmed with despair. By bringing in their own lived experiences, their subjectivity, students can connect to the material in a more meaningful way which may further encourage them to take action outside the classroom (Milstein et al., 2017).



*NEDA: I think back to my Undergraduate days studying Environmental Science and Policy at the University of Maryland. I remember the large lecture halls at 9am with endless rows of seats sparsely filled.*

*Dedicated and groggy-eyed, some of us tried to take note of every word the professor uttered. We were fueled by the combination of curiosity, caffeine, and concern for what we would be tested on. Some students perused social media sites relying perhaps on the power of passive absorption. And some could barely keep their heads from slipping into the cracks of their seats.*

*Slide after slide, we were shown data verifying that the climate is changing, sea levels are rising, economies are more unequal, and politicians more corrupt. Slide after slide, we were being told that the world as we knew it, was ending. Some professors tried to end on an uplifting note. We were shown examples of small steps we could take to help reduce our footprint. But I knew that no matter how many lightbulbs I changed, I could never stop the climate from changing.*

*Class after class, I would armor up. I wielded my lunch box and water bottle as weapons against disposable consumerism. On the outside, I appeared as an environmental warrior willing to change every unsustainable habit. On the inside, I was withering with worried wonder if my species would be wise enough to persist.*

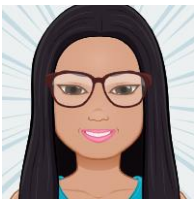
The level of complexity and uncertainty inherent within sustainability topics necessitates unique learning tools to support emotional resilience. Special skills needed for sustainability practitioners have been synthesized into the following competencies: systems-thinking, anticipatory, normative, strategic, and interpersonal (Wiek, Withycombe, & Redman, 2011). These competencies have been widely received, but there is little consideration for “inner competencies” and each student’s creativity (Sandri, 2013). Sustainability classrooms should prepare individuals to dig deep within their own experiences to find appropriate responses within a variety of contexts (Sterling, 2010). Milstein et al. (2017) use the term “inside-out classroom” to describe these types of learning spaces where individuals are encouraged to connect their inner life experiences to course topics.



**JESS: “I’m definitely more fulfilled in the work I do in my community and in the actual world versus learning about it in class. For example, you learn about gentrification in class. But then one experiences it in life. Either you know people who have experienced it or you yourself are experiencing it.**

***Those are two different things. But I do take the things and the skills I learn in class, the system-thinking lens that we really focus on in sustainability and apply that to the work I do.”***

Sustainability educators have turned toward the field of Transformative Learning to update pedagogy with considerations of the student as a whole, multidimensional human being (Mahmud, 2017; Papenfuss et al., 2019; Sipos et al., 2008). Learning is seen as happening both inside and outside of the classroom by finding meaning in our everyday lives (Sindleton, 2015). By connecting course material with personal experience, learners gain new ways of understanding lived experiences and may develop a greater sense of ethical responsibility (Dirkx, 1998; Sterling, 2010). The “transformation” in learning is rooted in efforts toward individual consciousness-raising, critical reflection, and development which in turn supports collective processes (Dirkx, 1998; Milstein et al., 2017). Sustainability educators are recognizing that emotional investment is a necessary step for individuals to view the interconnections between the self and the systems one is a part of (Gorman, 2015; Wapner, 2016).



**MEGAN: “There’s a lot of unexpected learning that happens...It’s okay to have these feelings but to be mindful of them is also being aware of what it is to be human. It’s a high level of emotional intelligence that people struggle with... they see it as a weakness.**

***But I don’t think it should be seen as a weakness... You have to be uncomfortable to want to change things. You have to be angry to want to speak up. Every emotion serves some sort of purpose...This class taught me that...emotional intelligence is something that I’ve realized is okay in a professional situation.”***

Our experiences with creative learning tools confirm that we can support students with accepting complexity by helping them transform their emotions into empowered action. A key element for integrating creative tools is to frame sustainability in transdisciplinary terms.



## Sustainable Classrooms

Our sustainability perspective extends the basic principles through which life sustains itself to human systems such as: balancing competition & cooperation; co-evolving with environments; occupying liminal spaces between order & chaos; intelligently responding to stimuli in their surroundings; and embracing uncertainty in pursuit of novelty (Capra, 1996).

We view any system as “sustainable” when the relationships between its components are mutually beneficial and contribute to the thriving of each component and the system as a whole. Thus, a “sustainable classroom” is an emergent space which supports the multi-dimensional learning needs of diverse participants and keeps sustaining its own emergence to continue meeting the evolving participants’ needs.



**HAILEY:** *“I have never been more challenged in my academic life than in **this class**. Without legitimate grades attached to each aspect of the class and often a lack of instruction accompanying each learning experience, I have never been so fearful of the outcome of a class.*

*Yet, as the class went on, I learned that learning is about more than grades and that I can’t constantly fear things that are mainly out of my control. **How can I grow if I am constantly letting fear and anxiety of not being creative or not stepping outside of my comfort zone rule my life?**”*

Informed by a living systems perspective, we characterize a sustainable classroom as one that is alive, adaptive, and open to innovation. Students and instructors participate as whole human beings and form mutually beneficial relationships that contribute to their reciprocal thriving. The diversity of each subject is embraced. Cultural heterogeneity strengthens the resilience of the emerging learning environment (Manuel-Navarrete et al., 2004). A palpable sense of community is formed, offering participants a safe space to experiment and innovate (Sandri, 2013; Kagan et al., 2018). Opportunities are held for each individual’s thriving and for the class as a whole. Learning processes are carried forward by individuals themselves outside the classroom setting.



**KAILEY:** *“I think that **it was really important that you made personal development a part of this course as well**...because normally, unless it’s super interesting to me, a lot of coursework stays in the classroom for me...*

*I remember one time, it was a Saturday and I was at my aunt’s house. I don’t remember what I was thinking about but in that moment I felt compelled to write in my journal about what we talked about in class and then how it correlated with what I was thinking about. **That was a really interesting moment for me since that’s never happened where I’m actually connecting things in class to what I’m feeling**...”*

In contrast, an unsustainable classroom is stagnant. This model of education is necrophilic, viewing knowledge as external and static (Freire, 1972). Teachers are “all-knowing” and students are seen as empty vessels, with little prior knowledge, waiting to be filled with content. Classes are sustained throughout the term using external outcomes such as grades and proof of content knowledge acquired. There is a clear ending in sight. Both students and instructors are often bound to this ending, often feeling a deep sense of relief at the end of each class session.



**DAWSON:** *“One of the biggest things that I noticed is **in a lot of classes, you do the work to please your instructor and you want them to be proud of you in a weird way like that.** In this class, yes you ask things of us. But it’s not in a way where if we don’t perform, we’re going to be scolded or graded wrong.*

***I believe you bring out the best in people to perform at their best so they can feel good about themselves and work they did...”***

Sustainable classrooms support sustained learning. Both students and teachers engage in horizontal, shared ownership of the classroom space. The reciprocal learning is mutually beneficial. When a sense of community emerges, the learning can be sustained by the group. There is no longer the need for a clear “instructor.” The role of the teacher becomes one of a facilitator, helping guide the process along. All participants carry forward their own learning beyond the official ending of class sessions, perhaps even with a wish that the class could somehow continue. A non-participant may be able to observe the sustainable quality of a classroom from the degree of engagement, depth of conversations, types of relationships formed, and level of effort put into class activities.



**GRACE:** *“I like how we’ve collectively gone through a journey together. I feel like because we’ve all gone through this class, if I see you on campus I have a different bond with you than I would have with another person that I would have gone through even another Sustainability class with.*

***But also through this collective journey...I feel like I’ve gone through a personal journey too.** For example, I’m more open about my gender identity now and I’ve started asking the people around me to use they/them and I don’t think I could have done that without this class.”*

The “sustainable classroom” is not a black or white concept or a formula that can be mechanically applied. There are different types and degrees of classroom’s “sustainability” and their emergence will always be an adaptive and contextual process. Facilitators are key as they need to be constantly observing, rapidly responding, and willing to take radical turns away from initial plans. Given the complexity of context and individuals, one learning tool used in one space will generate different results than the same tool being used in a different space. However, as with any complex system, certain conditions will tend to support the emergence of sustainability within a classroom environment. Also, there will generally be certain thresholds of these conditions that, when met, can nudge the system toward a stable state of sustainability. In any case, our main point in this paper is that a diverse and evolving toolbox of creative learning



methods and tools is key to cultivate learning spaces that are alive, adaptive, and open to innovation.



**SUSIE:** *[In the class] creativity allowed you to open doors to yourself and your thought processes in ways that an academic paper or a test might not, and to bring that through authentically and process it...*

*Our class has left me feeling like there is a missing component in our traditional forms of education. Of course, different subject matters require different structures... **but education itself denies a vital component of the human experience which is creation and expression...***

*Sustainability is something in my view that is not just ‘we took the carbon out of the air, good job everyone’ - those things are important to an extent. **But sustainability is also an integration of a different perspective on the self, life, and what our goals and objectives are.** And that demands a critical self-reflection process and I have come to see expression and creativity are key to that reflection of the self.”*

### Creative Learning Tools

The arts have been recognized as supporting spaces for surprise and discovery around ways of addressing sustainability problems (Lineberry & Wiek, 2016). Integrating the arts into Environmental Education has shown to be effective in helping students practice forming deeper connections with themselves, one another, and the world at large (Anderson & Guyas, 2012). Individual creative expressions help us as a society process and vision where we have been, where we are now, and where we wish to go.

The arts are capable of preserving complexity within communication (Leavy, 2015). When working with diverse mediums, such as movement, clay, or food, there is more space to engage with the multi-dimensionality of reality. Artistic forms of knowing and being offer diverse ways of communicating through our multiple senses. Harnessing the creative is critical in communicating and addressing our heightened sustainability challenges (Lineberry & Wiek, 2016).

Creative learning tools are experiential activities that draw from the strengths of various forms of communication such as interpersonal, visual, movement-based expressions to support delivery of content knowledge. Throughout the article, we offer examples “from the ground” of how we use creative learning tools to work with the topic of colonialism in our class on “International Development and Sustainability.”



**ANDREW:** *“The creative side was almost really hard to get into at first, but once I allowed myself, it almost felt like letting myself go a bit, and allowing myself to experience the creativity...”*

*I feel like **that’s when I started getting the most out of the class...** I feel like*

*learning in a fun way, in a creative way... really allows you to absorb more information... It allows it to resonate and stick with you...*

*Allowing us to have creative independence, it allowed myself to figure out... how I hold myself to the standard of 'this is what trying hard now is for me'... **It almost allows us not to look to you for approval, but to look into ourselves for approval.***

The creative learning tools we develop and facilitate arise from our own processes of discovery. Sometimes, we develop a strategy that works well for ourselves, and then we bring it into the shared learning space of the classroom. Sometimes, we pick something up from another space we're participating in and adapt it to meet the needs of our class. Sometimes, we design a tool on the spot while engaging with the class. We are empowered by Liz Lerman (2014)'s reminders that we are each "toolmakers" working on our own "toolboxes."

Creative learning tools in and of themselves can produce interesting results. However, we have found that the culture and paradigm behind how the tools are used is critical to creating a supportive atmosphere for shared experimentation. We now present three design principles that we have found to be critical to support the conditions under which sustainability can emerge in the classroom's learning environment.

### Design Principles to Support Sustainable Classrooms

As Sustainability educators, we have the ability to influence the classroom environments that we are responsible for facilitating. We recommend three design principles for planning activities that support sustainable classrooms: humanity, horizontality, and compassionate facilitation.

#### **i. Design Principle 1: HUMANITY**

Conventional, assembly-line models of education often dehumanize both students and teachers (Thompson, 2017). The complexity of individuals is distilled through the process of standardizing exams and teaching curricula. Once advancing to higher education, classroom environments are sanitized of emotional residue. Both students and teachers are expected to strip themselves of their humanity as they enter an environment for knowledge transfer.



**JESS:** *"I appreciate that you [Neda] **present your personality with us.** You're super goofy. And you don't see that with a lot of other professors. I feel like they just stand up they are like 'mraaa', you know super stiff. **It's just refreshing cause it provides a space where we can all be comfortable with our personalities**"*

Engaging the subjective dimension adds great complexity to a classroom. However, we have come to understand that if we want to change unsustainable behaviors, lifestyles, and habits, we must engage this subjective complexity (Manuel-Navarrete, 2015). This is probably one of the most difficult tasks for the facilitator, but also a challenge for students given the deep objectivist biases still pervasive in academia and formal education.

Given space limitations, we cannot offer a review of theoretical underpinnings regarding human subjectivity. It is important to know that our understandings of subjective complexity have been shaped by foundational literature in the fields of depth psychology (Jung, 1933; 1959; Neumann, 1969); existential analysis (Frankl, 1946); humanism (Fromm, 1956); and post-structural philosophy (Foucault, 1981; 1998).

We have come to understand that each layer of our existence – physical, emotional, mental, spiritual – has its own organization and own type of complexity (Manuel-Navarrete, 2015). Rather than shy away from subjective complexity, sustainable classrooms embrace this as a strength for supporting sustained, life-long learning (Parker & Wilding, 2012). Formalized transdisciplinary educational spaces can offer individuals opportunities to appreciate and work with these dynamics at play between internal and external worlds (Boyd & Myers, 1998). When all individuals are recognized with their full, multi-dimensional complexity, the learning that happens can address life's, multi-dimensional complexity.

When viewing “humanity” as a design principle to support sustainable classrooms, we refer to the process of first intentionally recognizing the qualities that make us all human, then designing activities with these qualities in mind. We now depart from the conceptual realm to offer practical examples of activities used during our 300-level class on “International Development and Sustainability.”

### From the Ground pt. I

Central to the topic of International Development is the complex phenomenon known as colonialism. The historical invasion of lands, stripping away of ancient cultures, restructuring of power dynamics, and dehumanizing mentalities that permit violence are some characteristics of colonialism and neocolonialism (Sartre, 1964). While facilitating the course on “International Development and Sustainability,” we have come to discover it is impossible to speak of international dynamics today without addressing the depths of colonial history.

Many history lessons teach colonialism through the use of sanitized facts – names, dates, places – stripped of their emotional context. We have found that this “objective” method prevents deep understanding of the mentality, logic, and embodiment that fuels colonialism and neocolonialism. Without an internalized understanding of this topic, individuals run the risk of unknowingly perpetuating colonial thinking and being. In a field like International Development, where most often individuals from the “global North” are implementing projects in the “global South,” there is a strong likelihood of maintaining superiority complexes and asymmetrical power dynamics (Chambers, 2004).



GRACE: *“It was nice to learn about something that I had learned about something since Middle School and High School but in a different light. So with colonialism, **actually taking the time and viewing it from an emotional standpoint**, and viewing that wow, these horrible atrocities were done. And **not just a purely academic, logical standpoint of ‘oh this happened’**. But instead*

*dissecting and really going through each case was really powerful.”*



**MICHAEL:** *“This class isn’t like anything like I thought it was going to be when I signed up. I’m really grateful for that because I was just thinking it was going to be memorize the date of this international treaty and blah blah blah. But I think this is one of the deepest classes that I’ve had.”*

Crafting lessons around the complex topic of colonialism requires creativity and care. Through our experiences in the classroom, we have come to develop a number of creative tools that allow individuals to engage with the content in a multi-dimensional way. We share two of these activities to offer practical blueprints for how we teach critical content material while working with the complexity of human subjectivity to support sustainable classrooms.



## THE GROUND: how we learn about **colonialism** in the classroom

Colonialism is a heavy topic that is critical to understanding the dynamics at play within the international development field to date. Given our context being situated in Arizona within the United States, we have focused this unit on the historical slave trade and genocide of Native Americans.

**LETTER-WRITING ACTIVITY:** To prepare, first watch a chosen assortment of video clips and written excerpts providing an overview and commentary on colonialism. Then, explore the web, books, or magazines for photos of colonization. Choose a photo that stands out to you. Choose a subject (who can be non-human as well) that you will be forming a connection with. Study this subject in depth, get into their perspective, **settle into their context** - into their particular place in time and space... When this photo was taken: what could this subject have been feeling? **what was the pace of their breath?** who did they care about?

It is not important whether your responses are “right” or “wrong” - just build the connection. Set the mood for yourself, **prepare the environment** in a way that best serves you, turn off electronic devices... and then begin to **handwrite** this character a letter. Free-write, **without stopping to judge**, question, or criticize what’s being written. Write until you have nothing more to say... you will know when you’re done.



*RAVEN: “I felt deeply moved after learning about colonization in this way. I felt as though this was the best way to experience the subject materials. Writing the letter, for me, felt like **I was getting some of the weight off my chest almost** and I was about to **let out my frustrations** from learning this information onto paper through the letter.*

*I also enjoyed listening to my peers’ letters as they gave interesting and different perspectives that I would not have seen before. After this class session, **I feel as though a new lens has been added to my perspective on how I view the world, and I will carry this with me.**”*

We use the letter-writing activity since we recognize complex topics like colonialism require space for emotional processing. The process of free-writing a hand-written letter to a character witnessed in a photo allows learners the opportunity to form a bond across time and place. This activity invites one to find the humanity within our ancestors who were historically experiencing various shades of colonialism. By opening a dialogue, we are encouraged to critically ponder our role within the phenomenon of colonialism that continues to be present to date. Creative activities like letter-writing grant students opportunities to engage with the complexity of reality. Working with reality using a multi-layered perspective allows for deeper internalization of the material. In the case of colonialism, this internalization showed itself when many students had the “aha moment” of realizing how their own minds have been colonized.



ANDREW: *“Colonialism is a way of thinking, not just an act.  
**I contribute to colonialism in the world but also in my mind.**  
I have allowed colonialism to embed itself in my most vulnerable  
places...*

*I have learned about colonialism in almost every history class I have  
ever been in, but never have I addressed it in such an emotional  
aspect... **Being taught in such a logical way previously was almost like giving into it.”***

Colonial projects are enabled by a stripping away of humanity. We consciously craft classroom activities with our own humanity as instructors and our students’ humanity in mind. Welcoming the subjective dimension into learning activities allows for classrooms to be more sustainable. The classroom becomes filled with a group of diverse human subjects, all seen as equals, committed to shared discoveries. Power dynamics can be whittled away as the mindset of hierarchy is deactivated. This leads to the next design principle, horizontality, to support the emergence of sustainability within learning environments.

## **ii. Design Principle 2: HORIZONTALITY**

We use the term horizontality with inspiration from Liz Lerman (2014)’s methods for “Hiking the Horizontal.” Lerman uses the concept of the horizontal in contrast to the vertical, or hierarchy. She reminds us that many of us have learned to view the world with the lens of “better than” or “worse than” comparisons. We have the capacity to take the vertical and flip it on its side to create a horizontal spectrum. Rather than being better/worse, things become simply different.

An appreciation for the horizontal is similar to Keating (2013)’s notion of post-oppositional consciousness. We are invited to live in the space between “good” and “bad” and hold threshold theories as we stretch our perspectives. When working with the topic of colonialism, it is easy to continue telling the narrative of the “good guys” and the “bad guys.” However, we know this narrative will be told differently depending on the perspective. Rather than perpetuate this vertical mindset of putting one group of people “on top” of the other, we stretch out the narrative into the horizontal. This allows us to investigate the complexity of why colonizers commit such violent acts and unpack the nuances of belief systems that build this systemic phenomenon. By working with topics in their horizontal complexity, we are more likely to transform the root causes of the challenges we have been historically facing (Lerman, 2014).



Topics that we cover within Sustainability classrooms rarely have a “right” or “wrong” answer. Rather than perpetuate the illusion that there are easy fixes or single solutions to these challenges, we welcome the messiness and discomfort that comes with working with complexity.



**JAMES:** *“I was generally surprised by how shut down I could get in class. I was watching my body language and often I was far more closed than other people. Usually, I am not like this... I would feel sad or angry after class a lot of the time...”*

**But I have found that the frustrating and confusing things generally lead to good knowledge once you work through it. In that sense, this class may end up being of the most important that I have ever done. However, it is hard to tell right now for sure since I am in the middle of it...**

The mindset of horizontality also supports us as we engage in the lifelong process of working with the complexity of our own humanity and subjective processes. Hierarchical ways of thinking have enabled unsustainable mindsets of superiority that leave humans with the illusion of entitlement to dominate the land (Raymond et al., 2013). Oppression, superiority, domination – these are necrophilic – fueled by destruction and the illusion of stagnancy (Freire, 1972). In contrast, horizontal relationships are nourished by life-giving properties such as embracing emergence and mutually beneficial dynamics (Capra, 1996). Making comparisons within the educational setting, Freire (1972) notes parallels between the relationship of oppressor – oppressed and student – teacher and comments on how oppression is perpetuated through an internalization of hierarchy. When a professor maintains this internalized hierarchy, it spills into the classroom environment. As a result, all participants, especially the instructor, end up suffering from an unsustainable classroom.



**DAVID:** *I have been trained into trusting only my 5 senses to judge what is real. My conditioning invited me to impose this sieving to any situation. If I cannot see it, hear it, count it, ... it is not real or it is less valuable. In the last decade I have struggled to create more space within myself to value that which our external senses cannot perceive.*

*At first it is difficult to embrace the uncertainty and the sense of lack of control that this entails, but then one’s experience is radically expanded and the universe turns out to be an enabling context. A similar struggle takes place every time I enter a classroom. I need to remind myself about embracing uncertainty, relinquishing control, and abandoning my internalized academic canons so that unexpected outcomes can emerge.*

As course instructors, we do our best to maintain a horizontal mindset by staying humbled by our own continuous learning. Our experiences in the classroom have shown us that stepping down from the professor pedestal supports the creation of a learning community. Within a classroom community, the diversity of all participants is welcomed and used as a strength to creating a learning environment that sustains itself. The “instructor” becomes a “facilitator” providing fuel to spark curiosity and occasional interventions to sustain the flames.



*BRAEDON: “One of my favorite things that I have noticed over time was that both instructors had joined in all the activities that we were asked to do. I believe that **this decentralized the hierarchical structure that traditional classes have and allowed for students to create a better connection with both facilitators.**”*

As we explore what “sustainable classrooms” feel like, we remember the web-like patterns found in nature. Life on Earth exhibits network patterns that are strengthened by diversity (Capra, 1996). The horizontal embraces difference and welcomes diverse ways of being that span across a spectrum, rather than prioritizing a single way of being as “the best.”

Rather than standardizing methods of teaching and evaluating, we implement numerous learning tools that engage multiple types of learning. The creative assignments we use have structure to offer initial guidance, but are open-ended to allow the diversity of participants to shine as they interpret and create in their own unique way. Given the diversity of learning styles, of lived experiences, of cultures, it becomes necessary to use creative methods that are spacious enough to hold the complexity of each unique individual. In an increasingly interconnected world through immigration, working with differences is becoming far more critical.

Methods such as multiple-choice scantron examinations flatten this complexity and equalize across all students. However, equalizing does not use diversity productively. The mindset of horizontality embraces difference. There is no illusion that we are all equal, because we are not, we are different. Rather, we follow the principles of equity that allow us to not only acknowledge our differences, but to use them as a strength. Life sustains itself through preserving diversity (Capra, 1996), and so do classrooms.

We welcome the horizontal into the classroom in numerous ways.

- **MULTIPLE EXPRESSIONS** – activities are designed to harness multiple types of expression through video submissions, creative writing, theatrical performance, collage making, and policy memos. For other projects, we allow students the freedom to choose methods of expression that best suit them.
- **CIRCLE** – we consistently harness the power of the circle, where all can be witnessed and witness one another. We dialogue in council, often speaking one after another with the option to pass. As instructors, we are mindful of how often we respond to a comment and do our best to take up our fair share of space. We limit the use of lecturing to hear from the wisdom within all individuals participating in the course.
- **INSTRUCTOR PARTICIPATION** – to the extent possible, we participate in activities and homework assignments for the course. This holds us accountable in remembering that we too are always learning. Our willingness to be vulnerable alongside students often helps them feel more comfortable. This being said, we have noticed times, especially in small group activities, where students feel a bit more performance anxiety when we are participating in their group. Throughout the term, this performance anxiety tends to wither away.

- **STUDENT FACILITATION** – we invite students to design and facilitate their own activities, giving them a sense of what it is like to have the responsibility of an instructor. We have found it refreshing and delightful to hand over the reins and watch the students’ ingenuity.
- **SELF-EVALUATION**– at the end of the term, everyone who participates in the course (instructors and students alike) complete a thorough self-reflection portfolio. Questions range from asking about a time you surprised yourself in class to reflections on an activity that did not quite work for you. At the end of the portfolio, you are asked to give yourself the grade you feel deserving of and explain why. As instructors, we are required by the University to give the final grade. We recognize that we have more power in this sense. However, we strongly take into account the students’ self-evaluation when assigning grades.

### From the Ground pt. II

We offer another tangible example of an activity used to work with the subject of colonialism in the course on “International Development and Sustainability.” This activity of holding a “colonization exhibition” showcases the principle of horizontality particularly well since it allows for a spectrum of interpretations.

## FROM THE GROUND: how we learn about colonialism in the classroom

After the use of the letter-writing activity and an honoring ritual, we go through the process of collaboratively curating an exhibit. We invite the public to join this immersive experience and get their feedback at the end of the class period.

**COLONIZATION EXHIBITION:** First, spend a week in “scavenger hunt” mode looking for **evidence of colonialism in your everyday life**. Your piece can be a physical object, multi-media, a performance, an audio recording, an interactive experience, or more! Next, bring to the group and share in a show and tell format. Begin to find common themes between pieces and decide how you want your piece to be situated strategically within the exhibit. Prepare additional elements needed (e.g. information cards; signs). The following session, allow yourselves ample time to set up the exhibit before welcoming in the public.



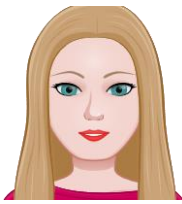
**ANDIE:** *“Following the exhibit I was so surprised by the depth of topics and ideas that everyone brought in. I am so proud of our tiny community... **[I] find myself using my new ‘lenses’ out at different times.** The colonization exhibit has made me question more ideas, and be really **critical about what I’m doing, and the history behind the things I think are normal.**”*

An activity like the collaboratively curated exhibit allows us to experience the spectrum of interpretations each individual has while learning about colonization. We work with the horizontal, respecting uniquely chosen methods of expression. The showcasing of diverse perspectives allows us to learn in ways we otherwise would be unable to. By inviting “the public” into the exhibition, we have a healthy amount of pressure to produce something semi-professional. To feel comfortable showcasing their perspectives creatively, students must feel safe and nurtured within the classroom environment. This leads to the third and final design principle of compassionate facilitation.

### iii. Design Principle 3: COMPASSIONATE FACILITATION

Learning tools are powerful in and of themselves. Yet, their potential lies largely in how they are facilitated. Facilitation is an art. It is a life-long practice of learning the how and when to do what and learning the why behind it all. We use this section to briefly address the importance of compassionate facilitation as our third design principle for a sustainable classroom.

Being in the position of a professor or instructor, we are granted power. This power comes with the responsibility to care for the learning processes of the individuals present within the class. In the past, educators have formed mentorship partnerships with their students, deeply caring for their holistic development (Foucault, 1981). We revive this spirit of care through a renaissance within our teaching methods. Similar to Thompson (2017), we commit to teaching with tenderness. We hold compassion in our hearts and are motivated by the ethic of love. We know love to be the force which allows us to care for the life and growth within others and within ourselves (Fromm, 1956).



JACQUIE: *“Having an instructor who’s just willing to be open and share and is willing to go all in with this type of practice makes other people comfortable. Some students, people like me are gonna be more comfortable sooner than others. But then I think the more students get comfortable, the more students will get comfortable...and it’ll just have a domino effect which I think happened pretty early on in our class which is really nice.”*

We recognize the vulnerability inherent in the process of learning and unlearning, especially when creativity is involved. We do our best to nurture membranes that help us filter between the personal and the professional. We recognize these boundaries can become seamless, yet do our best to expose only what feels appropriate. We practice nimbleness and flexibility, being highly adaptive and attentive to what is alive in any given moment (Lerman, 2014). We are cautious and only work with tools that we feel prepared to work with. We supplement our lived experiences with training in contemplative practices, artistic methods, and humanistic psychology to support our practice as facilitators.

The classroom can become a laboratory for collective experimentation, a playground where we can each discover personal lessons that are relevant for the group’s learning. The joy that comes with such learning is delicate. As facilitators, we have come to appreciate the deep commitment to self-discovery that comes with the practice of teaching. We must be highly aware and attentive to the ways in which our presence impacts the spaces we are a part of, especially when we are given the power of facilitation.

Being a team of two, we have been able to support one another and offer any necessary checking and balancing. We felt prepared to begin introducing creative learning tools in the classroom since we had been engaging with similar methods in our personal lives and experiencing powerful results. We felt it would be inauthentic to deprive the class of opportunities for growth by relying heavily on lectures. Bit by bit, we began to bring different activities into the classroom. Soon after, we recognized a transformation in the ethic of the entire course. We

placed a disclaimer in the syllabus to offer full transparency for what students could expect before committing to the course.

Experimenting with creative learning tools takes courage for both students and facilitators. Outside of arts education, creative learning methods are fringe. A facilitator of such methods must have the capacity and willpower to work along the border between the mainstream and the alternative. It takes patience, dedication, humility, and trust to stay in the middle – with one foot “in” abiding by the norms of higher education institutions and another foot “out” experimenting with freedom. We are committed to this space in between where we simultaneously appreciate formal education as it is now and push for the potential power it can have.

### Limitations

We intentionally present the limitations of this article in bullet format as separate (yet connected) threads of thought.

- **WESTERN TILT** – this 300-level course is taught at an American university. Neda received all her formal education within the U.S., and David was trained in Catalonia and Ontario. We recognize there is an inherent Western tilt to our work. This being said, we use creative tools that draw inspiration from diverse ways of knowing & being with the world to provide learners with cross-cultural experiences.
- **CONTEXT**– we appreciate the complexity that comes with the subtle nuances inherent in each context. In every given moment, each one of us is a unique individual, uniquely influencing the spaces we are a part of. Even if attempting to facilitate a tool in the “exact same way” as someone else, processes and outcomes will greatly differ given the context of the individuals, the institutions, the structures, and the land holding them.
- **SOME ACTIVITIES FLOP** – since we are in a state of constant experimentation, we recognize that some activities will not go the way we planned. We do our best to be prepared, having tested out what we can before bringing it into the classroom. However, sometimes, in the moment, an activity does not go how we expected. At the beginning of the semester, we are transparent with our students about the experimental nature of this course. We have them take time to reflect on whether they want to be a part of the process, and then intentionally commit to the classroom community by collectively creating and signing a manifesto.
- **SOME SEEDS WILL NOT SPROUT** – each one of us has unique ways of learning and growing. Not all activities will work for everyone. We do our best to offer an array of activities to address diverse learning styles. We do our best to take responsibility for our share as class facilitators. We recognize that we can provide water, sunlight, and nutrients to the soil of the classroom, but some seeds still will not sprout. Each learner enters the space from a different place and will grow according to their own pace.
- **SAFETY** – when beginning each semester, we spend time intentionally building an environment of safety that allows for the use of experimental methods. We devote time to community building activities each class to nourish bonds amongst the participants. Holding space for relationship-building is critical to fostering a trusting environment. Only then can individuals feel comfortable experimenting with their own creative process.
- **SUSTAINABILITY IS ANCIENT** – since the term “sustainability” became a hot-button word within the last few decades, there is an impression that it is a “new” concept. Yes, the



official field of study is new. However, the mindset and philosophy inherent behind sustainable lifestyles is ancient. We honor the ancestors who have kept us future generations in their hearts. And we welcome the responsibility of becoming ancestors to the future generations who await their turn on this Earth.

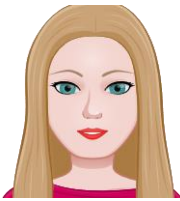
We do not think we have “the answers.” We have found methods that have been well-received, and we feel compelled to share these with others in our field.

When activities do not go as we planned, we investigate.

When we become uncomfortable, we get curious.

When a student is triggered by an activity, we listen.

When we feel helpless, we ask for help.



**JACQUIE:** *“A lot of people say, ‘people suck, the world’s gonna die anyways. I’m gonna do all this stuff but it doesn’t matter.’ And to me, I guess - What are we saving? Are we saving a society or a mentality? Because the earth isn’t gonna die. It will be uninhabitable for humans.*

***And if humanity is gonna be living in this state of negativity and fear, then I don’t really know if it’s a society worth sustaining... I think in terms of grand changes of paradigm changes, if you can find this hope from within, that’s likely to have a ripple effect in your outer world as well.”***

### Conclusion: Sustainable Classrooms Adapt with the Times

Through compassionate facilitation, we have found it refreshing to embrace the humanity in ourselves and in our fellow learners. By sharing power and welcoming a diversity of perspectives within the classroom, the lens of horizontality builds our strength as a learning community. We cannot speak for others, but these methods of learning feel far more sustainable for us.



**MELISSA:** *“[T]aking this class, it kind of renewed a sense of ‘oh things aren’t that bad when you get down to it’, as long as the people are still developing. **Everyone is going to be moving along at their own pace, and that’s okay. We’re just developing...***

***We can solve problems... once we work on ourselves, we can work on the bigger problems. If we’re not helping at the micro level, we’re not going to be able to do as good things internationally.”***

Given the number of socio-environmental challenges we face today, being alive at this point in time comes with the risk of experiencing despair (Macy & Johnstone, 2012). And for those of us who have chosen to study and work in Sustainability there is an even greater risk of losing hope.



SKY: *“In sustainability, emotional burnout is so real. However, **when we experience burnout, we are unable to be present and to listen, which is what sustainability requires we do.** Through our [Sustainability] education system, we are perpetuating unsustainability through this feedback loop.*

*I’ve further become impassioned **we need complete change of how we connect to each other, ourselves, and the word ‘sustainability.’** Especially in our [Sustainability] education.”*

Creative visioning and the arts are being recognized as critical to the process of innovating for sustainability (Lineberry & Wiek, 2016). We have unique powers of imagination and the capacity to create worlds within our own minds (Jung, 1933). Creative tools stretch our ways of thinking and being in the world. Where better a place to practice our creativity than educational institutions?



MADDIE: *“I am grateful that this class has given me the tools (or the armor) to continue these reflective processes on my own, and I know that I will carry these new thoughts (and memories of this class) with me throughout the rest of my college career and my life.*

*It feels bittersweet to see this class end - as much as I would enjoy staying in our little classroom bubble, where I feel comfortable, **I know that to really actualize what I learned I must test it in the face of the “real world.”***

Formal education institutions are largely responsible for training the next generation of leaders. By transforming our relationship with the formal classroom, we have been capable of experimenting with creative learning tools that support continuous learning for sustainable classrooms. The times are changing and we need to help our institutions change in response. If not now, then when?

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