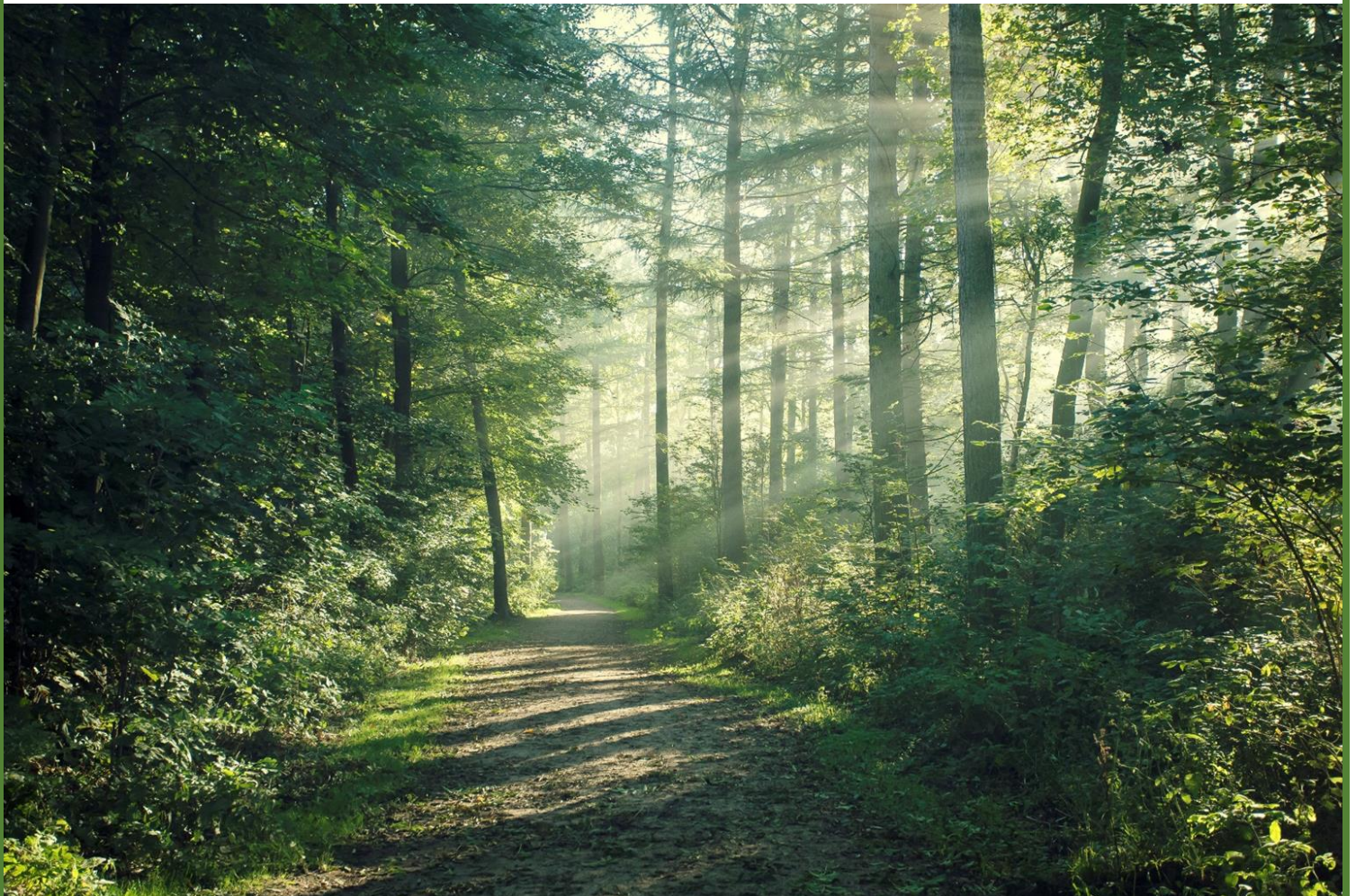


Developing a Novel Educational Framework: The Climate-Kind Pedagogy

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Introduction

My work for the Sustainable Scholars program centered on the creation of a novel pedagogical framework initially developed by Kshamta Hunter, a PhD candidate with the Department of Curriculum and Pedagogy and a Manager of Transformative Learning & Student Engagement. Our framework, titled Climate-Kind Pedagogy (CKP), attempted to synthesize various climate, kindness and justice orientated educational approaches into a comprehensive pedagogy geared at addressing the pressing need for both educators and learners to reconceptualize their relationship with one another and the planet. Our work included infusing CKP into EDCP 349, a science education methods course taught by Hunter. In addition to the CKP framework, we began the initial populating of an open-source resource library, referred to as the CKP Toolkit. This toolkit is envisioned to be an accessible source for educators to draw a variety of CKP related educational resources from, and will continuously grow as the framework takes shape. Below I will outline in more detail the work that has been undertaken in the ongoing process of developing the CKP framework, the CKP Toolkit, and the incorporation of CKP into EDCP 349.

Overview of the Literature Review

Developing CKP began with an exhaustive examination of the existing literature on various climate and kindness related pedagogies. This research resulted in the identification of 11 educational approaches that would form the theoretical basis for CKP. These pedagogies were organized and analyzed, with areas of convergence being identified for their potential to contribute to the development of CKP. Below I will briefly outline each of these 11 pedagogies and discuss how each contributed to CKP.

Climate Education

Climate education has traditionally fallen under the larger umbrella of science education (McKeown and Hopkins, 2010, p. 18). As such, climate education's pedagogical approach relies on many long-standing science education traditions including evidence-based learning, problem-based learning, experiential learning, and outdoor education. These pedagogical strategies all contribute to CKP, as well as a fundamental adherence to the scientific method in underpinning climate research.

Climate Change Education

Climate change education expands on climate education by incorporating interdisciplinary pedagogies and content. It uses science as a foundation but views the current climate crisis as a complex challenge that necessitates learning about social structures, contexts, and interactions (Schreiner et al., 2005; McKeown & Hopkins, 2010; Selby, 2017). It therefore incorporates elements of the humanities and social justice to foster action. Additionally, climate change education prioritizes taking action outside of the classroom and into the local community with the goal of making positive changes locally, nationally, or within the students themselves. As such, a priority of CKP education is to be multidisciplinary and to extend its reach beyond the classroom.

Environmental Education

The overarching goal of environmental education is to produce a citizenry that is knowledgeable about their environment (Stapp, 1996). This is achieved primarily through outdoor education, experiential learning, and collaborative group work. Like climate change education, environmental education goes beyond the traditional scope of a science course and incorporates an interdisciplinary approach, bringing in elements of the humanities. CKP draws from environmental education's focus on using the outdoors and experiential learning as a way to establish connections between students and the natural world.

Education for Sustainability

Education for sustainability takes many forms and can be implemented in a variety of ways depending on the local context. In general, education for sustainability focuses on the goal of creating human societies that can exist long term and in harmony with the natural world, and rests on three pillars; society, economy and the environment (Wooltorton, 2004, p. 595). As with the previous pedagogical approaches, education for sustainability is interdisciplinary by nature. It stresses participatory education by encouraging classrooms to engage with the local community, the use of case studies and problem-based learning, role playing activities and debates. Participatory education through engagement with the local community plays an important role in CKP.

Education for Sustainable Development

Education for sustainable development attempts to bring together two seemingly contradicting priorities; the need for humanity to live in harmony with the natural world and the need for humans to continue developing (Bonnett, 1999, pp. 313-314). Education for sustainable development has been championed by international organizations such as the UN. UNESCO identified several key competencies

of education for sustainable development, including systems thinking, anticipatory action, collaboration and critical thinking (UNESCO, 2017). Education for sustainable development aims to create concrete transformations and real-world change, and is inherently political (Hume & Barry, 2015, p. 737). CKP incorporates this priority, and strives to foster action.

Pedagogy of Kindness

Kindness pedagogy is a broad educational approach consisting of numerous teacher strategies and techniques. It involves creating educational experiences that excite students' interests and respects their personhood, and requires educators to get to know their students as human beings (Magnet et al, 2014). Additionally, kindness involves deconstructing the traditional hierarchies of power within a classroom, and requires educators to believe, trust, value and empower their students (Stephens, 2021). Kindness pedagogy inspires CKP's focus on co-creation, the autonomy and inherent self-worth of students, the importance of social-justice education and an essential attitude of trust between students and educators.

Pedagogy of Care

The pedagogy of care involves establishing relationships of care between educators and students, students and their classmates, and human beings and the environment (Noddings, 2005, p. xiii). Similar to kindness pedagogy, this requires respecting the humanity of students by engaging with their personal interests and building up relationships of trust. Within the classroom, care can be encouraged through cooperative learning, non-competitive grading, and through the avoidance of punitive judgments. For CKP, care pedagogy contributes principals of flexible assessment and a focus on developing relationships built on principles of respect.

Eco Pedagogy

Eco-pedagogy is a critical education pedagogy that calls for ecological and social change through engagement with grassroots initiatives (Kellner in Kahn, 2010, p. 152). Eco-pedagogy calls for radical educational and political change, and imagines futures with fundamentally different structuring our relationship with one another, society and the environment (Antunes & Gadotti, 2005; Kahn, 2008).

Echoing other pedagogies previously covered, eco-pedagogy contributes to CKP an emphasis on political action, community engagement, and a vision for a different future than the one we are currently on course for.

Trauma informed pedagogy

Trauma informed pedagogy is an ethical approach to education that attempts to avoid trauma and retraumatization of students, especially BIPOC learners (Carello & Butler, 2014; Hisle, 2022). Trauma informed teaching requires educators to be aware of the systemic discrimination that effects the students in their classrooms and to incorporate this awareness into their teaching. Trauma aversion can be achieved by honouring students' emotions, developing the classroom as a safe space, developing relationships of trust, and respecting the cultural, racial and historical context of each learners' background. Trauma informed pedagogy inspires CKP's insistence on socially just education and the importance of developing trusting, caring relationships with students.

Resiliency pedagogy

Resiliency pedagogy focuses on fostering the ability to adapt to unexpected, sudden changes, and encourages adaptability, creativity, connectivity, diversity, and endurance (Chow, Chak & King, 2020, p. 386). This can be achieved through course design that is more focused on rhythm and flow than content, clearly defined needs based success criteria, the use of content menus, and mixed assessment strategies (Masland, 2021, p. 21-24). Resiliency can be modeled by adaptive teaching strategies that encourage

adaptive learning approaches. CKP borrows from resiliency pedagogy its reliance on content menus, a mixed use of assessment types, and a focus on diversity and creativity in the classroom.

Embodied pedagogy

Embodied pedagogy strives to support learners in building relationships between self, others, learning, and the wider world (Macintyre, Latta & Buck, 2008). Embodied learning is about relationships and attempts to situate one's body and mind in their spatial and social context. This can be achieved through extensive self-reflection and a focus on holistic learning that attempts to connect the physical, cognitive and affective aspects of learning. CKP's inclusion of critical self-reflection and a holistic approach to learning is inspired by embodied pedagogy.

Development of the CKP Framework

Synthesizing all of the valuable pedagogical insights discovered during the literature review process proved to be challenging. To aid us in this endeavour we identified a series of categories that would constitute a pedagogical framework when implemented in an education setting. These categories allowed us to organize various aspects of existing pedagogies into our novel framework. The categories we used were foundational values, syllabus and course planning, attitude of the teacher, activities, tools, evaluation strategies, and expected outcomes. Under each of these categories we highlighted significant contributions from the two broad categories of pedagogy: climate and kindness. These contributions represented elements that we thought were important, and ones that we hoped to see appear in some form in our pedagogy.

Following this, we identified areas of overlap, convergence and pedagogical approaches that complimented one another for each of our identified categories. We combined, synthesized and incorporated these elements into our first iteration of our novel pedagogical framework. Below is a working sample of the foundational values

Conditions
Foundational Values
- <i>Kindness</i>
- <i>Trust</i>
- <i>Justice</i>
- <i>Resiliency</i>
- <i>Equity</i>
- <i>Interconnections</i>
- <i>Relationships</i>

Conditions	Climate Kindness Framework
Foundational Values	<ul style="list-style-type: none">• Holistic education that engages learners cognitively, affectively, and relationally, and acknowledges the interconnectedness of human beings, societal institutions, and systems, and the natural world• Interdisciplinary approach that expands upon a foundation of science education by asking learners to engage with the broader community in political, economic, and social initiatives• Focus on the moral responsibility to engage with the climate crisis using concepts of justice, equity, and diversity• Foster empowerment by building resiliency and hope• De-emphasize content and focus on changing student behaviours and perspectives by empowering real action on the community level

These more general bullet points were then further condensed into a series of key words and ideas, as seen in the image on the left. These key words constitute the priorities of our pedagogical framework as it currently stands. We are currently in the process of developing a way to depict our framework in a condensed, palpable form, as we want CKP to be readily actionable for teachers. This will include some sort of visual representation. One additional way we attempted to achieve this desire to create an actionable pedagogy was by listing practical approaches educators could take to achieve each of our key words in their classrooms. We developed a document with a list of actions an educator could take to strive towards achieving each of our key terms. For example:

Trust

1. using content menus to demonstrate you trust students to make decisions for themselves in regards to their own education.
2. regularly asking for student input and feedback on your shared learning experience shows you trust and value their opinion, especially if you are able to incorporate their ideas into your teaching. This can be done formally with a suggestion box, or casually through discussion.
3. showing a deference for the individual learning needs of your students helps establish that their teacher genuinely cares for them, allowing them to develop trust for the teacher. This can be achieved by learning your students' preferences and then designing your lessons with this information in mind.
4. generally believing students when they call in sick, ask for extensions, etc. This reinforces their sense of humanity and autonomy.
5. demonstrating genuine compassion for them as fellow human beings by asking about their days, what they do on the weekend, hobbies, etc.

Going forward, this information will be compiled into a document that is ready for public use. In addition to the visual representation mentioned above, CKP will be further refined through a process of consultations.

Developing the CKP Toolkit

A major concern we had in the development of our pedagogical framework was ensuring that it felt actionable and applicable for educators. Teachers are routinely introduced to pedagogies, educational theories, and various learning resources. The busy often chaotic reality of teaching means that lofty pedagogies, no matter how valuable, are never translated into actual practice. To address this, we wanted our pedagogy to be accompanied by a variety of CKP inspired resources that could be implemented into the classroom immediately. This collection of resources, the Toolkit, would be openly available online and act as an accompaniment to the pedagogical framework. Adding to the Toolkit is an ongoing endeavour, and it will continue to be populated as CKP becomes more refined. Educators who engage with CKP in their teaching will be invited to both use resources from the Toolkit and contribute any ideas that they found to work, further expanding the data base.

Currently, the Toolbox contains a handful of lesson plans, science experiments, assignments, grounding exercises, strategies to create positive classroom environments, and BC curriculum connections. All of these documents are informed by CKP pedagogy, and explicitly connect our framework to actionable teacher resources. The Toolkit is still in the development stage, and it is envisioned to one day include rubrics, field trips, classroom decorations, community connection resources and conflict resolution strategies.

Infusing CKP into EDCP 349

EDCP 349: Curriculum and Instruction in Science – Elementary is a mandatory science methods course for Bachelor of Education students with the Faculty of Education at the University of British Columbia. Hunter currently teaches the course, providing us with an opportunity to implement our pedagogical framework into an educational setting to determine what aspects worked well and what needed further work. Below I will briefly outline some of the ways that CKP has informed EDCP 349.

Hunter implemented concepts of co-construction into EDCP 349 both by inviting students to provide feedback on the syllabus and by structuring assignments to be open-ended and inquiry based. Assessments in the course were informed by our research on kindness and resiliency pedagogy, in that a variety of assessment methods were implemented, including self, peer and instructor led assessment. Hunter employed an attitude of kindness and care in her teaching philosophy by listening to their feedback, believing them, and accommodating their needs wherever possible. Hunter also drew connections between the theories covered in class and the real world by providing students with countless teacher resources, by bringing guest speakers, and by asking students to engage with their communities.

Overview of the Assessment of 349

We were able to gather feedback from 70 EDCP 349 students from two course sections (101 and 102) students. These students shared their experiences with the course and the CKP framework. This data was incredibly valuable and will be used to further refine the pedagogy. The data was collected through focus group sessions in which small groups of students generated individual responses to a series of 6 questions. Student's answers and our analysis of their input will be outlined below.

In general, students from both groups responded positively to EDCP 349's aspects of co-creation. Students identified the assignments, especially the summative teach-in assignment, as a particularly significant instance of feeling like they were in control of their education. A handful of students also mentioned Hunter's invitation to provide feedback on the syllabus as a moment of co-construction.

Students' responses regarding the use of kindness and care pedagogy were overwhelmingly positive. The vast majority of students made note of Hunter's flexibility, her understanding and willingness to grant requests for accommodation, and her evident interest in students' well-being. Students also made note that diverse opinions were welcomed in class discussions.

Feedback regarding concepts of social justice and equity represented a wide variety of opinions. Some students felt better equipped to teach in a socially just manner, while others felt that they were not introduced to any new concepts, or that this was an area of the course that could have been further developed.

Regarding the inclusion of applicable skills and competencies in EDCP 349, responses were likewise highly varied. Many students in both groups appreciated the inclusion of activities and

assignments that could be used in their practice, and enjoyed having access to such an extensive data base of resources. However, others felt this should have been emphasized even more.

As this project moves forward, this data will be analyzed further. Student feedback will continue to be gathered to inform the direction of CKP, as student input is of integral importance to the goal of this pedagogy.

Conclusion

The process of researching, developing, implementing, and refining a pedagogical framework is a colossal undertaking. This is especially true of a framework such as the Climate-Kind Pedagogy, which strives to address massively complex issues like climate catastrophe, inequality, and injustice. As a result, the work conducted as part of the Sustainable Scholars program represents a small fraction of the overall process of developing the CKP framework.

However, this work represents the beginning of a truly important project. CKP draws from some of the most progressive and current theoretical frameworks and pedagogies being discussed within educational studies. By combining these learning strategies with climate change education theory, CKP strives to create novel ways for teachers to prepare students for the realities of our changing world. Helping to create this framework has been an incredibly generative process for the scholars involved, and will undoubtedly impact their own professional practice going forward.

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