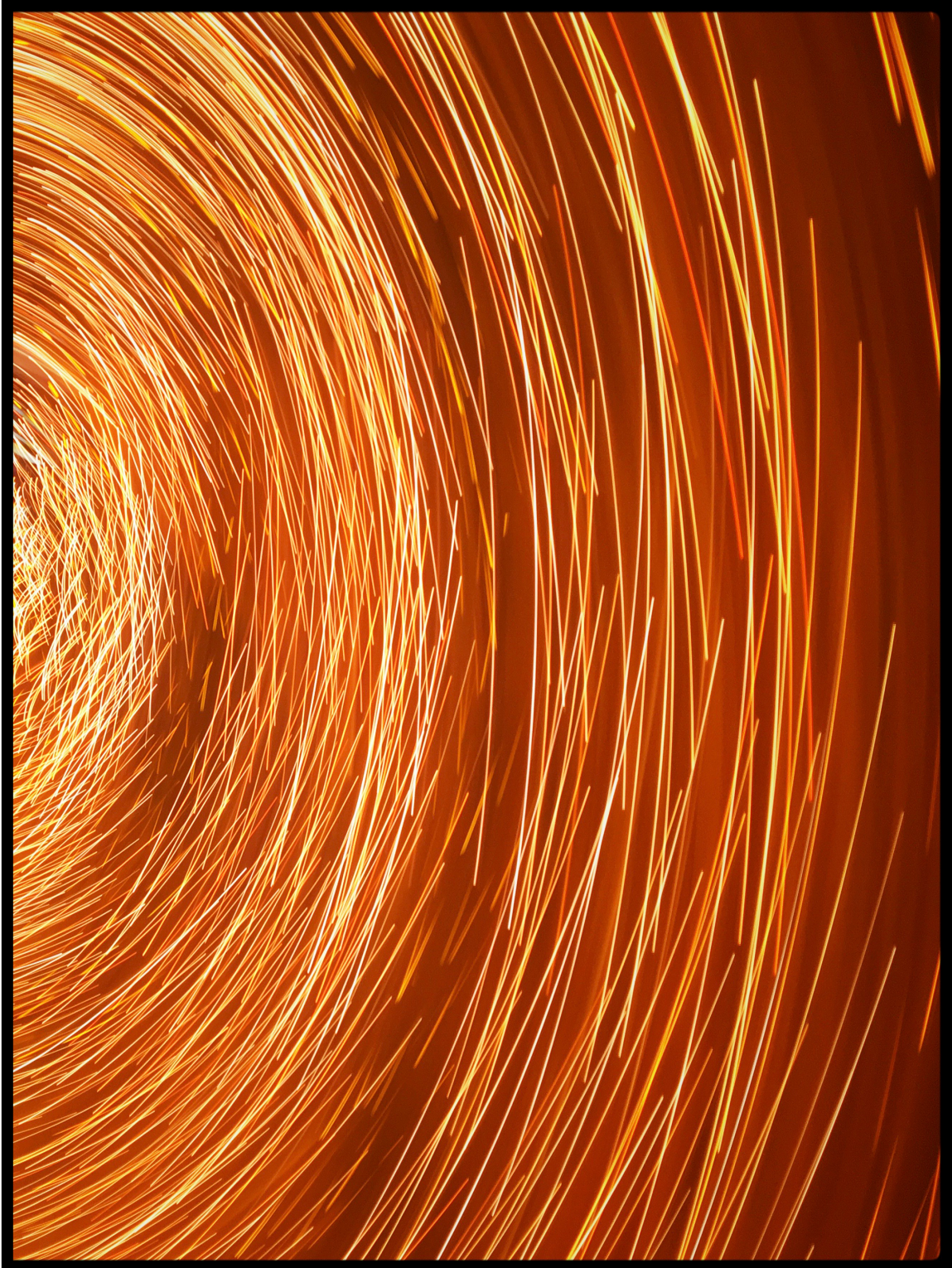


Mantle

The Annual Review of
Interdisciplinary Research

VOLUME II | ISSUE I | 2024 | ISSN 2817-5190



INTERDISCIPLINARY STUDIES GRADUATE PROGRAM (ISGP) | THE UNIVERSITY OF BRITISH COLUMBIA

Mantle: *The Annual Review of Interdisciplinary Research*

Volume 2, Number 1, 2024

ISSN 2817-5190 (Online)

Our Mandate

Mantle is the student-run and peer-reviewed online journal of the Interdisciplinary Studies Graduate Program (ISGP) at the University of British Columbia, Vancouver.

Mantle invites students and faculty to share their ideas about and experiences with interdisciplinary research. It is an open access online journal dedicated to publishing thoughtfully provocative and rigorously reviewed work from across all disciplines. We solicit manuscripts that open new fields of inquiry; create new intellectual methods, models, or paradigms; and demonstrate how interdisciplinarity can work within and beyond disciplines as well as open new vistas. The journal is a forum in which to argue, synthesize, report, and critique all issues in interdisciplinary theory and practice. We accept submissions on an ongoing basis.

Volume 2:1 Issue Editor

Ritwik Bhattacharjee

Mantle *Logo, Journal Design & Layout*

Ritwik Bhattacharjee

Cover photograph

“Complex”, by Ritwik Bhattacharjee

Editorial Advisory Panel

Steven Taubeneck & Barbara Weber

Publisher

ISGP, University of British Columbia, Vancouver

Letters to the Editor

isgpjournal@gmail.com

Website

www.isgp.ubc.ca/mantle

Acknowledgement

This journal is sponsored by the generous donation of Dr. Josef Wosk.

Mantle

The Annual Review of
Interdisciplinary Research

Volume 2, Number 1, 2024.

ISSN 2817-5190 (Online)

Introduction 5

Feature Article

‘Check Your Bus’: Approaching Multiculturalism Through
Depth Education 7

*Jaydene Cormier, Azul Carolina Duque, Steve Evans, hannah holtzclaw,
Serena Kaur Pattar, Dino Sivek, and Ella Wright*

Articles

‘Candle for the People’: An Examination of Teacher Burnout,
Early-Teacher Attrition, and Teacher Efficacy in the Finnish
Educational Context 28

James Bramwell

Transdisciplinary Creative Practices 46

Cedric van Eenoo

Spotlight

‘Cyclo Neologisms’: Encouraging Active Mobility Culture 56

Hannah Calder and Markus Heinrichs

M

This page intentionally left blank

Mantle: *The Annual Review of Interdisciplinary Research* Vol. 2, No. 1 (2024)

I am delighted to present the second issue of **Mantle**, dedicated to the ever-evolving field of interdisciplinary studies. As we continue our journey, it is important to reflect on the significance of collaboration across diverse fields of inquiry in addressing the complex challenges of our time. Our inaugural issue, released in July 2023, ignited a vibrant conversation, showcasing the power of diverse perspectives to illuminate complex challenges. This second issue builds upon that foundation, delving deeper into the fertile ground where disciplines intersect.

Each annual issue of **Mantle** includes one *Feature Article* that underscores the expansive and critical reach of interdisciplinary research; several regular *Articles* that are more traditionally interdisciplinary in their scope and articulation; and a *Spotlight* entry that is unabashedly exploratory in nature, concept, and execution.

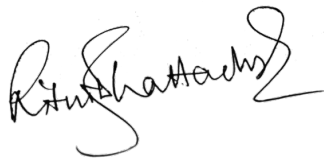
In this issue, you will find a collection of articles that embody the spirit of interdisciplinary inquiry. The *Feature Article* by Jaydene Cormier et. al. shows us how through ‘Depth Education’—a responsible and sustainable pedagogical approach that teaches students “to hold space for discomfort and complexity”—we can craft a future beyond the existing discourse around multiculturalism that perpetuates colonial narratives and systemic racism. In the regular *Article* section, James Bramwell highlights the rising issue of burnout in the teaching community through an examination of the unique structure of the Finnish education system, and Cedric van Eenoo goes deeper into the intricacies of the notion of disciplinarity itself to work out the tensions between its three main prefixes: inter-, multi-, and trans-. Finally, in the *Spotlight* entry, Hannah Calder and Markus Heinrichs hold space for the interesting intersection of neologisms and active mobility culture, especially as the former makes prominent the special connection that the latter fosters between the individual and the corresponding landscape.

As we move forward, we remain committed to fostering a vibrant and inclusive community of scholars, artists, and practitioners who are passionate about interdisciplinary exploration. We encourage you to engage with the ideas presented in this issue, to share your own perspectives, and to join us in shaping the future of interdisciplinary scholarship.

We extend our sincere gratitude to our contributors, reviewers, and editorial board for their dedication and expertise. Their commitment to excellence has made this issue possible. We also thank our readers for their continued support and engagement.

This is **Mantle**. Interdisciplinary research at its finest. We hope you find this issue intellectually stimulating and inspiring.

Enjoy the read!

A handwritten signature in black ink, appearing to read 'Ritwik Bhattacharjee', with a stylized flourish at the end.

Ritwik Bhattacharjee
Editor-in-Chief

Unceded, ancestral, and traditional Musqueam Territory
March 2025

M

Mantle: *The Annual Review of Interdisciplinary Research*

Vol. 2, No. 1 (2024), pp. 7-27

DOI: 10.14288/mantle.v2i1.200524

‘Check your bus’: Approaching Multiculturalism Through Depth Education

Jaydene Cormier, Azul Carolina Duque, Steve Evans, hannah holtzclaw, Serena Kaur Pattar, Dino Sivek, and Ella Wright¹

ABSTRACT: This article explores the concept of Depth Education as a means to engage with multiculturalism in higher education. Drawing from a graduate-level course at the University of British Columbia, the authors discuss how Depth Education contrasts with traditional mastery-based education by emphasizing diagnostic approaches over prescriptive solutions. The course aimed to develop educators' capacities to handle complex cultural and historical issues related to multiculturalism, race relations, equity, diversity, inclusion, and decolonization. Using embodied exercises, self-reflection, and guided discussions, participants navigated the intricacies of multiculturalism within the Canadian context. The article critiques the limitations of multiculturalism as it is traditionally understood in Canada, highlighting its role in perpetuating colonial narratives and systemic racism. Through various pedagogical activities, including Systems Theatre and Radical Tenderness, students developed psycho-affective stamina to hold space for discomfort and complexity. The authors argue that Depth Education offers a responsible and sustainable approach to address the volatile, uncertain, complex, and ambiguous nature of contemporary social issues.

KEYWORDS: *critical multiculturalism; critical literacy; higher education; multicultural education; multiculturalism; cultural diversity; Canada.*

¹ The authors are graduate students at the University of British Columbia, Vancouver, who participated in a course entitled “*Multiculturalism in Time, Place and Space: Addressing cultural and historical dissonances in education*” (EDST 578) in September 2022. Contact: Ella Wright [ellaw8@student.ubc.ca].

Introduction

This article explores the concept of Depth Education as a means to engage with multiculturalism in higher education. As Graduate Students at the University of British Columbia's Faculty of Education, we came together to write this article after working together on a group project for a graduate-level course, where we frequently discussed the impact of depth education on our learning and perspectives of the world. We realized there were lessons and experiences that may benefit others and committed to writing this article for our final project, to consolidate and reflect on depth education as an innovative pedagogy.

In this article, we will discuss how Depth Education contrasts with traditional mastery-based education. The central question that guides our article is *"What is depth education, and what potential does this pedagogical approach hold in developing educators' capacities to handle complex cultural and historical issues related to multiculturalism, race relations, equity, diversity, inclusion, and decolonization?"* We will unpack our learning from the course, describing our experiences using embodied exercises, self-reflection, and guided discussions to navigate the intricacies of multiculturalism within the Canadian context. These reflections will enable us to critique the limitations of multiculturalism as it is traditionally understood in Canada, highlighting its role in perpetuating colonial narratives and systemic racism. Our article contributes to Scholarship of Teaching and Learning (SoTL), specifically to research on pedagogies of discomfort in higher education, by describing how Depth Education offers a responsible and sustainable approach to address the volatile, uncertain, complex, and ambiguous nature (VUCA) of contemporary social issues in higher education classrooms.

During the fall of 2022, we were participants in a graduate level course titled "EDST 578: *Multiculturalism in Time, Place and Space: Addressing cultural and historical dissonances in education*" at the University of British Columbia in the Department of Educational Studies within the Faculty of Education. The course was designed to support educators in expanding professional and personal dispositions to more effectively address questions, complexities, and paradoxes related to cultural and historical dissonance in the areas of multiculturalism, race relations, EDI (Equity, Diversity, Inclusion), Indigenous engagement, decolonization, and Indigenization. The course design was not to tell participants 'what to think', or 'what to do', but rather to build capacity and endurance to

engage in multiple layers of intersecting complexity, from academic debates to policy and practice (Andreotti, 2022). During our time together, we began to utilize a *Depth Education* pedagogical approach which is described as emphasizing learning that is “diagnostic” rather than “prescriptive” as we sought to engage with the “wicked problems” of our time, including unprecedented and intersecting complex dilemmas (Stein, 2021).

It is important to expand the understanding of how "education" is being used in this context and what *Depth Education* implies. In order to do that we must address differences between ‘Mastery’ and ‘Depth Education’. Mastery education, as the predominant teaching and learning model in modern colonial education systems, is concerned with an "accumulation of knowledge, competencies and skills" (Andreotti, 2021, p. 498) whereas depth education aims to "expand our capacities, dispositions and stamina to hold space for difficult and painful engagements" (*ibid.*). It is therefore an education that is not about the content itself, but rather the conditions that create "containers for educational conversations that can challenge the ways we have been conditioned to think, relate, desire, hope and imagine" (*ibid.*).

This practice of pedagogy can only work within a non-coercive, ethical framework; students must be aware of what is proposed and express clear consent to participate (Machado De Oliveira, 2021). Students must also be willing to work through the difficulties of critically engaging with multiculturalism from their own positionalities and complicities in colonial violence, along with its social and ecological implications. With this in mind, as students engaging in this process, we each had to provide consent for our chosen means of participation. The first stream of participation offered in the course included an additional component called an “affective and a relational layer circumscribed within an embodied approach,” while the second stream involved a more traditional approach to multiculturalism, with focus on the cognitive dimension only. In our cohort, the majority of students selected stream one. This article focuses on the first stream’s approach.

As master’s and doctoral student participants, we grappled with three main aspects of multiculturalism: a temporal layer that dealt with generational awareness, a place-based layer that dealt with the complexities of Indigenization and decolonization, and a third layer pertaining to the paradoxes of pedagogical and curricular practices in the realm of teaching and learning. We worked through these layers in a hybrid manner of in-person and online discourses over the span of forty

hours. The pedagogical activities included embodied exercises, self-reflection tools, lectures, and guided discussions. Throughout this paper we aim to demonstrate how the pedagogical approach provided us with a different way of engaging with multiculturalism and education more broadly, but also with our sense of self, with knowledge, and with complexity in ways that would have been limited if not inhibited in a mastery-based approach.

2. Multiculturalism in Canada: A Review of the Landscape

In reviewing multiculturalism literature, particularly within the context of the lands known as North America, we note the heterogeneity of perspectives, even within critical multiculturalism frameworks. The majority of critiques of multiculturalism fail to recognize the multi-layered, polysemic and cacophonous nature of multiculturalism, particularly as it relates to colonial modernity in all its facets, including climate change, migration and refugee contexts, and other wicked problems (Stein, 2021). Learnings from this course indicate the interconnectedness of complex external landscapes with the heterogeneous layers found within ourselves, and supported students in learning to identify and feel the contours of, as well as hold space for these paradoxes and complexities. For example, course content and activities centred around supporting educators grappling with the historical dissonance of how settler colonial states, such as Canada, envision ‘multiculturalism’. As an often-celebrated ideology, since the 1970s, the concept of multiculturalism has been intertwined with Canadian identity and political discourses around citizenship. It is enshrined in Section 27 of the Canadian Charter of Rights and Freedoms and has evolved into a significant part of the Canadian Government’s projection of soft power. As articulated by Burman, multiculturalism has become a “source of national pride,” and a method of managing painful histories and conflicts (Burman, 2016, p. 362). While multiculturalism discourses might provide a container to unpack “historic injustices,” they reaffirm a view of oppression as a past event, rather than current structure (*ibid.*, p. 362). When we peel back the glossy aspirational and superficial layer, we can see how multiculturalism discourse obscures the ongoing existence of racism, white supremacy and colonialism by locating these inequitable and violent processes firmly in the past. The implications of this “colonial unknowing” are severe as they allow a re-arranging of how settler Canadian society imagines its role in slavery and colonial dispossession in the past and present (King, 2016). The narrative of Canada as a tolerant and benevolent “cultural mosaic,” not only secures a discourse

where anti-Black racism is left unattended and unacknowledged but also works to exclude the experience and perspectives of Indigenous peoples within the question and aims of antiracism (Lawrence and Dua, 2005).

Lawrence and Dua highlight that Canadian “...antiracism theory participates in colonial agendas in two ways. First, it ignores the ongoing colonization of Aboriginal peoples in the Americas; second, it fails to integrate an understanding of Canada as a colonialist state into antiracist frameworks” (*ibid.*, p. 123). This then occludes decolonizing efforts by Black and Indigenous peoples and obscures a more detailed analysis of how multiculturalism discourses are utilized as a means to further colonial dispossession. This includes the nuanced discussion brought up by Sharma and Wright (2008) around the differing and complex positionalities of people of colour “...on land that is appropriated and contested, where Aboriginal peoples are denied nationhood and access to their own lands” (2008, p. 120). From here, we can see how the doctrine of multiculturalism in settler colonial states such as Canada reframes the state as a benevolent defender of diversity, and in doing so percolates into policy decisions that “... [serve to recentre] white, Euro-descendent peoples and reproduces marginalization for racialized and Indigenous individuals...” (Mackey, 2002; St. Denis, 2011; qtd. in Kerr & Andreotti, 2019 p. 648). Canadian communication about racism is then premised on ‘banal’ framings, that conveniently “[oscillate] between seemingly neutral patriotism and explicitly Anglo-Saxon Canadian Nationalism” (McNeil, 2021).

Officially adopted in 1971, the implementation of Canadian multiculturalism policy led to a situation where “...multiculturalism functioned as state recognition of diversity within the population...” but resulted in “unequal integration” through “racial classification” (Lei and Guo, 2022, p. 170). In this way, multiculturalism served to extend, rather than disrupt, Canada’s colonial project by imposing top-down hierarchies of difference through mechanisms of the nation state. By controlling what *kinds* of difference and which narratives *about* difference are permitted within the national frame, cultural supremacy can not only be sustained but historical and ongoing acts of dehumanization are effectively rationalized (Coulthard, 2014). Lei and Guo connect this to the ongoing “global war on terror,” where the convergence of “US nationalism” and “Canadian multiculturalism” are not points of national distinction but have the ability to “...sustain each other in the restructuring of the international and national realms” (Lei and Guo, 2022, p. 173). This restructuring also plays out within the realm of educational curriculum reform and more recent

political cultures of reconciliation and redress (Miles, 2021). In this context, nation building is separated from historical wrongs in such a way that not only can Indigenous sovereignty be ignored and further repressed, but Canada can secure its image as tolerant, benevolent, and inclusive (*ibid.*).

Having problematized the alleged banality and virtue of multiculturalism within the Canadian context in addition to highlighting the colonial imperative of forms of social and political recognition deployed by settler nation states, we now consider the implications of these complexities and paradoxes for education and pedagogy.

3. Pedagogical Implications

As highlighted by Burman, North American liberal structures of multiculturalism and anti-Black and anti-Indigenous racism overlap and carry both affective and sociopolitical dimensions (Burman, 2016, p. 362). These dimensions bring forward important pedagogical implications and prompt questions such as those posed by Stein and Andreotti: “what might education look like if we did not presume that a liberal, multicultural, multiracial, capitalist nation-state is the horizon of justice?” (Stein and Andreotti, 2018, p. 10) This question is important not only because liberal nation-state frameworks such as multiculturalism fail to address both historical and ongoing racism and systemic harms (Lei and Guo, 2022), but also due to the ways these frameworks are completely inadequate for staying with the different perspectives on, practices of, and challenges to their definition and implementation. The hyper-complexity and ever-changing landscape of race relations will continue to shapeshift in the wake of increasing ecological and political instability—within the context of “wicked problems” in colonial modernity, there is no such thing as ‘avant garde’ solutions or ‘static truths.’

Here we can also consider Best’s argument that neither the antiquated era of “solid” modernity, which assumed there to be rational and instrumental certainties in the world, nor our current era of “liquid” modernity, which prioritizes “market-driven individualism,” adequately prepare learners to engage with ideas critically in the public sphere (Best, 2020 p. 2). Globalized information networks have resulted in a heteroglossia of ever shifting, uncertain, and paradoxical perspectives and relations. These circumstances require entirely novel pedagogical approaches that do not rely on the consensus building, solution seeking strategies of solid modernity, but instead

teach learners to navigate layers of complexity. Yet much of the current discourse surrounding critical multiculturalism still falls into the trap of attempting to rely on stable certainties in an uncertain world.

Critically unveiling multiculturalism's role in furthering colonialism and ascertaining settler futurity is essential cognitive work needed to begin the conversation. Depth Education scholarship operates on the premise that we cannot effectively navigate complexities in the world around us if we are unsure of how we first navigate these contours and folds from within (Andreotti, 2022). Our assessment of the literature is that scholars engaging in this work replicate familiar colonial patterns of identifying problems and then proposing solutions that will potentially solve the broken system. Andreotti notes that the "usual story of change is that ... 'we' the (virtuous, woke, moral, righteous, deserving, enlightened) people in the 'good team' can choose to fix the system by either patching it up or offering a replacement, a better alternative" (2021 p. 506). These approaches often result in the centering of certain groups (reinforcing concepts of exceptionalism and exaltedness), overlook the affective, relational, and cognitive habits that maintain these structures, and promote dispositions that either externalize culpability or pursue the expansion of entitlements and empowerment at the expense of shared responsibility (Lei and Guo, 2022, p.15). This is not at all to say that advocacy for anti-racism pedagogy is inconsequential or insignificant, it is deeply admirable, important, and necessary. However, when these frameworks rely upon such unstable certainties as progress and consensus or fail to stay with the ever-shifting complexity, ambiguity, volatility, and uncertainty of "liquid" modernity they ultimately remain serviceable to settler futurities and colonialism.

The variable layers of complexity and contradictions found in liquid modernity create the need for a pedagogical container that is capable of engaging learners in multiple dimensions, thereby equipping them with the tools needed to navigate uncertainty. One access point is through the approach of Depth Education, which seeks to engage with the affective, somatic and relational layers of learning (Andreotti, 2021). As a diagnostic rather than a prescriptive pedagogical approach, Depth Education may be capable of responsibly building the required stamina to stomach the volatile, contradictory, and intertwined problems threatening the planet. The wickedly complex nature of settler-colonialism, climate catastrophe, and migration demands a pedagogy that does not call for mastery and solutions but instead equips learners with the capacity to sit with the different layers of the issues at hand.

4. Depth Education

4.1. A Responsible Pedagogical Approach to Wicked Problems

Depth Education pedagogy goes beyond the cognitive capacity and engages with the affective, somatic, and relational realms of holding complexity (Andreotti, 2022). The in-person sessions of this course introduced ‘Systems Theatre’ (Scholte, 2018) and ‘Radical Tenderness’ (D’Emilia, 2018) methodologies, as somatic and artistic practices that attempt to expand participants’ capacities to navigate VUCA (volatility, uncertainty, complexity, and ambiguity) from the diagnostic realm as opposed to a prescriptive dimension (Stein, 2021).

Within the confines of this course, we re-framed our educational journey by engaging in Depth Education to look past the concrete answers expected of us within contemporary, positivist pedagogical approaches (Andreotti, 2021). Depth Education invites learners to engage with form as opposed to movement, and for layering as opposed to fixed answers. Therefore, we were invited to continually unpack, process, and sit with the affective layer as well as the cognitive, with regards to the internal paradoxes and uncertainties that arose. To do that, we used two tools developed by the *Gesturing Decolonial Futures Collective*², *5 Steps Back of Psychoanalytic Distancing* and *The Bus Within Us*. These tools, and the Depth Education pedagogy in itself, were used to address the question: *How might we equip people to do the kindest and most responsible thing to each other, to other species and to the land at all times, especially in times of crisis and social polarization?* A question that is contained within a compass of sobriety, maturity, discernment, and responsibility (SMDR) that confronts a culture of late modernity that often promotes and rewards the opposite (Stein, *et. al.* 2022).

‘5 Steps Back’

We took part in the “5 ‘Steps Back’ of Psychoanalytic Distancing” that forced us to engage within ourselves in holistic ways (Andreotti, 2022). Including sitting in a place of dissonance without pushing past those emotions but rather passing through them. The five steps back tool invites us to practice layering reality by detaching from our positionalities, desires, social context and historical

² See decolonialfutures.net

time. This process unveils how our perception of reality is conditioned by these dimensions, as seen below:

1. **Step back from yourself:** What are your real investments, fears, insecurities, hopes and intentions? What does your ego feel entitled and justified to do? What is driving your decision making?
2. **Step back from your immediate context and time:** How do the challenges in your immediate context reflect wider patterns of change in society across different timescales? What's your perspective of the larger picture? What are the boundaries of that perspective (How it is limited)?
3. **Step back from your generational cohort:** How are the associated challenges perceived and experienced by other generations? What is your generation being called out on?
4. **Step back from the universalisation of your social/cultural/economic parameters of normality:** What does your privilege prevent you from seeing/experiencing?
5. **Step back from familiar patterns of relationship building and problem solving that you have been socialized into:** Who are you accountable to? What possibilities for more responsible steps are already viable, but are currently unimaginable to you and those around you?

The Bus Metaphor

Given that the course focuses on the expansion of dispositions, as opposed to ‘mastering’ of specific types of knowledge, the exercises stepped away from a “description prescription” analysis (Stein, 2021). Instead, the activities focused on supporting us as learners to map out our own discomforts, resistances, desires for quick fixes, and points of feeling overwhelmed or immobilized. These social cartographies helped us to build stamina for *staying with the trouble* of the multilayered complexity behind structures of race, colonialism, and inequality. An important facilitation tool that was utilized as a part of the aforementioned diagnostic process was “The Bus Within Us” (GTDF). The Bus is a tool to develop psychoanalytic distance to help us navigate the heteroglossic complexity of our internal voices with a higher level of dexterity. The Bus metaphor also acted as a shared language of meta-cognitive processing as we began to work through our reconfigurations of thought together. This methodology supported us in holding space for the immensity of the paradoxical dimensions we uncovered within ourselves, the higher levels of dexterity pervasive within these subjects, and the heterogeneity of our internal and external socio-political realities. In this way, “The

Bus Within Us” supports the development of psycho-affective stamina for navigating and understanding the relationship between the paradoxes we hold within us and those we see and experience outside of us in our socio-political environments.

In order to grapple with the relational and affective dimensions that pervade the sociopolitical complexities of multiculturalism as its pedagogical starting place, Depth Education pedagogical activities support the development of psychoanalytic distancing and critical and embodied reflexivity around multiculturalism, histories of colonization, and student’s respective positionalities within the Canadian context. This means rather than structuring learning around prescriptive solutions to innately situated and heterogeneous issues, we were introduced to practices and techniques for interrupting harm and activating (ideally) healthier and more responsible possibilities for co-existing and relating. These practices supported us in developing an internal compass calibrated by sobriety (the interruption of socially conditioned compulsions from unprocessed conflicts and emotions), maturity (holding space for what is difficult and uncomfortable) , discernment (distinguishing the different layers and necessary responses of a given context) and responsibility/accountability (decentering ourselves in order to do what is needed rather than what we want) (Stein et. al. 2022). This means expanding our capacities to sit with things like discomfort, complexity, ambiguity, and uncertainty, as well as engaging in various forms of complicity in structural harms with honesty and humility.

Understanding ourselves and each other as embodied collections of lived experiences, vast and variant affective ranges, and actions taken and untaken, (un)learning in this course was not to be limited to the cognitive, and teachings were not to be derived solely from processing literature. Through this course, we understood that an exclusively cognitive approach to education has significant limitations and there is a need for engaging with embodied learning and intelligence (through the head, heart, and gut) if we want to align our intentions with our collective struggles. Embodied work asks us to be responsible and accountable to positionality, it recognizes we are encased inside shared social beliefs and practices based on space, place, and time (modernity, colonialism, patriarchy, extractionism), and it supports us in attuning to how it shapes us (opens and limits us) and our perceptions, expectations, and dissonances about the past, present and future.

As a group we come from mixed racial and ethnic backgrounds, but we are predominantly white-bodied settlers. In addition, as students within liberal universities, we needed to recognize the

privileges we are afforded by this structural position. Our struggles within our respective educational settings are low intensity and afford us the luxury of choice – to participate or not, to stand up or not, to do the work, or not – without significant risk to our immediate well-being or comfort. These securities are subsidized by the increasingly precarious position of those in high intensity struggles, whose well-being is undermined and threatened by the very structures we benefit from. It also means that in many ways we are rewarded and protected by proceeding in accordance with the status quo, and hence, part of this work demands confronting our own complicity in harm without being paralyzed with feelings of guilt or shame, and rather build commitment towards divesting from privileges acquired from colonial modernity such as desires for authority, autonomy, immunity, and control.

We turn now towards the (Un)learning Journals we kept throughout the term to reflect upon course readings, lectures, and in-person systems theatre components, which provide representations as to what ‘moved’ within the participants because of this kind of responsible pedagogy. These excerpts show the importance of developing the psycho-affective stamina and capacity to hold space for challenging experiences and discomfort required for students to identify and disarm the root causes of resistances and dissonances. Crucially, this kind of stamina was intended to be developed through the somatic methodologies deployed within the course, including (but not limited to) exercises emergent from Radical Tenderness, Theatre of the Oppressed, and Theatre for Living. Such exercises moved students beyond individual reflexivity into embodied spaces of co-sensing. This introduced students to different fields of intimacy through interactive performances that explored alternative political practices of wellbeing through embodied complexities, layered realities, and metabolic entanglement.

4.2 (Un)learning Activities

Journal Entries

As participants, we were invited to write bi-weekly reflections on our (un)learning processes and experiences throughout the course. These (un)learning journal entries reveal how depth pedagogy provides a diagnostic container for students to holistically face, reflect on, and address their own cultural and historical dissonances surrounding multiculturalism, Indigenous engagement, decolonization, and Indigenization. It also enabled students to reflect on how both the interconnection and heterogeneity of these issues becomes complicated by Canadian cultural

narratives that re-centre whiteness and settler innocence by obscuring historical and ongoing violence and dispossession.

The reflexive process of integrating our own experiences of multiculturalism with new ideas gleaned from course readings, discussions, and embodied practices resulted in a shift in how many of us viewed the interaction between colonialism and multiculturalism. In the following entries students address and engage with their own frictions associated with multiculturalism that were self-serving and colonial in nature and reflect on how working through this has affected the cacophonous internal dialogue of their ‘bus passengers.’ For example:

Multiculturalism served me well; it benefited me and allowed me to maintain my ‘haves’ whilst feeling good about being part of the fabricated collective Canadian solution (or lie) to combat intolerance and socially constructed racism or more specifically - hate.

I wonder what sort of backlash would be generated if in multiculturalism policy white people would actually have to give up on anything (lands, privileges, narrative) and what kind of affective disposition could support the creation of a safety net that can offer some sort of harm reduction/protection?

As a POC [person-of-colour] first-generation settler in Canada, I have first-hand experience with this place not being fully accepting of my brown skin, yet I still believed the image that was put forth. We were fed the ideal that we are safe to engage in our culture but only if it is whitewashed in an appropriate way, is not an affront to the white settlers, and if we follow the predetermined cultural hierarchies that are already in place.

Throughout these first few weeks of Graduate study, I have been forced to reassess my notions and knowledge around multiculturalism, especially in relation to Canada. As a settler of colour on this land, I was fed and felt comforted by the ‘cultural mosaic’ image of this country, however as I have continued my educational journey, it has become more apparent that the ‘cultural mosaic’ is nonsense. As I learn more about Canada’s racist history, the passengers on my bus are in numerous stages of disarray—some are embarrassed, others horrified, and a few are reminding me to not be so hard on myself, and to sit with and work through the discomfort.

These entries demonstrate student confrontations with prevailing complexities and difficulties associated with long held ideals such as multiculturalism, while acknowledging the complicity within those ideals.

One of the most significant themes within the course was the invitation for students to grapple with the complexities of these issues by practicing creating the psycho-analytic distance necessary for re-arraigning habituated and colonial orientations towards knowledge that impede this process and perpetuate harmful dissonances:

My discomfort with affective and relational learning and the dialogue on my bus surrounding their value are demonstrative of how we are taught that knowledge is only something that can be obtained in the lab, using the scientific method and empirical observations. In this world view, knowledge is certain, universal, and always within grasp. I have passengers on my bus who are afraid of letting go of this relationship with knowledge.

One of the main course objectives was to support students in recognizing and holding space for complexity. Doing so calls for a different relationship to knowledge; one that is not logocentric, teleological, or cartesian (Andreotti, 2016).

I must say that before taking this course I had many passengers who were invested in finding the 'right' way to engage with racial justice or multiculturalism. They thought answers were somewhat fixed and stable, and that it was a matter of arriving at them. Now I understand that this is not the case. Fixed answers towards issues of justice are not only incongruent with liquid modernity, but they are also dangerous. With this in mind, I won't say that this course 'made me mature' or helped me arrive anywhere. But I will say that I have been able to better map my desires for such fixed answers (i.e. using the 5 steps back) and to begin feeling more comfortable with the complexity and the uncertainty that it all brings. Maybe only from that place I can act more responsibly.

Depth Education invites students to map what is behind certain compulsions and desires, and to face our self-infantilization with honesty. One of the in-person activities involved the collective reading of a poem written by POC regarding their own lived experiences with white supremacy. Below is a reflection from a participant:

The loudest passenger on my bus when I initially read this wanted to identify with those writing the

poem because they “too” feel inhibited by the imposition of western culture. But another passenger was challenging this...recognizing this passenger as desperately seeking validation or confirmation that ‘they get it’, while also remaining somewhat numb to the depth of violence the poem is articulating... as a means of feeling reprieve—of rushing to the other side of pain, toward something more comfortable.

One question I found myself asking these passengers was why do you feel facing wrongs needs to eclipse happiness? What is lost when we assume feelings of loss and pain negate or are separate from vitality?

Students recognized the limitations of an exclusively cognitive approach to learning when engaging with complex issues, and articulated efforts and challenges of moving beyond those constraints:

I am actively trying to be more diagnostic, to challenge my colonial thinking and lenses, and realizing I do not need to know every piece of scholarly or academic writing, thought, or theory that goes along with this work. This course has forced me to listen and pay attention to me and my thoughts when I typically turn away and avoid. This has been one of [the] greatest challenges and growths I’ve experienced over these past few months.

Participants also identified how challenges experienced around embodied, affective, and relational learning are directly related to colonial dispositions. They also identified the changes needed to engage with knowledge in generative and responsible ways.

Before going to the final session, I thought about the feedback provided in my last journal about needing to engage with the heart/guts and that “the pathway will be made by walking.” I thought about how my insecurities about getting it wrong, how I might be “read,” and my desire for progress over process reflected the modern colonial thought processes and entitlements we have been learning about. All of these hang-ups meant that I have been standing still instead of starting on that walk. My bus was stuck in the sand. I wasn’t allowing myself to be vulnerable enough with myself or others to begin composting my shit and start learning/unlearning affectively and relationally.

I wonder how sitting deeply within, and with unconditional regard for, my own embodied position (its ancestral lineage, experiences, memory; it’s good, bad and ugly), might support the calibration of

sobriety, maturity, discernment, and responsibility with regards to how I choose to engage or intervene upon or create different possible containers for these conversations as they present themselves in my workplace and everyday environments. How doing so, can help me accept where both myself and other people are at and cultivate deeper regard for this—as well as become better attune to how to hold space in these settings without burnout, resentment, or defaulting into the characteristics I am looking to de-pattern.

Somatic methodologies supported students in developing not only the affective rigour necessary for staying with complexity and difficult emotions...

The responses on my bus to the radical tenderness exercises have made it clear to me that I am deeply entrenched in certain modern/ colonial dispositions identified in the depth literacies handout. For instance, I can see how my learned fears of uncertainty and shame as well as my desire for consensus and cohesion have led to an undeveloped polysemic scanner (the ability to navigate the multi-layered, fluid and transgressive meanings that one word or phrase can hold) .

Lastly, the practice of “danc[ing] with a question” was also significant for my own learning on navigating complexity, as I chose a question that was particularly hard to face, and when the dancing and interactions started to work through my affective states and I experienced sensations of joy and happiness, it felt really awkward to keep holding that question.

But also, the relational rigour required for navigating historical, systemic, and on-going racial and colonial inequalities and coming to terms with their own complicities within these systems with humility and honesty:

The embodied activities felt or produced an opening despite or alongside pain, that allowed me to open to passageways of thinking, feeling, and relating previously clogged or blocked by feelings of shame, guilt, and worthlessness. The synchronization and gaze work (both with regards to the dancing and the activity that asked us to create a field for opening up correspondence with the layers of passengers, ancestors, and entities that we carry within us) helped me move with ambiguity, complexity, and responsibility with more curiosity and humility; with dispositions that allow me to more fully enter certain relational dynamics rather than shy away from what scares or worries me about them... It created space for me to hold and relate to these parts of myself differently

The effects of this are still blooming into spots I have been trying to access but struggling to because entitlements or desires for “belonging” were getting in the way of staying with the messier parts. It created space for me to hold and relate to these parts of myself differently—to look at the passengers on my bus so fearful of doing or ‘being’ wrong, so desperate to feel like they are ‘home’ or ‘belong’ and connect this desire for validation, for innocence, impunity, and its foreclosure of complexity with enough regard for their pain to be able to locate it as conditioned by separability ... passengers were released from certain ‘holds’ long enough to recognize the importance of approaching every encounter untethered by ‘outcomes’, ‘solutions’, or feeling ‘good’, and how holding both unconditional regard and differentiated response-ability to every situation demands an openness and presence inaccessible to these more control-oriented habits.

Acknowledging my privileged positionality doesn’t exempt me from having to work to dismantle the system that upholds it. It also doesn’t mean I know what that work entails, nor that I am affectively or relationally ready (or willing) to do that work. It is a starting point. A tiny, too often tokenized starting point in order to begin a reflection on multiculturalism in ‘Canada’. To (subtly) claim (or internally believe) that the acknowledgment of my positionality exempts me from doing the work of dismantling the system that uploads my privileges is similar to...narratives of multiculturalism that name historical violence (as proof of their self-criticality and benevolence) and locate them in a distant past (with no legacies) so to de-politicize modern-day structural racism.

This work (embodied, relational, and affective), combined with the cognitive resulted in us starting to develop a capacity to consider multiculturalism (politically, educationally, and ideologically) in much more complex and nuanced ways.

“I wonder” passenger exercise

In addition to the unlearning journals, participants of the course also engaged in other forms of reflexive activities. In one such activity students asked to anonymously write two “I wonder” questions: one from the most immature passenger on our bus and one from a passenger more committed to sobriety, maturity, discernment, and responsibility. We then reread each other’s entries and reflected on the different layers between them.

What “I wonder” question is your most immature passenger willing to ask? (it can represent their resistance, frustration, self-infantilization, exhaustion, fear, insecurity, etc.)	What is the “I wonder” question of your most sober, mature, discerning and responsible passenger?
I wonder how the hell we’re supposed to do this work, and model everything, and be everything, if the system itself is a malignant narcissist? People are threatened by this work, and the whole system is designed to prevent you from speaking out. It’s not fucking fair and it takes way too much energy, then we’re depleted and broken. So why try anymore.	I wonder if there are ways to be patient, to move at the speed of trust, and hold the discomfort of doing so. How can we ‘bring others in’, without trying to ‘bring others along’, so that we do not begin this work from a place of self-righteousness, with unrealistic expectations that we have to take it on, shoulder the burden, and if others don’t work the way we do, it’s our fault.
I wonder where my metaphorical sledgehammer is. I want to smash this whole white-supremacist system into pieces.	I acknowledge how completely intertwined and complicit I am in re-creating these relationships, I cannot smash them. I wonder how I can use my positionality to hack and hospice these relationships into something different?
I wonder how I could possibly find the time or energy in the workday to address all the characteristics of white supremacy with my colleagues in order to affect organizational change. Why is this my responsibility?	I wonder how and in what ways I can incorporate into my professional practice time and energy to investigate and interrogate the ways in which I uphold white supremacist characteristics (in the morning) and reflect on my work and actions in ways that decenters white supremacy (in the evening)? Can I make this into a daily practice?
I wonder why we need to over-criticize and over theorize everything, which makes things take longer and drags the process of what could be much simpler and easier if we just did it.	I wonder where to source the patience and sobriety to engage with my own defensiveness and internalized whiteness, so that I don't create harmful conditions for those who are bearing the weight of racism every day.

The exercise encouraged us to map voices with different levels of maturity. This was a generative activity in that it exposed the divergence between the degrees of maturity present in our internal landscapes yet encouraged us to hold them both equally: they both require consideration

and bring with them teachings. The exercise also brings attention to the rich dynamics that can take place between passengers. Many participants approached the prompt as a conversation between inner voices, where the mature passenger was re-calibrating what the immature passenger was saying. Part of the challenge of developing an internal compass anchored in SMDR and thinking through the question of maturity, is that modernity is by design self-infantilizing as it conditions us to avoid discomfort and renders us ill-equipped to comprehend what sobriety, maturity, discernment, and accountability look and feel like. Hence, what this exercise also foregrounded is the necessity of curiosity *and* a healthy degree of scepticism or suspicion towards our responses, especially in their seeming benevolence. By trying to make these passengers more palatable, we inadvertently foreclose our ability to truly learn from and discern the contours of their presence and subsequent lessons. It is a reduction of *our own* complexity and can keep us from learning how to hold space with paradoxes in complex conversations and external conflicts with integrity.

Conclusion

The purpose of this paper is to share outwardly our collective experience navigating a learning journey—a journey wherein we acknowledged our thoughts and emotions as biophysical processes and engaged with them as holistic teachers. We endeavoured to build muscularity for; separate the layers of; and expand our capacities to hold complexity, uncertainty, and ambiguity in a time of, what seems to be, insurmountable wicked problems. We also sought to “create containers of educational conversation” using multiculturalism as a focal point, wherein we could re-consider how we have been conditioned to think, relate, desire, hope and imagine. Throughout, we challenged our own assumptions about our ability to learn and sit with dissonance and appreciated the gift of different possible ways forward. We would like to caution that nothing of what we have offered should be understood as perfect nor without limitations. This should not be weaponized, universalized, glossified, or made into a pedagogical ‘product.’ Depth Education is a *living entity*, concerned with movement as opposed to form.

In closing, as students and educators we consider what would be necessary to continue to expand our own understanding, capability, and capacity in learning, holding and sharing in this work. Firstly, we wish to draw attention to the parallels between external and internal environments in this work. Conversational landscapes around multiculturalism, race relations and decolonization are

inevitably complex, multi-layered, polysemic, and cacophonous. In section 2.2, through unlearning journal excerpts, we see how the aforementioned complexity is mirrored in relation to multiculturalism by the conflicting and paradoxical internal landscape of each participant. Secondly, we highlight this because Depth Education suggests that if we do not first develop the willingness to hold the heteroglossic nature of our internal conversations, there is little chance we will be able to hold the complexity of the shared reality we live in. In this sense, the Depth Education pedagogy within this course invited us to use the same approach to face both internal and external realities simultaneously. When attempted, participants have the opportunity to embark on an unlearning journey which let's go of the need for consensus, cohesiveness, certainty, stable answers, harmony, or purity. Students practiced exercising affective stamina in ways that allowed for holding space for individual and collective complexities with new, shared understandings of the temporal, fluctuating dimensions of liquid modernity.

To nurture the vitality of this kind of learning we need to soberly arraign the gap between engineered learning outcomes and ever-evolving complex social, environmental, and political crisis of modernity—this includes recalibrating both the material and embodied rewards these spaces endorse and the forms of infantilization, harm, and complicity they forward. All learners (including teachers and institutions) must acknowledge and become accountable to the layers of complicity that perpetuate problems and fundamentally reconsider educational paradigms holistically: with embodied sobriety, maturity, accountability, and discernment. Only then *might* we be able to reimagine what we mean by 'education' or 'learning' and what its work could possibly open up (or put to rest) within the world.

References

- Andreotti, V. d. O. (2022). *Draft: Coloniality, complexity and the unconscious*. International Journal for the Historiography of Education. Available at: https://www.academia.edu/92255941/Draft_Coloniality_complexity_and_the_unconscious
- Andreotti, V. d. O. (2022). *Multiculturalism in Time, Place and Space: Addressing cultural and historical dissonances in education* [Syllabus]. Vancouver, B.C: Department of Educational Studies, University of British Columbia.
- Andreotti, V. d. O. (2021). Depth education and the possibility of GCE otherwise. *Globalisation, Societies and Education*, 19(4), pp. 496-509. <https://doi.org/10.1080/14767724.2021.1904214>
- Andreotti, V.(2016).(Re)imaginingeducationasanun-coercivere-arrangementofdesires. Other Education: The Journal of Educational Alternatives, 5(1), 79–88.
- Barnes E. (2022). Critiquing Settler-colonial Conceptions of ‘Vulnerability’ through Kaona in Mary Kawena Pūku’i’s Mo’olelo, “The Pounded Water of Kekela”. *Transmotion*, 8(1), pp. 98-128. <https://doi.org/10.22024/UniKent/03/tm.1075>
- Best, S., (2020). *Zygmunt Bauman on Education in Liquid Modernity*. Routledge.
- Best, S. (2017). *Education in the interregnum: An evaluation of Zygmunt Bauman’s liquid-turn writing on education*. Taylor & Francis. doi:10.1080/01425692.2015.1073103
- Burman, J. (2016). Multicultural feeling, feminist rage, indigenous refusal. *Cultural Studies, Critical Methodologies*, 16(4), pp. 361-372. <https://doi.org/10.1177/1532708616638693>
- Bryan, Audrey. (2020). Affective Pedagogies: Foregrounding Emotion in Climate Change Education. *Educational Research for Policy and Practice*. 30. <https://www.developmenteducationreview.com/issue/issue-30/download/development-ed%20%80%a6>
- Coulthard, G.S. (2014). *Red Skin, White Masks: Rejecting the Colonial Politics of Recognition*. Minneapolis: University of Minnesota Press.
- D’Emilia, D. (26 October 2018) *Tenura Radical/Radical Tenderness*. *Dani Emilia*. <https://danidemilia.com/2018/10/26/ternura-radical-radical-tenderness-post/>
- Gesturing Toward Decolonizing Futures. (2022). Letter to Prospective Immigrants. *Gesturing Towards Decolonial Futures*. <https://decolonialfutures.net/portfolio/letter-to-prospective-immigrants/>
- Kerr, J. & Andreotti, V. (2019). Crossing Borders in Initial Teacher Education: Mapping dispositions to diversity and inequity. *Race Ethnicity and Education*, 22(5), pp. 647-665. DOI: [10.1080/13613324.2017.1395326](https://doi.org/10.1080/13613324.2017.1395326)
- King, T.L. (2016). New World Grammars: The ‘Unthought’ Black Discourses of Conquest. *Theory & Event*, 19, pp. 1-17.
- Lawrence, B., & Dua, E. (2005). Decolonizing Antiracism. *Social Justice*, 32(4), pp. 120–143. <http://www.jstor.org/stable/29768340>
- McNeil, D. (2021). Even Canadians Find it a Bit Boring: A Report on the Banality of Multiculturalism. *Canadian Journal of Communication*, 46(3), pp. 403-429. <https://www.proquest.com/docview/2631696386?pq-origsite=summon&accountid=14656>
- Miles, J. (2021). Curriculum Reform in a Culture of Redress: How social and political pressures are shaping social studies curriculum in Canada. *Journal of Curriculum Studies*. 53(1) pp. 47-64
- Scholte, T. (2018). Toward a systems Theatre: Proposal for a program of non-trivial modeling. *Futures : The Journal of Policy, Planning and Futures Studies*, 103, pp. 94-105. <https://doi.org/10.1016/j.futures.2018.03.008>
- Sharma, N., & Wright, C. (2008). Decolonizing Resistance, Challenging Colonial States. *Social Justice*, 35(3), pp. 120–138. <http://www.jstor.org/stable/29768504>
- Stein, S., Andreotti, S., Ahenakew, C., Suša, R., Valley, W., Amsler, S., Cardoso, C.,

- Siwek, D., Cajkova, T., D'Emilia, D., Huni Kui, N., Tremembe, M., Pitaguary, R., Pitaguary, B., Pitaguary, N. Pataxo, U., de Souza, L.M. & Calhoun, B. (2022). Methodologies for Gesturing Towards Decolonial Futures. In A. Tachine & Z Nicolazzo (Eds.), *Weaving an Otherwise: Reframing qualitative research through relational lenses*. Stylus Publishing.
- Stein, S. (2021). Reimagining Global Citizenship Education for a Volatile, Uncertain, Complex, and Ambiguous (VUCA) world. *Globalisation, Societies and Education*, 19(4), pp. 482-495. <https://doi.org/10.1080/14767724.2021.1904212>
- Stein, S. & Andreotti, V. (2018). What does Theory Matter? Conceptualizing race critical research. In G. Vass, J. Maxwell, S. Rudolph, & K.N. Gulson (Eds.), *The Relationality of Race in Research*. Routledge.
- Thobani, S. (2018). Neoliberal Multiculturalism and Western Exceptionalism: The cultural politics of the West. *Fudan Journal of the Humanities and Social Sciences*, 11(2), pp. 161-174. <https://doi.org/10.1007/s40647-018-0227-x>
- Whyte, Kyle (2020). Too late for indigenous climate justice: Ecological and relational tipping points by Wiley interdisciplinary reviews. *Climate Change* 11(1). <https://doi.org/10.1002/wcc.603>



Mantle: *The Annual Review of Interdisciplinary Research*

Vol. 2, No. 1 (March 2025) Pp. 28-45

DOI: 10.14288/mantle.v2i1.200525

‘Candle for the People’: An Examination of Teacher Burnout, Early-Teacher Attrition, and Teacher Efficacy in the Finnish Educational Context

James Bramwell³

ABSTRACT: An exploration of the central pillars of the Finnish education system gives a unique context to investigate the topic of teacher burnout with particular attention on the concerning trend of early-teacher attrition. Finland’s education system holds many of the values and systemic structures that limit the risk factors associated with teacher burnout but also opens up unique cultural boundaries and discourses surrounding normative teacher identities. The pressures on Finnish teachers to perform at the highest level create both an environment in which teachers are given ultimate autonomy and trust, but at the cost of damaging self-narratives that see weakness as a sign of incongruency between their own vision of themselves as educators and the culturally defined ideal that constantly follows them.

KEYWORDS: *teacher burnout; teacher attrition; education; Finland; Canada.*

³ James Bramwell [james.bramwell@bell.net] is a M.Ed. student in the Human Development, Learning and Culture program. His research passion is in exploring how motivation and identity interweave their way into the teaching profession and how this affects student learning and belonging. He is currently an elementary teacher in Squamish, BC and has been teaching for four years.

Introduction

“Educating their next generation is as vital and honourable as it is to keep their population healthy” (Vyas, 2013, p. 8). Finland has long been held as the benchmark to which every other education system in the world compares themselves. Finnish teachers are highly trained, educators are given absolute trust and autonomy to teach their students, there are no standardized tests, no inspections, no overly prescriptive curriculum to subdue teachers into monotony, and children and education are seen as the optimistic crux in the vision for a better future (Fakhoury, 2022). However, despite their investment in education, Finnish teachers still feel stressed, under pressure, and emotionally exhausted (Lanas, 2017). Teacher burnout is an international concern and one that Finland is not immune to. Teacher attrition is particularly dangerous for new teachers that lack the experience to overcome many of the challenges and pressures put on them. Finland represents a unique context in which to analyze and explore this issue leading to many conclusions about how to build teacher resilience, teaching efficacy, and improved job satisfaction. Despite having a culture that celebrates education as a key determinant of the future of their country and placing teaching in line with the prestige of doctors and lawyers, Finland still suffers from largely the same rates of teacher attrition as less progressive nations. In the absence of commonly reported factors such as: low salaries, inadequate training, low social status of the profession, and increasing top-down pressure from school districts demanding more rigorous and frequent standardized testing, why is it that teacher attrition still remains high for some of Finland’s newest teachers?

This paper will investigate the central tenets that have been so quintessential to Finland’s success on the educational stage and compare their teaching education programs to that of Canada, another country considered to be a world leader in progressive education models. The paper will then examine how burnout is affecting teachers worldwide and the costs of this burnout on both an individual and a school-wide level by investigating how burnout harms the efficacy of teachers, their relationships with students, and the burden it places on the social circle of colleagues attempting to support them. Following this, the paper will look at the effects of burnout and its relation to early-teacher attrition. The most prominent demographic of teachers affected by burnout are those with the least time and experience in the profession. These individuals lack the skills and strategies required to overcome many of the stresses of teaching and are most at risk to succumb to them. Burnout is of particular concern for early-teacher attrition and a dissection of the key factors relating

to early-teacher attrition can help to illuminate what carries the greatest weight for education's most vulnerable group. Finally, the paper will explore burnout in the Finnish educational context to highlight the similarities and differences between Finland and other countries. Finland presents a unique educational landscape that lacks many of the key factors that can exasperate teacher attrition and professional stress yet holds nearly identical rates of teacher attrition and burnout. Carefully unpacking these differences leads to a more complex understanding of the influences at play and can carve a path forward for education systems worldwide to avoid the same pitfalls.

2. Finnish Background

For years, Finland has been heralded as one of the world's beacons for quality education. The Programme for International Student Assessment (PISA) compiles data from countries across the world to determine the world leaders in reading, mathematics, and sciences. Finnish students scored the best in reading and math in the 2003 tests and first in science during the 2006 tests (Fakhoury, 2022). Finland mania picked up in 2009 after the country placed near the top for the third PISA assessment in a row (Fakhoury, 2022). Finland stands as the only country from Europe or America to register near the top of the PISA rankings consistently since 2000 (Fakhoury, 2022). "Finland's remarkable performance today springs directly from education policies and reforms (overhaul) set in motion in the 1960's and 1970's" (Fakhoury, 2022, p.172).

Following these staggering results, many researchers and educational policy reformers from across the world started to take notice. Harvard Graduate School of Education Library, Professor Howard Gardner, discussed that the best way to go about school education was to follow the Finnish school education model (Andere, 2020). Education systems around the world began to wonder what central tenets set the Finnish system apart. After diving into their statistics leading up to the PISA rankings, what became apparent was that among all the students taking the PISA assessment, Finnish students devoted less time to schoolwork both inside and outside of school hours (Andere, 2020). Finland sported an objectively high equality of results across geographical regions and socioeconomic classes, students spent fewer hours learning per week, students regularly reported extremely high satisfaction with regards to student life and commented on the pleasant and safe learning environment common in all government-funded public schools (Andere, 2020). Finnish students devote, on average, about 37 hours per week to their school studies, which is the

lowest by far, especially when compared to many of the other countries that ranked highly in the PISA assessments. Canadian students spend approximately 45 hours per week and Chinese students spend nearly double Finland's numbers at 57 hours per week (Andere, 2020).

Depending on the perspective, there is a complex network of factors put forth as responsible for the success of Finland's education system ranging anywhere from the climate, religion, cultural history, geography, quality of the Finnish governance, government transparency, free school lunches, economy, income equality, role of women, or the role of special education supports (Andere, 2020). All play some role in the overall success of the Finnish system, but in order to understand the country's rise through the rankings, it is essential to look at the underlying pillars governing the values of Finnish education.

2.1. Pillars of the Finnish System

In Finland, teachers are widely recognized as the keys to quality education (Fakhoury, 2022). Dr. Sahlberg, a professor in the University of Helsinki's teacher education program, explains that "it's more difficult getting into teacher education than law or medicine" (Fakhoury, 2022, p.172). The culture in Finland places teaching as one of the most important professions and the difficulty, prestige, and motivation required to become a teacher in Finland reflects this cultural perception. In much the same way that one improperly trained doctor can harm the lives of many, Finland believes that one improperly trained teacher can harm the intellectual and emotional growth of many children (Vyas, 2013). The Fins see teacher education and professional development as a way to naturally strengthen quality teaching and deliver the highest level of public education for their population. The teacher education program will be discussed in greater detail in its own section, but suffice to say, teaching stands as one of the most difficult programs to get into in Finland and one of the most highly respected professions in their wider culture. This naturally lends to an ongoing dedication to produce highly qualified teachers who engage in ongoing professional development and learning to remain attuned to contemporary and ever-changing pedagogy research (Fakhoury, 2022).

In addition to a 5-year teacher education program, teachers at the basic and upper secondary levels are required to hold a Master's degree and participate in high level training every year. Many of these Master's degrees are state-funded. Finland holds a firm belief in having an equitable and

educated workforce, going to great lengths to support ongoing learning at every stage of the education system through free programs and a well-developed system of study grants and loans (Fakhoury, 2022). If students are weak in a specific subject, it is seen as the responsibility of the education system to catch them up by providing extra classes and additional outside teachers (Fakhoury, 2022). Teachers are given specialized training in pedagogy, subject-specific content knowledge, as well as in-depth studies into how to meet diverse and neurodivergent education needs, meaning that the responsibility for student success is always placed on the education system. Students are simply not allowed to slip or fade into the background, as is the case in so many education systems around the world. A significant contributor to this success is in the rigorous ongoing education of its teachers.

Education is free at all levels in Finland. Children start school at the age of seven and 99 percent of students choose to study in government-funded public schools (Fakhoury, 2022). Schools are held to a high quality, both in the local context of each institution, but also on a national scale in terms of the consistency in quality across geographical regions. Schools are of the same quality regardless of whether they are located in rural or urban centers (Fakhoury, 2022). Midday meals are provided by the schools to ensure all students have access to nutritious food and even teachers are provided with free access to lunches in most schools (Fakhoury, 2022). The classroom teacher remains the same from the students' first year until the end of their sixth year. The reasoning behind this stemming from a belief in fostering congruity for students in their first years of education and allowing classroom teachers to build rich relationships with students that is able to grow over many years of instruction instead of just one. Teachers then become rotational and subject-specific as students progress into the upper-secondary levels.

One of the main objectives of adult education policy is ensuring the availability and competence of the Finnish labour force by providing free educational opportunities for all (Fakhoury, 2022). Finland takes pride in providing free education at all levels and a well-developed system of study grants and loans to ensure equitable access to education and to remove barriers to the education system. This also has a significant carryover to social cohesion and equity leading to improved life satisfaction. Educators described Finland as a “silky paradise, a place where all the teachers are admired and all the children beloved” (Fakhoury, 2022, p.174). All Fins are given access

to free, high-quality, and equitable education opportunities regardless of socioeconomic or geographic factors.

2.2. Teacher Education Programs – A Comparison of Finland & Canada

In order to emphasize the differences in cultural perceptions of teaching between Finland and other international contexts, a comparison of the teacher education programs with another high-ranking country within the PISA rankings can unveil some of the explicit and implicit differences that set Finland apart. Carefully examining these differences provides a unique opportunity to compare and contrast two countries that more closely resemble two sides of the same coin rather than drastically different currencies. This kind of comparison reveals nuances in similar educational policies and structures rather than radical differences of ideology. For many developed nations worldwide, this is a more valuable comparison that acknowledges some foundational principles that exist across contexts whilst highlighting the specific differences in implementation that can influence wider success. Canada presents a valuable context to compare to Finland as both countries share a number of similarities including: a high level of teacher autonomy, a progressive and non-descriptive education curriculum, a high proportion of students attending state-funded institutions, and a dedication to the latest educational research and pedagogy. However, the two countries are starkly different in their delivery of teacher training and the reality of educators once they enter the job market, emphasizing how nuances in both public perception of education and teacher education programs can influence the wider success of the education systems. By selecting countries that are largely similar, it becomes easier to determine the key factors that can most curb the educational development that lent to Finland's rise through the world international PISA rankings.

2.2.1. Finland

Culturally, Fins see the teaching profession in much the same way most people see the medical profession. It has as difficult to get into as medical school and comes with same level of societal prestige and respect. This is reflected in the sheer number of applicants to their teacher education programs each year. For example, in 2014, the University of Oulu saw 1866 teacher applicants to their program with only 80 of these eventually being accepted (Lanas, 2017). This low acceptance rate combined with the high standards and comprehensive curriculum make the teacher education program one of the most difficult to get into out of all the programs available. Another

benefit of the exclusivity of the Finnish teaching program is that they only create enough spots to match the number of available positions in the teaching field. This encourages a balance between the number of new teachers and the jobs available to them upon graduation.

20 percent of the 5-year teaching program is focused on pedagogy meaning that students in the teaching program dedicate one full year to learning best teaching practices. Many Finnish programs stress that subject-specific knowledge does not necessarily translate to being able to teach the material well (Vyas, 2013). Research is considered one of the most valuable components of the Finnish teaching program, instilling scientific literature, an ability to use research methods, and an awareness of the latest advances in educational research, to encourage teacher candidates to continue to utilize these habits throughout their career (Vyas, 2013). The teaching program integrates many opportunities for research studies along with the writing of a Master's thesis. Students in the teaching program begin to see research and continual learning as an integrated part of the teaching profession leading to an ongoing dedication to professional learning.

Collaboration is also central to the teaching program. Student teachers collaborate with each other whilst completing project-based tasks to reflect on their own learning. Collaboration also exists amongst professors in different teaching programs across the country to build professional relationships and share the most up-to-date teaching practices. Between professors and students, collaboration helps in building productive and positive mentorship relationships. Finally, collaboration between the government and the teacher's union helps to create a unanimous vision for Finland's education future. This last partnership is rarely a positive one in other countries, the government and the teacher's union often being at odds with one another due to the specific needs to represent their stakeholders, but in Finland, the relationship truly forms into a bond centered around providing the highest quality of education (Vyas, 2013).

Practicum encompasses the in-the-trenches component of the teaching program where teacher candidates are paired with an experienced in-service teacher to mentor them in the classroom in front of actual students. Finnish student teachers complete a total of 3 months of practicum which accounts for about 11 hours of in-person teaching per week during the 5-year program (Vyas, 2013). This period is essential for each teacher to develop a gradual formation of

autonomy, develop their identity as an educator, and bring about new practices in education through collaboration with their teaching mentor.

2.2.2. Canada

Canada is well-known as another world leader in education and students from many countries flock to experience their progressive education models. There are actually many similarities between the Canadian education system and that of Finland including: a high level of teacher autonomy, a progressive and non-descriptive curriculum, high trust in teacher ability, and limited standardized testing. However, there are a number of key differences that exist in their teacher education programs that could explain the overlying disparities between their education systems.

Firstly, there seems to be a distinct disconnect between theory and practice in the Canadian teacher education programs. Many Canadian students in teacher education programs explained that most of the knowledge they learned in teacher education courses felt like they had little relevance to how teaching occurs in practicum (Vyas, 2013). When compared to the Finnish program, educational research and pedagogy is seen as a central tenet of effective teaching and highly interwoven both into the teaching program, but also into the wider teaching profession. Professional development is seen as obligatory in the Canadian context, but as an opportunity or necessity for Finnish educators. This is by no means an exhaustive pattern for all Canadian programs but is wide-reaching enough to warrant additional attention in order to bridge the gap between theory and practice.

Secondly, there is an overwhelming feeling by many student teachers in Canadian programs that some students are not actually motivated to become teachers or in it for the right reasons. Some teaching candidates see teaching as a back-up plan or easy program to get into, which is in stark contrast to the Finnish program where only a small number of candidates are accepted based on exceptional academic records, a wide variety of extracurricular achievements, and a clear proficiency and desire to become teachers (Vyas, 2013). Many Canadian programs admit as much as 65 percent of applicants to their teaching programs compared to Finland's 10 percent acceptance rate (Vyas, 2013). An adjustment needs to be made to the admission process to weed out the individuals that are in the program for the wrong reasons by increasing the standard for acceptance. Not doing so results in a diluted pool of candidates that both weakens the emotional and motivational suitability

of future educators, but also the wider cultural perceptions of teaching in general. Teaching should not be something to be done as a back-up plan, but as a meaningful pursuit highly sought-after and achievable for an exclusive group of dedicated and gifted candidates.

Thirdly, the oversupply of teachers in the Canadian job market creates a discontinuity between the implicit notions of collaboration and shared learning apparently cultivated in the teaching programs and the competitive reality of the job market where the number of available positions simply does not match the oversupply of graduating teachers (Vyas, 2013). This produces an unnecessary amount of stress that moves student teachers away from collaboration in favour of a competitive environment. “If students are expected to collaborate with one another, form professional relationships with each other, and maintain these throughout their career,” it is counterintuitive to put them in a highly competitive job scarcity environment (Vyas, 2013).

These key differences result in an educational environment in Finland that requires a higher degree of quality from its teaching candidates, ensures societal trust in its teachers, demonstrates a connected relationship between theory and educational practice, and ensures collaboration is fostered through aligned job availability and the number of teacher candidates. However, in recent years, many education systems in East Asia such as China, Singapore, and Japan, have begun to gradually overtake Finland in the PISA rankings, begging the question of which teaching principles can be carried over to the Finnish system to hone it to an even higher level (Fakhoury, 2022). This is an area of research that still needs to be explored further in order to determine the cultural and systemic differences between Finland and these East Asian contexts that may be leading to the changing international rankings.

3. Teacher Burnout

Teacher burnout is a concerning phenomenon especially within the context of high-functioning education systems such as Finland. Burnout comprises a physical and emotional fatigue that not only affects the effectiveness of individual teachers, but results in dramatic decreases in job satisfaction, school-wide culture, and even in the unnecessary attrition of beginning teachers. For countries that pour so many resources and years of training into their teaching programs, it is particularly disheartening to see many of these young teachers unable to cope with the stresses of

the classroom before they have even been given a chance. Burnout is not exclusively attributed to new teachers but can affect all teachers at any stage of their career. The unique and complex stresses of the teaching profession present significant challenges even for the most well-trained individuals, so it comes at great interest to investigate this further, especially within the context of the highly progressive and esteemed education system that exists in Finland.

Teacher burnout is usually the result of extensive, prolonged work-related stress associated with the gradual erosion of important technical, psychological, and social resources (Tikkanen et. al., 2022). Burnout typically undergoes three distinct stages of degradation. The first being where an individual finds the demands of the job exceeding their own ability to meet them (Mijakoski et. al., 2022). The second stage is a short-lived period where a person realizes their inability to meet demands and is characterized by increasing feelings of stress, anxiety, fatigue, and exhaustion (Mijakoski et. al., 2022). The final stage is the most devastating of all, where an individual's behaviour and attitude change becoming fixated on their own needs, losing interest in their job, and distancing themselves from colleagues and students (Mijakoski et. al., 2022). Teaching burnout is most commonly associated with three symptoms: physical and psychological exhaustion; cynicism and mentally distancing oneself from work, colleagues, and students; and a lack of professional efficacy leading to feelings of incompetence, professional inadequacy, and failure as an educator (Tikkanen et. al., 2022). Female teachers tend to more heavily feel the symptoms of emotional exhaustion whereas men tend to be more dispositioned to experiencing cynicism (Tikkanen et. al., 2022). This may be because of female teacher predominance in the primary school context which is more prone to emotional exhaustion, and male predisposition to secondary schools where cynicism seems to be more common, rather than any inherent sex differences (Tikkanen et. al., 2022).

3.1. Individual Factors of Burnout

Burnout negatively affects both the individual and the school community. Consequences commonly associated with teacher burnout include anxiety and depressive symptoms, poor quality sleep, poorer health outcomes including high blood pressure and increases in cardiovascular disease, lower job satisfaction, and increased absenteeism (Laurie & Larson, 2020). Teachers experiencing burnout show increases in reported illness with increasing amounts of time off needed to recover, but interestingly, also a feeling that they are unable to take time off for fear of falling further behind (Mijakoski et. al., 2022). In terms of factors that put particular individuals more at risk, teachers high

in neuroticism, who feel they have little control over their work environment and utilize emotion-focused coping strategies tend to be more susceptible to burnout (Tikkanen et. al., 2022). This may be because of the emotional instability of their personality making them more likely to bouts of manic energy states followed by a tendency to be overwhelmed by workload and time pressures. Individuals who believe in an external locus of control tend to think they have limited control over their environment and their own actions. This, in combination with emotional coping strategies that target the symptoms of burnout, but not the causes, mean these individuals are unlikely to improve the situational factors that caused the burnout in the first place. Despite these concerning effects for individual teachers, burnout also has carryover effects on the school community as well as the students themselves.

3.2. Social Vectors of Burnout

The well-being of students and teachers is highly intertwined. Teacher burnout has been closely associated with reduced student motivation and academic achievement (Laurie & Larson, 2020). Teacher burnout and depersonalization generates feelings of disinterest towards one's job resulting in negative impacts on teaching quality and student motivation through increases in disruptive behaviour, low sense of belonging, lower grades, and a weak belief in students' abilities to succeed (Laurie & Larson, 2020). Teachers are the single greatest factor in student success, with the malevolent side of this relationship being that, in the descent into burnout, teachers bring down not only themselves, but the young minds around them as well.

Within the local school community, burnout also presents challenges. Burnout has primarily been studied in an individual context but has recently shown evidence that it can be transmitted between individuals based on proximity within the social web of a local school environment. Burnout can cross over professional interactions directly via “emotional contagion” and indirectly through the negative influence burned out teachers can have on the wider school climate (Tikkanen et. al., 2022). Burnout is a highly socially embedded syndrome, yet typically only explored individually. Social interactions play a crucial role in the development of burnout, both as mitigating protective factors and as risk factors that exasperate the existing risks of burnout (Tikkanen et. al., 2022). An impaired school social climate with leadership issues, pupil misbehaviour, challenging interactions with parents, or unsolved problems with colleagues can result in degrading impacts on the emotional resilience of teaching staff (Tikkanen et. al., 2022). Burnout spreads directly through

negative interactions between teaching staff, but also indirectly through the increased pressure put on other staff members by burned out individuals who are unable to effectively contribute. Co-ruminating about negative work experiences can also induce negative emotions about the professional community and pupils among teachers not even directly involved (Tikkanen et. al., 2022). Principals and school administrators would be wise to treat burnout not as an isolated sign of an individual's inability to cope, but as an infectious vector that needs to be addressed for the health of the whole. Individuals that reach this level of burnout require immediate and drastic relief or the school climate risks multifaceted emotional and psychological degradation from all sides.

Risks that make schools more susceptible to burnout include: high workload, many teachers in Canada reporting the need to work up to 60 hours per week in order to manage lesson planning, parent communication, and disciplinary issues; disruptive student behaviours; lack of administrative support; lack of a friendly atmosphere among staff; working with unmotivated students; and poor working conditions (Mijakoski et. al., 2022). Large school size, poor academic performance, and low socioeconomic status of school neighbourhoods also tend to accentuate risks posed by teacher burnout (Tikkanen et. al., 2022). However, there are many pro-active co-regulation strategies that can protect against the effects of burnout. Teachers can buffer potential stressors by using their social resources, such as the support of friends and colleagues; choose to perceive potential challenges as opportunities to learn; and discuss job demands openly by asking for and providing social support (Tikkanen et. al., 2022). In the context of the complex and interwoven demands of the teaching profession, these supports seem woefully inadequate to meet the challenges of an individual who is drowning in the day-to-day pressures of teaching. Teaching is one of those professions that can become all-consuming through compassion fatigue; serving as educator, caregiver, nurse, psychologist, and counsellor for diverse groups of students; and when surrounded by toxic work culture that incentivises cynicism, isolation, and limited boundaries between personal and professional life. The combined impact of these factors may leave some with an inability to access the social resources the research identifies as a such a powerful protective strategy.

4. Early-Teacher Attrition

The most concerning component of burnout is its propensity for targeting the educators most new to the profession. Internationally, nearly 30 to 50 percent of new teachers change their

profession during their first 5 years due to work-related exhaustion (Lanas, 2017). “Teachers’ quality and abilities are the most significant school-based factors contributing to student achievement and educational improvement” (Kutsyuruba, Godden, & Tregunna, 2014, p. 1). Alarming, the most talented beginning teachers are among the most at risk to leave. The majority of teachers choose to leave the profession within the first two to five years, and many in the very first year. The first five years of a teacher’s career, following initial teacher training, is crucial to teachers’ decisions to remain in the profession. A certain level of attrition is necessary and healthy for every profession, but early career loss of teachers is neither desirable nor sustainable due to the high cost placed on schools to support these teachers, the financial and educational resources utilized in educating them, and the detriment it has for student learning (Kutsyuruba, Godden, & Tregunna, 2014). The complexities of teaching require multifaceted professional competence that also results in great stress from the demands of the job. Early-career teachers tend to work in more challenging schools; feel overwhelmed by the complex, intense, and unpredictable nature of the work; and lack the teacher buoyancy, a teacher’s capacity to deal with everyday challenges in teaching, needed to meet these challenges (Tang et. al., 2023).

Across international contexts, there is an inconsistent and largely lacking statistical landscape concerning early teacher attrition rates and their relation to teacher burnout. Lessons learned in some jurisdictions and countries are largely unavailable to others experiencing similar teacher attrition (Kutsyuruba, Godden, & Tregunna, 2014). “Teaching has long been seen as an occupation that ‘eats its young’ and in which the beginning of a new teacher’s journey is similar to ‘make or break’” (Kutsyuruba, Godden, & Tregunna, 2014, p. 3). Teachers at the beginning of their career are confronted by the steepest learning curve, and due to their lack of experience, undeveloped connections and social support network, and relative naivety and ignorance of teaching pressures and the ebbs and flows of stresses throughout the year, are particularly susceptible to burnout and emotional exhaustion (Kutsyuruba, Godden, & Tregunna, 2014). New teachers face many challenges including: isolation, reality shock, inadequate resources and support, lack of time for planning and interaction with colleagues, difficult work assignments, unclear or inadequate expectations, intergenerational gaps, and a lack of information or orientation about a school system (Kutsyuruba, Godden, & Tregunna, 2014). “Teachers who do not feel effective or do not receive adequate support in the first years leave school and abandon teaching in favour of other professions” (Kutsyuruba, Godden, & Tregunna, 2014, p. 4). The intense learning curve and the complex emotional demands of early-career attrition are not exclusive to the teaching profession, but because

of the widespread importance of education as a societal institution and being one of the most common and arguably important occupations in society, it creates a pertinent issue to be addressed.

Many education systems have made efforts to address teacher attrition through teacher induction and mentorship programs. High quality mentoring can enhance teacher effectiveness, provide higher job satisfaction, increase commitment, improve class instruction and student achievement, and promote early-career retention (Kutsyuruba, Godden, & Tregunna, 2014). Most importantly, it is essential that there is a congruent match between mentor and mentee. Induction programs can also help new teachers hone their classroom management skills and develop effective pedagogy. However, there is an immense spectrum in the quality of these programs. Administration also plays many roles through schoolwide leadership, builder of school culture, promoting professional relationships between novice and experienced teachers, and in giving opportunities for teachers to share their values and vision (Kutsyuruba, Godden, & Tregunna, 2014). Tension exists between the principal's dual-role as both cultivator of growth-oriented professional development, but also as teacher evaluators. The sporadic and inconsistent approach to the support of new and beginning teachers is still concerning in many geographic contexts (Kutsyuruba, Godden, & Tregunna, 2014).

5. Teacher Burnout & Early-Teacher Attrition in the Finnish Context

Finland presents a fascinating context in which to analyze the impacts and reasons behind early-teacher attrition. On the international stage, teacher attrition usually stems from a combination of heavy workloads, low salaries, challenging students, low social status of the profession, and increasing top-down pressure from accountability measures such as standardized testing and teaching evaluations (Lanas, 2017). First-year teachers undergo a series of phases from eager anticipation, to shock at the realities of teaching, to a survival period ending in disillusionment, doubt, and reflection (Lanas, 2017). The moment that determines whether new teachers succumb to this disillusionment and descend into burnout is in whether the emotional and technical stresses of the job can be overcome in a productive manner or whether the magnitude of the stress proves too much. Many teachers report that the emotional labour of staff relationships, relationships with students, and relationships with parents as much more difficult than the technical aspects of the job (Lanas, 2017).

Teacher attrition, in the Finnish context, is seen “as a challenge of identity making and identity shifting” (Lanas, 2017, p. 68). Finland is missing exact figures, but it is estimated that 10 to 20 percent of graduating teachers choose other professional fields (Lanas, 2017). One third of teachers experience high levels of work-related stress (Tikkanen et. al., 2022). Finland is very different from other international contexts in that the social status of their teachers is unusually high, both in a domestic sense and internationally (Lanas, 2017). No control mechanisms exist to evaluate teachers, nor is there standardized testing, overly prescriptive and detailed national curriculum, or officially required teaching materials (Lanas, 2017). The education system has been decentralized since the 1970s, with teachers expected to make the majority of decisions since they are considered the experts in the local context (Lanas, 2017). Teaching programs are regularly suggested as comparable to medical programs in terms of importance and given the same societal status. “Upon entering the program, students commonly describe the feeling as the equivalent of having the winning lottery ticket” (Lanas, 2017, p. 69). None of the organizational and systemic factors most associated with teacher burnout and teacher attrition seem to exist and yet the rates are nearly as high as other countries.

The most fascinating and curious factor in Finnish teacher attrition is undoubtedly the role of teacher identity. The role of teacher is both culturally and individually created as well as closely intertwined with the development of self. This identity is in a never-ending and dynamic process of becoming that is both individually defined and socially legitimated. People learn to read their surroundings for the implicit rules that can be said, felt, and thought (Lanas, 2017). Teaching, itself, is a performative discourse between the explicit rules that are said and the implicit rules left implied (Lanas, 2017). Everyday school practices uphold implicit structures and norms that can be damaging if incongruent with the ideals of the individual (Lanas, 2017). Interwoven into this discourse, especially within the Finnish context, is a reluctance to burden others with the stresses and pressures of self.

There is a saying in Finnish culture that teachers are a “candle for the people”. The saying suggests that teachers symbolize a form of enlightenment related to their role as leaders and champions of the country’s future. Although this cultural association is a positive one, it also comes at the cost of the responsibilities and pressures of being held to such a standard. This seems to

suggest that due to their high societal reputation, teachers can also be constricted to implicit normative boundaries produced by the social encounters they have within the constructs of their cultural discourse (Lanas, 2017). This normative image marks the habits, behaviour, and decisions of Finnish teachers and vastly impacts their own self-perception of their appropriateness as educators (Lanas, 2017).

Failure is never mentioned in the context of externally set standards, but in terms of their own commitment and dedication. Due to the societal pressures placed on Finnish teachers through their professional training and day-to-day interactions, “they see exhaustion as indicative of their own failure, unsuitability, or lack of requisite characteristics” (Lanas, 2017, p. 75). Their normative image of teachers as faultless and inexhaustible candles creates a pervasive need to feel that their heart, body, and mind are filled by teaching. Their love for their students and for education should be enough to sustain them and any feelings of weakness, uncertainty, or stress are seen as the predatory claws of an even greater fear; that they themselves are not enough. They are not controlled externally to be workaholics, but internally, seeing a need to slow down or reduce stress as not a symptom of a set of circumstances beyond their ability to cope, but a problem within themselves. Attrition for Finnish teachers becomes not an event, but an ever-present possibility that teachers must negotiate with (Lanas, 2017).

On one hand, this excessive personal scrutiny and self-evaluation could be interpreted as the highest form of intrinsic motivation. Teachers hold themselves to such a high standard, that even within the context of work environments where they demonstrate competence and mastery and derive extreme satisfaction from meaningful work, they may still think themselves unsuitable. Their role as teacher garners a deeper importance than simply as a profession, but as an identity that must be worn. If they find that this identity does not fit, even to the most trivial margin, then it is cast away for fear of tarnishing the identity itself. On the other hand, the darker connotation is one of toxic and unrealistic standards that may mean the Finnish education system has gone too far. Teachers placing themselves on the chopping block for fear of letting down an ideal that has become exponentially exaggerated and contorted alongside Finland’s ascent through the PISA international rankings and their own domestic infatuation with education. The identity of teacher becomes less of a motivating ideal and transitions to a mutated paragon falsely intimidating educators before they even begin.

Conclusion

An exploration of the central pillars of the Finnish education system gives a unique context to investigate the topic of teacher burnout with particular attention on the concerning trend of early-teacher attrition. Finland's education system holds many of the values and systemic structures that limit the risk factors associated with teacher burnout but also opens up unique cultural boundaries and discourses surrounding normative teacher identities. The pressures on Finnish teachers to perform at the highest level create both an environment in which teachers are given ultimate autonomy and trust, but at the cost of damaging self-narratives that see weakness as a sign of the incongruency between their own vision of themselves as educators and the culturally defined ideal that constantly follows them.

The cost this narrative creates is a disparity between their professional reality and their internal ideals which causes many teachers to hold unrealistic and unachievable standards for their own teaching practice. Compared to the circumstances of other countries worldwide, such as Canada, Finland presents a radically different conclusion concerning teacher burnout, one where common stressors like top-down pressures for standardized testing, low salary, and undervalued social status are largely absent. It is in the absence of these factors that teaching takes on another toxic connotation that interweaves itself into the actualized identity they have been able to reach. These "candles for the people" burn brightly as champions for education, giving off their light to all those around them, but often fight an internal battle with their own identity as educators. When their light is unable to shine as bright as their ideals, they risk snuffing it out altogether.

References

- Andere, E. (2020). *The future of schools and teacher education: How far ahead is Finland?* Oxford University Press. <https://doi.org/10.1093/oso/9780190938123.001.0001>
- Chung, J. (2023). Research-informed teacher education, teacher autonomy and teacher agency: the example of Finland. *London Review of Education*, 21. <https://doi.org/10.14324/LRE.21.1.13>
- Collie, R., Shapka, J., Perry, N., & Martin, A. (2015). Teacher well-being: Exploring its components and a practice-oriented scale. *Journal of Psychoeducational Assessment*, 33(8). <https://doi.org/10.1177/0734282915587990>
- Duda, R. (2014). *Job satisfaction research*. 80,000 Hours. <https://80000hours.org/articles/job-satisfaction-research/>
- Fakhoury, H. (2022). Pillars of Finland remarkable education system: Is this model transferrable? *College Student Journal*, 56(2), 172-179.
- Government of Canada (2023). *British Columbia sector profile: Educational services*. Job Bank. <https://www.jobbank.gc.ca/trend-analysis/job-market-reports/british-columbia/sectoral-profile-education?wbdisable=true>
- Kutsyuruba, B., Godden, L., & Tregunna, L. (2014). Curbing early-career teacher attrition: A Pan-Canadian document analysis of teacher induction and mentorship programs. *Canadian Journal of Educational Administration and Policy*, (161). <https://files.eric.ed.gov/fulltext/EJ1035357.pdf>
- Lanas, M. (2017). Giving up the lottery ticket: Finnish beginning teacher turnover as a question of discursive boundaries. *Teaching and Teacher Education*, 68, 68-76. <https://doi.org/10.1016/j.tate.2017.08.011>
- Laurie, R. & Larson, E. (2020). *How does teacher stress and burnout impact student achievement?* EdCan Network. <https://www.edcan.ca/articles/teacher-stress-and-student-achievement/>
- Malinen, O. & Savolainen, H. (2016). The effect of perceived school climate and teaching efficacy in behavior management on job satisfaction and burnout: A longitudinal study. *Teaching and Teacher Education*, 60, 144-152. <https://doi.org/10.1016/j.tate.2016.08.012>
- Mijakoski, D., Cheptea, D., Marca, S., Shoman, Y., Caglayan, C., Bugge, M., Gnesi, M., Godderis, L., Kiran, S., McElvenny, D., Mediouni, Z., Mesot, O., Minov, J., Nena, E., Otelea, M., Pranjic, N., Mehlum, I., van der Molen, H., Canu, I. (2022). Determinants of burnout among teachers: A systematic review of longitudinal studies. *International Journal of Environmental Research and Public Health*, 19(9), 57-76. <https://doi.org/10.3390%2Fijerph19095776>
- Tang, S., Lo, E., Yeh, F., & Cheng, M. (2023). Early career teachers thriving in the everyday challenges of teaching: understanding the relationship between professional competence and teacher buoyancy. *Journal of Professional Capital and Community*, 8(1), 30-46. <https://doi.org/10.1108/JPCC-05-2022-0029>
- Tikkanen, L., Haverinen, K., Pyhalto, K., Pietarinen, J., & Soini, T. (2022). Differences in teacher burnout between schools: Exploring the effect of proactive strategies on burnout trajectories. *Frontiers in Education*, 7, 858-896. <https://doi.org/10.3389/feduc.2022.858896>
- Vyas, A. (2013). *Teacher preparation: A comparison between British Columbia and Finland*. CBC News. https://www.taxpayer.com/media/Vyas_report.pdf
- Wright, J. (2023). *The burnout is real: Why we can't afford to ignore teacher wellbeing*. EdCan Network.

Mantle: *The Annual Review of Interdisciplinary Research*

Vol. 2, No. 1 (2024) Pp. 46-55

DOI: 10.14288/mantle.v2i1.200526

Transdisciplinary Creative Practices

Cedric van Eeno

ABSTRACT: This study explores the dynamic relationship between multidisciplinary, interdisciplinary, and transdisciplinarity, describing how these approaches can enhance creative practices. In an increasingly interconnected environment, and rapidly evolving global landscape, the intersection of disciplines has become a vital space for fostering innovation and driving meaningful change. By blending expertise from diverse fields—from literature, poetry, visual arts, design, and social studies to new media—professionals look to generate innovative solutions to contemporary issues. New media and transmedia are addressed as a catalyst for creative expression and industry transformation for their ability to break traditional boundaries. Addressing collaborative practices, and supported by case studies taken from different disciplines, this paper focuses on a conceptual approach to creative activity in which a diversity of methodologies and an emphasis on individuals can ignite new ways of thinking, communicating, and creating.

KEYWORDS: *Multidisciplinarity; Interdisciplinarity; Transdisciplinarity; Arts; Creativity; Communications.*

Introduction

With the development of technology and facilitated access to a variety of media, methodologies in different academic fields have evolved in the past decades. Practitioners can now leverage diverse disciplinary knowledge and innovative tools. Recent studies point out that specialization in academia has reinforced existing structures, and in doing so, hindered the implementation of change (Misiewicz, 2016). On the other hand, multidisciplinary approaches support the merging of different types of expertise (Zuo & Zhao, 2018) and positively influence productivity (Stvilia et. al., 2010). Besides, projects involving multiple disciplines are often associated with teamwork (Choi & Pak, 2007), and collaboration in research is prone to improve the quality of the outcome (Bu et. al., 2018). In creative disciplines, it is not uncommon to include more than one medium, skill, knowledge, and technique. Embracing new technologies, such as digital art, virtual reality, and artificial intelligence can expand creative possibilities. But the process does not end with practice, it also involves theoretical tools, thinking methodologies, and conceptual reasoning about creative projects. Terms addressing disciplinarity can often be used interchangeably, leading to misunderstandings about their distinct natures and the practices that are linked to them (Zuo & Zhao, 2018). Supported by the work of artists Mariko Mori, Wang Ruobing, Trinh T. Minh-Ha, Lambi Chibambo, D.R. Echeverri Giraldo, and referencing studies by Anita W.P. Pak with Bernard C.K. Choi, Janina Misiewicz, Melanie Schiller, Alexander Jensenius, as well as Howard E. Gardner, this paper discusses how multidisciplinary, interdisciplinarity, and transdisciplinarity function independently, relate to each other, and participate in transforming the contemporary landscape of arts and communications, with the different implications that result from the process.

Multidisciplinarity

Trying to defining the term multidisciplinary can be misleading because it is understood differently depending on the settings and circumstances; it can be recognized as “combining or involving more than one discipline or field of study” (Merriam-Webster, n.d.), “of or relating to several subjects” (Collins, n.d.), or “of, relating to, or making use of several disciplines at once” (American Heritage Dictionary, n.d.). The latter points to the concurrent utilization of separate

disciplines. In the arts and humanities, this approach can be in fact a succession of different methods and media, to obtain a final product. The selection of instruments, techniques, and processes is left to the creator's judgment in consideration of the appropriate methods to reach the objective. This aspect emphasizes the importance of decision making: the creative individual assesses the elements necessary in view of the message to be conveyed. As a result, the choice is already part of the creative process. It is also informed by pre-existing knowledge, environment, as well as artistic, cultural, philosophical, and ethical factors. Artificial intelligence, for instance, can be a complex option to choose without careful evaluation of the consequences, and the type of instruments employed. This aspect highlights crucial characteristics of multidisciplinary practices.

Norwegian researcher and musician Jensenius defines multidisciplinary as “people from different disciplines working together, each drawing on their disciplinary knowledge”, as opposed to the term intradisciplinary, designated as “working within a single discipline” (Jensenius, 2012, para. 3). The difference appears to be collaboration. However, design, by nature, is multidisciplinary, working with text and image as fundamental constituents of communication. But it can be the work of one person. Projects can also include kinetic typography—animated text, audio-visual media, mixed media painting, or augmented reality. The intersectional element of multimedia practice emerges as the utilization of various media, tools, techniques, ways of thinking, and methodologies to create.

For instance, multidisciplinary is central to Japanese artist Mariko Mori's work, which blends photography, video, and performance to tackle issues related to contemporary society, mythology, philosophy, technology, and the place of women (Mori, 1994). Mori's art installations include new media and digital images, sometimes including herself performing in costumes, blending together a variety of media in a futuristic visual identity, without limiting her creativity to one specific mode of expression. Multidisciplinary art practices emerged in the 1960s; they developed in the early 1980s when new media became more accessible and are constantly transforming as technology evolves.

Interdisciplinarity

If multidisciplinary is challenging to comprehend, the term interdisciplinarity can appear even more ambiguous. Its definition ranges from “combining or involving two or more academic

disciplines or fields of study” (Dictionary, n.d.), to “involving different areas of knowledge or study” (Oxford Dictionary, n.d.). The essential component of interdisciplinarity lies within the approach to making: the prefix *inter* suggests navigating between different practices and establishing connections between them. This particular characteristic further defines the formula to expand from using several disciplines to combining and merging different processes into a comprehensive mechanism for creation and communication.

As an extension, interdisciplinarity has been described as “integrating knowledge and methods from different disciplines, using a real synthesis of approaches” (Jensenius, 2012, para. 3). The key ingredient materializes with the concept of synthesizing methods and practices from different areas. In fact, interdisciplinarity is inherently connected to the notion of synthesis because it involves bringing together knowledge and methods from multiple disciplines to create a new understanding of a situation, and generate solutions, or provide fresh perspectives. It operates with the integration of diverse frames of references to offer complementary insights: different fields offer distinct views on an issue. By combining different approaches, a more comprehensive understanding can emerge. Additionally, comparing and contrasting different viewpoints can highlight inconsistencies and reveal deeper truths, identifying overlaps and contradictions. Interdisciplinary projects can lead to the development of novel theoretical frameworks that transcend traditional disciplinary boundaries to reach a broader context. By drawing on diverse tools and techniques, creative solutions can be found to complex problems. It also encourages to consider the interconnectedness of separate elements that can seem unrelated or divergent, and can uncover multiple angles, to better understand historical, cultural, and social contexts. All these facets lead to the creation of new knowledge and improved creativity.

Artists such as Singaporean Wang Ruobing tap into these connections to generate interdisciplinary pieces, using a variety of mediums, including sculpture, installation, and kinetic art, to address questions of sustainability, and collaborating with scientific research centers (Wang Ruobing, 2022–2023). Her interdisciplinary practice also allows her to venture into curatorial endeavors, dealing with transcultural discourses (*Sites & Nature: A Collection of Remembering*, 2023).

In essence, interdisciplinarity is a composite process that involves breaking down disciplinary

silos, building bridges between different fields, and generating innovative and valuable creative outcomes. The differences between multidisciplinary and interdisciplinarity can better highlight the potential benefits of collaborative, integrative approaches to complex questions. Both multidisciplinary and interdisciplinarity involve drawing on knowledge from multiple fields to address questions. However, they differ in their approach, level of integration, and the manner in which the practitioner uses different methodologies: with interdisciplinarity, the connections between practices are central to the process, disintegrating disciplinary boundaries.

Transdisciplinarity

The word transdisciplinarity is not included in a number of dictionaries, online and otherwise. Its meaning remains elusive, even to some researchers, scholars and art practitioners. Jensenius describes it as “creating a unity of intellectual frameworks beyond the disciplinary perspectives” (2012, para. 3). While interdisciplinarity focuses on ways to synthesize different fields of study, transdisciplinarity fuels creativity by encouraging diverse perspectives and ways of reasoning. It is first and foremost in conceptual thinking that the connections between methodologies are established. The strength of interdisciplinarity lies in the reflective aspect of the pre-production process. It requires the creation of new conceptual frameworks or models. In this configuration, conceptual thinking helps integrate diverse perspectives into coherent and new approaches, blurring the lines between different disciplines because they are not yet tangible: they start as theories, ideas, or visions. This initial stage enables the project to form without the ordinary confines of disciplines, systems, and techniques. For instance, concepts from social studies, ethics, biology, and philosophy may come together to shape new creative ventures, free from conventional specifications defined by context and outcome, away from the expected.

Within interdisciplinarity, two aspects are particularly intertwined: theory and practice. A dominant characteristic of the method is the combination of theoretical, instrumental, and methodological aspects of the different disciplinary fields (Nowotny et. al., 2016). Transdisciplinarity creates a holistic approach by constantly crossing disciplinary boundaries and by encouraging the blending of theories, methods, and concepts from multiple areas, practices, and types of knowledge. To do this effectively, individuals think conceptually—seeing beyond the constraints of specific academic or professional fields. Conceptual thinking allows one to abstract

and generalize ideas, making it possible to transfer knowledge from one field to another, without the restraints of the discipline that can restrain the development of the project.

As an illustration, Vietnamese scholar Trinh T. Minh-Ha explores filmmaking, photography, writing, and art installation to approach postcolonial issues in a broad, yet pertinent manner (Minh-Ha, 2024). In addition to being unique, this *modus operandi* becomes more relevant to complex topics in a global context. Her practice reveals a truly transdisciplinary way of thinking about her subjects, combined with a practical approach to art making that does not limit itself to the medium or frame of mind to produce documentary works.

Exposure to different disciplines expands mental toolboxes, allowing one to draw from a wider range of ideas and techniques, without constraints. This cross-pollination of ideas can lead to groundbreaking discoveries, artistic breakthroughs, and innovative problem-solving strategies. Transdisciplinarity frequently implies collaboration. When partnerships between experts from different backgrounds and creative thinking within distinct fields of study merge, dynamic interactions materialize, bringing new insights to harmonize and strengthen. This synergy can be observed because the solutions that surface are holistic, comprehensive, and remain coherent. Interdisciplinary creativity implies the use of different media and ways of reasoning, which can be approached in an arborescent configuration: they are not organized in a linear fashion, but branch into new ideas that are interconnected, and respond to each other in a rhizome layout, with schemes expanding from previously generated notions (Deleuze & Guattari, 1987, p. 3). As a consequence, the method of thinking influences the method of making, and the other way around is true as well. In creative discipline, the two facets often operate in tandem, one enriching the other, as in a dialogue between different systems in a flexible and organic structure. As a representation of this approach, Malawian artist Lambi Chibambo creates digital images illustrating her exploration of identity, constructing a web of references and symbols, linked by a visual narrative that borrows from daily life interlaced with African spirituality (African Digital Art, 2024).

The interrelation between the separate components of the work can also be found in storytelling. With interdisciplinary art or design pieces, this configuration resonates in transmedia, where a broad range of means of communication work together to compose a consistent story world, enriched by a variety of media (Schiller, 2018, p. 97). The story starts on one platform and

continues on a different, changing contexts, but developing with coherence. This is the case of Colombian scholar Echeverri Giraldo's multimedia project, *Letters to José*, which explores interactive digital and narratives (2021). The work involves audio, illustrations, and text in a playful installation that adapts to the audience's interaction with the story.

Even though transdisciplinary is rooted in conceptual thinking, it remains focused on real-world questions, and their implications in the system and practice. The methodology relies primarily on people: their background, mindset, expertise, experience, and unique profile. Because of this particular aspect, transdisciplinary arrangements require a great deal of concentration on the individual: it implies the acknowledgment, recognition, support, and appreciation of personalities. For a transdisciplinary project, a combination of qualities needs to be taken into account, including knowledge, skills, and proficiency. But other characteristics can weigh in the balance. Expertise can in fact be connected to different types of sensitivity, and ways of reasoning. According to American developmental psychologist Gardner, there are eight different types of intelligence, with different aspects: "visual-spatial; linguistic-verbal; logical-mathematical; body-kinesthetic; musical; interpersonal; intrapersonal; and naturalistic." (2011, p. 77, 105, 135, 179, 217, 251). These traits can be recognized as integrants of expertise that will influence the performance in a transdisciplinary project—collaborative or otherwise.

Consequently, the appreciation and valuing of personalities becomes crucial. It determines the engagement, efficacy and efficiency of the project conceptualization, as well as the execution of the work. When discussing expertise, the notion of trust becomes relevant, with the implications it can have on the outcomes. In this regard, research supported by the Canadian Institute for Advanced Research with the support from the Korea Development Institute reveals that trusting environments increase resilience to adversity (Helliwell et. al., 2016).

In addition, with the rise of generative artificial intelligence, transdisciplinarity also ensures that practitioners think carefully about what they design, construct, and produce in a broader framework. At the heart of this practice sits the core function of ethical thinking: anticipation. As a result, transdisciplinarity and ethics are closely intertwined. If expertise is a critical ingredient of the efficiency of transdisciplinary projects, and collaboration is frequently involved, it implies that the focus must be placed on individuals. Therefore, the sincerity, reliability, and trustworthiness of these

individuals is of the essence. This is why the concept of ethics emerges as a key aspect to take into consideration.

Ethics is a trendy term that can be misinterpreted, but remains essential to creation, education, and communication. It requires a careful examination. The notion can include integrity; honesty; fairness; objectivity; carefulness; accountability. It can also involve questions relating to sustainability, human rights, and social justice. These features can strengthen a project and its end product. The nature of transdisciplinarity facilitates the integration of these concepts in the development of the work, for a more just, accurate, and pertinent outcome.

Conclusion

Multidisciplinarity, interdisciplinarity, and transdisciplinarity, are related aspects of an emerging movement of creative activity. Multidisciplinarity provides a broad spectrum of tools and methods for creators but can remain segmented in its approach. Interdisciplinarity takes this aspect further by merging disciplinary boundaries, synthesizing diverse knowledge to address complex challenges and generate innovative solutions. Transdisciplinarity, meanwhile, represents a different level of integration, where creative and conceptual thinking transcends traditional fields to produce holistic and novel frameworks that respond directly to real-world issues. Each of these approaches emphasizes the importance of collaboration, but it is in the conceptual and ethical dimensions that the most profound potential lies for reshaping creative practices in the contemporary landscape. By embracing flexibility, conceptual thinking, ethical behavior, creative practitioners can push the boundaries of their fields, but also contribute meaningfully to addressing societal challenges, ensuring that creative endeavors are both innovative and ethically grounded.

References

- African Digital Art. (2024, May 1). *Lambi Chibambo Malawi Digital Artist*.
<https://www.africandigitalart.com/lambi-chibambo-malawian-digital-artist>.
- American Heritage Dictionary. (n.d.). Multidisciplinary. In *American Heritage Dictionary*. Retrieved November 13, 2024, from
<https://www.ahdictionary.com/word/search.html?q=multidisciplinary>.
- Bu, Y., Ding, Y., Xu, J., Liang, X., Gao, G., & Zhao, Y. (2018). Understanding Success Through the Diversity of Collaborators and The Milestone of Career. *Journal of the Association for Information Science and Technology*, 69(1), 87-97.
- Center for Contemporary Art, Singapore. (2022–2023). *Wang Ruobing*.
<https://ntu.ccasingapore.org/residency/wang-ruobing>.
- Choi, B. C., & Pak, A. W. (2007). Multidisciplinarity, Interdisciplinarity, and Transdisciplinarity in Health Research, Services, Education and Policy: Promoters, Barriers, and Strategies of Enhancement. *Clinical and Investigative Medicine*, 30(6), E224-E232.
- Collins Dictionary. (n.d.). Multidisciplinary. In *Collins Dictionary*. Retrieved November 13, 2024, from
<https://www.collinsdictionary.com/dictionary/english/multidisciplinary>.
- Dictionary. (n.d.). Interdisciplinary. In *Dictionary.com*. Retrieved November 13, 2024, from
<https://www.dictionary.com/browse/interdisciplinary>.
- Echeverri Giraldo, D. R. (2021). *Experiencing Stories Through Artifacts: An Authoring Model for Tangible Narratives* (Doctoral Dissertation).
- Gardner, H. E. (2011). *Frames of Mind: The Theory of Multiple Intelligences*. Basic Books.
- Helliwell, J. F., Huang, H., & Wang, S. (2016). *New Evidence on Trust and Well-Being* (No. w22450). National Bureau of Economic Research.
- Jensenius, A. R. (March 12, 2012). ARJ. *Disciplinarity: Intra, Cross, Multi, Inter, Trans*. (2012).
<https://www.arj.no/2012/03/12/disciplinarity-2>.
- Merriam-Webster. (n.d.). Multidisciplinary. In *Merriam-Webster.com Dictionary*. Retrieved November 13, 2024, from <https://www.merriam-webster.com/dictionary/multidisciplinary>.
- Misiewicz, J. "The Benefits and Challenges of Interdisciplinarity." *Interdisciplinary Studies: A Connected Learning Approach* (2016).
- Mori, M. (1994). *Tea Ceremony* [Photography]. Mori Museum, Tokyo, Japan.
<https://www.mori.art.museum/en/collection/2564/index.html>.
- Nowotny, H., McBee, D., Leahey, E., Downey, G. J., Feinstein, N. W., Kleinman, D. L., ... & Cassidy, A. (2016). *Investigating Interdisciplinary Collaboration: Theory and Practice Across Disciplines*. Rutgers University Press.
- Nanyang University Museum, Singapore. (2023). *Sites & Nature: A Collection of Remembering*.
<https://ebook.ntu.edu.sg/sites-and-nature>.
- Minh-Ha, T. T. (2024). *Reassemblage* [Film]. Contemporary Art Gallery, Vancouver, BC, Canada.
<https://cagvancouver.org/exhibition/trinh-t-minh-ha-reassemblage>.
- Oxford Dictionary. (n.d.). Interdisciplinary. In *Oxford Dictionary*. Retrieved November 13, 2024, from
<https://www.oxfordlearnersdictionaries.com/definition/english/interdisciplinary?q=interdisciplinary>.

- Schiller, M. (2018). Transmedia Storytelling. *Stories. Screen Narrative in the Digital Age*, 97-108.
- Stvilia, B., Worrall, A., Kazmer, M. M., Hinnant, C. C., Burnett, G., Schindler, K., ... & Marty, P. F. (2010). Composition of Scientific Teams and Publication Productivity. *Proceedings of the American Society for Information Science and Technology*, 47(1), 1-2.
- Zuo, Z., & Zhao, K. (2018). The More Multidisciplinary The Better? The Prevalence and Interdisciplinarity of Research Collaborations in Multidisciplinary Institutions. *Journal of Informetrics*, 12(3), 736-756.



Mantle: The Annual Review of Interdisciplinary Research

Vol. 2, No. 1 (March 2025) Pp. 56-76

DOI: 10.14288/mantle.v2i1.200527

‘Cyclo’ Neologisms: Encouraging Active Mobility Culture

Hannah Calder⁴ and Markus Heinrichs⁵

ABSTRACT: Neologisms reflect and reinforce the values and perspectives of the cultures that create them. Active mobility culture has developed its own lexicon to facilitate thematic communication, including the term “cyclogeography”, the sensory experience of encountering the natural and anthropogenic worlds while riding a bicycle. We examine this particular neologism and extrapolate the application of the ‘cyclo-’ prefix to several neologisms, i.e. cyclopolitic, cycloidentity, cyclosensuality, etc. We discuss some possible meanings and suggest implications of these new words within an active mobility culture. Ultimately, we propose that defining, validating, and encouraging adoption of these ‘cyclo-’ words has a positive impact in communicating and reinforcing facets of a sustainable active mobility culture.

KEYWORDS: Cycling; Cyclogeography; Linguistics; Ethnography; Cultural studies; Political communication; Education.

⁴ Hannah Calder is a UK-born writer and professor who lives on unceded Syilx Okanagan territory in Vernon, B.C. She earned her MA in English Literature in 2004 from Simon Fraser University. She is the author of three novels, *More House* (2009), *Piranesi's Figures* (2016), and *Hester in Sunlight* (2024), all published with New Star Books in Vancouver. Currently, Hannah teaches English and Creative Writing at Okanagan College. Email: hcalder@okanagan.bc.ca

⁵ Dr. Markus Heinrichs is a past recipient of an Alexander von Humboldt Fellowship and currently professes environmental science and physical geography at Okanagan College in Kelowna, Canada. He is an avid mountain, trail, and road cyclist. Email: mheinrichs@okanagan.bc.ca

Introduction

Day (2015) employs the neologism “cyclogeography,” synonymous with vélomobility, to describe his experience of being in a landscape when riding a bicycle, in this case, to document his interactions with the maze of routes in London, England as a bike courier. He also uses “psychogeography” to emphasize the link between the physical experience of riding a bicycle and the psychological experience of existing within a landscape. Similarly, van Hulst (2017) uses “cyclogeography” to describe the feeling of cycling the intangible border between Ireland and Northern Ireland. He concludes that cyclogeography is “...understanding the world through the perspective of the bicycle” (p. 79). This neologism allows us to understand *how* Day and van Hulst experienced cycling within specific environments. de San Eugenio-Vela (2014) states that the special connection that occurs between a landscape and an individual requires an appropriate language and with it, a new lexicon. Spinney (2019) recognizes that the bicycle as a technology has already spawned many new words (p. 14). To take this a step further, is there a role for using *deliberately created* neologisms, using a pattern language approach (te Brömmelstroet et. al. 2018), to encourage active mobility culture? We propose that neologisms are underutilized and in the spirit of Day and van Hulst, suggest that many words invite the prefix ‘cyclo-.’

1.1. Language and neologism

Neology, the coining of new words to address a particular subject, allows languages to keep current with changes in culture. Neologisms are especially important with new technologies such as the internet (Liu & Liu, 2014). Examples of neologisms in the tourism industry are the terms ‘staycation’ and ‘daycation’, which reflect contemporary vacation practices (Frank, 2014). Neologisms – in any culture – stem from us *and* influence us. As Berger and Luckman (1966) put it, “The words we use help to fashion our identity; our values, norms and predispositions are embedded in our vocabulary” (as cited in Becker, 2015).

Neologisms can clarify or refine concepts that the current language misses yet may also be controversial; some consider them unnecessary and confusing for non-native language speakers (Belina, 2005); others suggest that neologisms can be “reductionist” and “nominalist” (Chaouachi, 2007). Typically, new words tend to arouse suspicion: in the 1970s, R. Murray Schafer’s creation of

the term ‘soundscape’ was mocked as a nonsensical, trivial spinoff of the term ‘landscape’ (Schafer, 1977). However, since then, several other ‘scapes’ have been made to describe broadly occurring phenomena, including moonscape, dreamscape, streetscape, xeriscape, and “traumascape” (Tumarkin, 2005). Larsen (2014) and van Duppen and Spierings (2013) use sensescape to describe the embodiment of experiencing the landscape on a bicycle, perhaps as an approximation of cyclogeography. These ‘-scape’ terms reflect new ideas /concepts that might otherwise go unrecognized, and thus are a sign of evolution, or more specifically, innovation within language. Innovative language prompts innovative thinking. When we hear, read, or use a word such as ‘xeriscape,’ we most likely start imagining changes we can make with irrigation practices and plant choices within a landscaped space.

1.2. Neologisms as agents of change

In his introduction to *New Words*, Hargraves (2004, p. ix) reports that “...changes and innovations in human activities is one of the main engines of neology.” But might neology itself be a driving force behind “changes and innovations”? New words reflect current concerns and trends within culture; they also help to invigorate and disseminate those concerns and trends using appropriate language. Use of a word such as “cyclogeography” reflects *and* contributes to a deeper “concern with the environment and our impact upon it” (Hargraves, 2004, p. ix). While Cox (2019, p. 147) argues that where cycling is already normalized, there is little use for cycling-specific language or terms, in places *without* a robust cycling culture such terms are useful.

Thus, when we encounter a ‘cyclo-’ neologism, might it also prompt us to approach and engage in the social or environmental implications of active mobility culture in new ways? Active mobility culture spans from a greater society to a city to a neighbourhood to an individual (Götschi et. al., 2017). Common across this spectrum is the need/desire to communicate effectively within and about that culture, particularly regarding newly identified concepts (e.g. with pattern language (te Brömmelstroet et. al., 2018)), which in turn requires a subject- or culture-specific vocabulary that may be either spontaneously occurring or a product of deliberate design (Skjaerven et. al., 2019). We began with the word “cyclogeography” and noted that this word, as a neologism, has expanded the language of active mobility culture. To examine whether neologisms can genuinely induce change, here we apply the prefix ‘cyclo-’ to create terms such as cyclopolitic, cycloidentity, cyclosensuality, and cycloart, delving into their meanings and potential implications. Some of these terms are grounded in established concepts, even if they are not yet commonly used, while others are entirely

novel, introduced here to provoke thought, introduce new ideas, and, ultimately, to inspire others to create additional ‘cycloneologisms.’ Ultimately, we propose that by creating these new words, abstract concepts associated with the bicycle can be transformed into tangible realities, influencing cultural, political, and educational spheres. These terms can serve as a linguistic toolkit to articulate and promote cycling and the bicycle.

2. The affix ‘cyclo-’

Cyclo is a combining form that originates from the Greek word for circle (κύκλος). By examining a selection of words from the OED that take this prefix, however, it becomes clear that its meaning expands beyond the word ‘circle.’ It can mean a shape (circle, whorl, round) or a process (cycle, seasonal, cyclic, recurrent). In terms of the bicycle, it reflects the shape of the wheels as well as their movement, the static object (bicycle) as well as the movement of that object (cycling). The prefix ‘cyclo-’, then, encompasses both the mechanical object (bike-culture, bike-economics, bike-geography) and its movement (cycling-culture, cycling-economics, cycling-geography) *sensu* Engstrom (2017).

This prefix, which is both object and process, is inherently expansive. If one were to consider the neologism ‘cycloeconomics’, the word could mean revenue or costs generated *from* and *for* bicycles and cyclists, reflecting economic principals through the impact of bikes *and* bike riding on the economy. Hence the prefix offers a two-fold meaning, just as it does for words unrelated to bikes⁶ by encompassing both shape (object-bike) and process (activity-cycling). Via this prefix, then, we may explore *e.g.* the economic effects of both the object and the activity. Bikes are objects that have a long history of being manufactured (Norcliffe, 2016), bought and sold, stolen and re-sold, while cycling is an activity that can improve human health (via exercise, exposure to the outdoors, reduction in emissions, *etc.*), affect transport spending, and boost community revenue via tourism (Koszowski et. al., 2019). Because the prefix is expansive, it allows for flexibility when transforming subjects such as ‘economics’, ‘geography’, ‘politics’, ‘identity’, ‘sensuality’, or ‘art’, to name just a few.

⁶ “Cyclocentric, a term applied to those *coiled* shells which have a starting-point of the *spiral* at a little distance from the centre, so that the first *whorl* runs around it” vs. “Cyclomorphosis *Biol.* The phenomenon in certain organisms, esp. planktonic animals, of undergoing *recurrent seasonal* changes in form.” OED, our italics

2.1. ‘Cyclo-’ prefix and sustainability

Added to the object and process meanings is the fact that the cycle – as in seasonal cycle, recycling, repurposing – points to environmental sustainability. The prefix ‘cyclo-’ captures the values of an active mobility culture, that is being sustainable, thinking sustainable, planning sustainable, making it no surprise that the bicycle has become a symbol of environmental activism (Horton, 2006). By not contributing to air pollution, by providing exercise for the sedentary office worker or student, by allowing for humans to connect with nature, the bicycle contributes to a whole host of ‘cycles’: predictable seasons, healthy water, proper functioning plant and animal (including human) life cycles. The prefix suggests a favourableness towards circular or eternal perpetual processes, so that when we use a word like ‘cycloculture’ we immediately bring to mind a culture that, through the means of the bicycle, promotes environmentalism via sustainable land-use practises and reduced carbon footprint measures. Therefore, as part of an ecolinguistics perspective (Caimotto, 2023), neologisms with ‘cyclo-’ contain the inherent sustainability message embedded within active mobility culture.

2.2. Cyclopolitic

Bicycles have been a symbol for socio-political causes since as early as 1885 (Pivato 1990). The number of political themes that are somewhat influenced by the bicycle is now vast: crime, poverty, identity, healthcare, and public infrastructure, to name some. As part of any society’s culture, especially that of a mobility culture, bicycle politics are significant and multi-faceted (Cox and Koglin, 2020). Here, we touch lightly on some aspects, recognising that their treatment here is neither comprehensive nor complete.

2.2.1. *Cyclopolitic: Socio-economic implications*

The rise of cycling in modern London reflects a decline in investment into public transportation and the desire of municipalities to bear the costs for public conveniences (Day, 2015). Cycling can symbolize the anti-capitalist (Morhayim, 2018) or pro-environmental attitudes of riders (Horton, 2006). The bicycle is often the transportation of choice for the homeless/transient community (Ferrell, 2006); in British Columbia, VanWynsberghe (2016) reports that the disadvantaged (*i.e.* low-income, developmentally challenged, those with mental health or addiction issues, *etc.*) are recommended to use bicycles in ‘green jobs’ employment and community development schemes. Heesch et. al. (2014) document different attitudes towards cycling depending

upon socio-economic status. The association of bicycles with the disadvantaged in the modern, urban world seems clear: bikes are frequently for those not wealthy enough to have ‘real’ transportation options, whose health is at jeopardy such that they are not eligible to drive, who have been convicted of a driving infraction, etc. Cyclists who display their class and / or political ideology due to their appearance, type of bike, and style of riding can face stigma (Aldred, 2013a). Using a term such as ‘cyclopolitic’, then, leads us (and town planners) to reconsider power imbalances between bike and car users in our communities.

2.2.2. *Cyclopolitic: Liberalizing freedom*

During childhood and adolescence, young people engage in what one might call cyclosocialization, riding as play, riding to meet others, and riding to expand spatial boundaries. Markides (2014) posits that children learn independence when cycling. Evidence points towards childhood cycling as a good predictor of active transport choices as an adult (Yang et. al., 2014). Dietrich (2013) recognized the lack of cycling opportunities and experiences in secondary school students, creating a new course to be taught in schools to give students experiential learning. Integrating ‘cyclo’ vocabulary into elementary and high school curricula may further assist in expanding and reinforcing a community’s active mobility culture.

In the early days of bicycle travel, the bicycle liberated people by providing them with access to greater mobility (Horton, 2006). In the non-western, developing world, the bicycle often forms a part of rural economic life and may represent improved health through better access to medical resources (Gauthier, 2004). Its usage can be used as an indicator of development (Hanlon & Smart, 2008) in developing nations as well as a means to achieve gender equality (Kunieda & Gauthier, 2007).

Today, in tech-driven societies, cycling liberates individuals from the insularity that takes place in front of the computer or phone screen. Via the internet, many citizens tune in to what is happening globally, but the experience of being outside, of connecting with people in the community is often not part of daily life, hence the creation of initiatives such as *Unplug and Play Week* and *Go by Bike Week*. The mild depressive effects of being indoors in front of a screen can be effectively remedied by a bicycle ride. In *More Pricks than Kicks*, Samuel Beckett describes the bicycle as “a treat to ride,” a place where “sadness [falls]... like a shift” (Raab, 2012). Nurturing healthy

citizens – starting in childhood – who are plugged into community and the outdoors through what Horton (2006) describes as “‘re-peopling’ and ‘re-humanising’ the cityscape” (p. 46) means promoting the cyclopolitic. Conversely, cyclists may choose to “plug in” to online cycling apps where they can connect virtually with other cyclists from all parts of the world.

2.2.3. *Cyclopolitic: Bikes as tools of subversion*

Inspired by Taylorism in the early 1900s, employers were encouraged to stamp out “inappropriate and superfluous embodied movements” in their employees and to encourage “efficient movements.... [T]oo much mobility or the wrong type of mobility [was] pejoratively labelled as excessive or transgressive” (Spinney, 2009, p. 822). In contrast to such restrictiveness, bikes offer movement which can often be “inappropriate” (riding on curbs), “superfluous” (circling an empty parking lot), and “excessive” (trail riding). These joys are not lost to the modern cyclist, who, although often a commuter, is still free to meander and cruise, to engage happily in “the wrong type of mobility” (Spinney, 2009, p. 822). Unlike automobile drivers, who are easier to corral and control through licensing, traffic regulations, and fines, cyclists might overlook regulations by riding on sidewalks, against traffic flow, through pedestrian alleys or over grassy areas, as examples. Bouclin (2015) describes how police officers intentionally stop street-involved persons on bicycles for minor infractions. Blickstein (2010) suggests that the New York City Police follow a deliberate practice of deterring cyclists from riding, especially those interested in cycling as protest. Perhaps law enforcement officers deter cyclists (Blickstein, 2010) because, like jaywalking pedestrians, cyclists tend to follow common sense first, regulations second, or as Atherton puts it, they “follow rules that make sense to them” (2018).

2.3. Cycloidentity

Kiernan (2017) in his book *Language, Identity and Cycling in the New Media Age* posits that “...language and identity often signal broad sociocultural concerns associated with education, culture, power and society, typically with implications for language policy, rather than with a sport of leisure interest like cycling” (p. 3). He claims that these identities within the cycling community are complex, diverse, and fluid, presenting as sub-cultures. Here, we discuss a number of these ‘cyclo’-identities.

2.3.1. *Are you a Cyclist? Mountain biker? Roadie? Commuter?*

Kiernan (2017) asks the question “how is it that a leisure interest/professional sport like cycling has become an important focus of human identity for many people?” (p. 8). Indeed, of all leisure activities, why does cycling generate such a visceral response? Is it the ease with which it can be associated with an identity, such as environmentalism (Horton, 2006) or some other cause (Norcliffe, 2016)? Koorey (2007) raises the concern with addressing people that ride bicycles as ‘cyclists’, suggesting it establishes bias. Spinney (2009) and others (Skinner & Rosen, 2007) recognise different “cyclist identit[ies],” *e.g.* women, racers, commuters are long recognized (Norcliffe, 2016; Spinney, 2009; Skinner and Rosen, 2007). Cyclist identity can be critical for the individual rider. Does your bicycle say who you are because of what kind of riding you do?

Aldred (2013b) describes identity as a critical factor with participants in the *Londoners on Bikes* pop-up campaign. Many cyclists didn’t identify with other individuals because of type of bike, riding style, clothing, *etc.*; however, they all identified as residents of London. Tilley and Cameron-Daum (2017) document the association individual mountain bike riders had with one another because of a particular riding style and culture. These groups share a common language and have their own specific lexicon, *e.g.*, a phrase such as ‘rock garden’ for a mountain biker means a path through and over boulders. Spinney (2009) regards cycling cultures as made up of individuals in a group that ride similarly.

The concept of cycloidentities may be at the heart of many disagreements between road users, as Atherton (2018) states in an open letter to the editor:

Some ride as a sport. They wear the tight outfit, ride fast and in groups... If the group takes up space on the road, they are doing so for safety...

Many people you see riding around Kelowna all day are homeless. A bicycle is a very efficient and affordable way to get around. If they cut across the road or ride on the wrong side, it’s because it makes sense to them. Living on the margins of society and trying to survive day-to-day probably puts road rules and etiquette low on their list of priorities...

Most other riders are cycling to school, to work, to get groceries, to visit friends or cruising to the beach. I believe 95 per cent of these cyclists ride slowly, follow rules that make sense to them, and try to communicate politely with other road users...

Cyclists navigate public spaces differently depending on their specific cycloidentities. The term cycloidentity clarifies that cyclists are not all the same and the adoption of this term, or its sub-cultural identities, when discussing conflicts between road users may even help reduce friction.

2.3.2. *Cyclofeminism*

Susan B. Anthony memorably argued that the bicycle “has done more to emancipate women than anything else in the world” (Raab, 2012, p. 24). Mackintosh and Norcliffe (2006) claimed that by the 1890’s, women could “ride without restriction” (p. 34). Simpson (2007) notes that women were racing bicycles as early as the late 19th century. Bicycles may have been a key factor in promoting equality in dress between the genders (Winkworth, 1989). Women also used the bicycle as a form of social presence (Mackintosh & Norcliffe, 2007), which feminist research foregrounds in plentiful accounts of women cyclists (Smith, 2012; Stewart, 2018). In the tradition of using the bicycle to emancipate and empower women (Maciel, 2017), getting more women and girls on bikes is a priority if feminist policy makers are to influence change to current bike infrastructure (Fullagar & Pavlidis, 2012; Ravensbergen et. al., 2019). Adoption of the term cyclofeminism may contribute to reaching this goal, as already demonstrated in a study of women’s rights to their city on bicycle (Maciel, 2017).

Despite its emancipatory effect, the bike is still associated more with men than with women (Shaw et. al., 2020). Depictions of cyclists are often biased towards males (Osborne & Grant-Smith, 2017). Bicycles were marketed deliberately to boys (Turpin, 2018) in the 19th and 20th centuries. In classic 1980’s movies such as *The Goonies* and *E.T.*, boys were the confident, risk-takers on bikes. Film also gave us the newspaper *boy*, who rode up onto sidewalks and over lawns, throwing rolled newspapers at doors, falsely suggesting that confidence and physical dexterity were largely the domain of boys. Through gendering, then, it is no surprise that the aggressiveness and confidence often needed for urban cycling leads to some people buying into “structural stories” that Freudendal-Pedersen (2015) argues tend to malign cycling as dangerous for females or children and appealing to egoists and males.

2.4. Cyclosensuality: Sensuality vs. senses vs. sense

Spinney (2007) distinguishes between the non-place place (*i.e.* the lack of acknowledgement or sensing of a place when travelling by car) and place, where the senses and movement are involved in experiencing and recognising the landscape *in toto*. He goes on to suggest that with a bicycle, a sense of place can be created from a non-place because of the heightened awareness of one's surroundings using more than just visual recognition. It could be said that a geography (a place) is created from nothing because of the kinesthetic experience of the bike. Here, we explore that experience.

2.4.1. *Cyclosensuality: Your body*

The choice of clothing for sport can be significantly influenced by the need to appear in a certain way, rather than simply for comfort (Teyeme et. al., 2021) or safety (de Rome et. al. 2014). Recreational or commuter cycling offers more opportunities to draw attention to the body, specifically with clothing. Ferrero-Regis (2018) describes the Lycra®-clad male rider as a modern-day dandy, while Clark (2015) selects cycling clothing to provide an erotic experience, connecting it with sweat, endorphins, and heavy breathing.

Guttmann (1996, p. 1) states that the attitude in Victorian times towards bicycles was that "...a number of medical experts complained that the craze for the newly invented bicycle was a thinly disguised desire for the illicit pleasures of masturbation. It was charged that the bicycle seat induced 'priapism.'" Garvey (1996) summarizes much of the misogyny associated with women riding bicycles, including the fear of self-gratification. Curiously, Leiblum and Nathan (2001) report just such a phenomenon using a bicycle saddle. Regardless of riders' relationships to their saddles, many cyclists would agree that cycling provides a better quality of life through increased fitness, including a healthy sexual life (Levin, 1993). McCormick Weng (2016) explores the role the 'bisexycle' has in propelling women in society, while Ravensbergen (2022) claims that cycling allows people to be aware of their body fluids, how sweating connects them to their outer world. The term 'cyclosensuality' opens the door to new directions in research between the human body and the process of cycling.

2.4.2. *Cyclosensuality: Smell the roses, hear the birds, see the trees*

Cyclosensuality can also mean using the senses to perceive and enjoy the sounds and smells of the physical environment when riding a bike (*i.e.* sensescape). Adjacent greenspace is a predictor

of bicycle use (Mäki-Opas et. al., 2016) and increased greenspace is correlated with increased health (Maas et. al., 2008). Although poor weather can be a deterrent to cycling, many people choose the bicycle as a mode of transportation *because* they want to be close to the elements, expressing the need to feel the city through the senses rather than be “caged in a metal box” (Freudental-Pedersen, 2015). Others talk about how little we use our bodies during the day, the “stranglehold of nine to five” (Day, 2015, p. 45), or the need to break out of “tightly controlled spaces: cars, cubicles and offices” (p. 53). Bonham and Koth (2010) spoke of the joy in riding past rows of gridlocked cars, the remembrance of first cycling experiences as children, and the ability to squeeze in a much-needed workout. Ultimately, cyclosensuality – experiencing the textures, smells, sounds, and sights of the landscape – is a central tenet of sustainable active mobility culture.

2.5. Cycloart

Cycloart can include art created about bicycles and cyclists, art that mimics bicycle or cycling-like patterns, or even art that contains (parts of) bikes, reflecting the duality of cycle as both object and process. Images of the cycling lifestyle have been used to market bicycles since their inception (Petty, 1995). Aside from visual art, literature has also had links to cycling since the late 19th century; novels, poems, plays, and screenplays frequently employ bicycle imagery to symbolize a character’s feelings of or need for freedom (Chen, 2017).

2.5.1. *Cycloliterature: The reading and writing journey*

The parallel of post-modern reading and recreational cycling is unmistakable: one may choose a cycling route but then randomly choose a new direction at any intersection of another street, path, or track. For many, the joy is in the journey rather than in getting ‘from A to B’ in the least amount of time, without detours or distractions. Reading, once limited to monographs which had a distinct beginning, middle, and end, have been generally supplanted by a new kind of text--hypermedia, where reading in one direction is, with a click of a mouse (or a tap of a screen), changed to a new link in a new direction. This characteristic of reading is relatively recent, arriving only with electronic literature and offers a different (not better or worse) cognitive experience than static literature (Murray, 2017).

Rosner et. al. (2015) describe Ingold's practice of wayfaring, where there is a link between walking and storytelling. This may well apply to cycling, "...wherein the line of the path or tale unfolds through space and time. Like a story one has heard before, the line has a way forward but no particular end and may ebb and flow..." (p. 399). Thus, movement on the landscape and the idea of 'story' have similar patterns, of finding a journey rather than seeking a destination (Manwaring, 2022).

Cyclopoetics is another possible term that should be considered. We are not (only) referring to the cycling-themed fridge magnets with which one can continuously create/edit/erase poems or to the bicycle themed poem (*e.g.* Connolly, 2012; Woods, 2012). Cyclopoetics might be described as writing that resists the linear and formulaic--that highlights the many directions a reader might go in due to the inherent slipperiness of the poetic image, prioritizing what Spinney (2006) calls the "intangible and ephemeral, the meanings that accrue in the context of the journey itself" (p. 821). Whether writing/reading a poem or riding a bicycle, this attention to the details, to the in-between spaces undermines the capitalistic tendency to prioritize product over process, destination over journey. Spinney (2006) writes: "Movement straitjacketed as transport is overwhelmingly utilitarian in nature and consequently there is an enormous expanse of lived experience that such an approach fails to make visible" (p. 819). If we are always thinking in terms of "origins and destinations" (*ibid.*), we are unable to fully experience the ride. In connecting this observation to the process of both writing and reading, just as someone views cycling merely as transport and refuses to ride due to "constraints of time and distance" (*ibid.*), the writer or reader who is focused on finishing the poem or story fails to notice or appreciate the pleasure of the act of writing/reading. Like words in a poem, cyclists and their various and ever shifting formations (McIlvenny, 2014) of "riding with" resist closure while still maintaining a concrete presence: "Despite the contingencies of a fast-changing mobile environment, co-riders maintain a flexible formation— one might say a slipstream—of co-presence that coalesces in and through talk between co-riders" (p. 137). Reading a poem has a similar "slipstream" effect on the reader in that a word can be read "riding with" another word in one reading only to shift on a subsequent reading.

On another whimsical note, we point out that Howard (1973) found that no correlation existed between those who practice reading and those who practice cycling as leisure activities. Cyclists didn't read more or less than others, though he did find a positive correlation between

cycling and playing a musical instrument. Similarly, others have found a correlation between music and athletic performance (Simpson & Karageorghis, 2006; Karageorghis et. al., 2013). We posit here that the rhythm of riding, the cadence of poetry, and the time signatures of music are related; however, research is needed to fully explore the relationships within cyclopoetics.

2.5.2. *Cyclonarrative: Language and stories*

Naturally, cycling is fodder for great film, theatre, poetry, fiction and nonfiction, a topic that has been explored extensively in *Culture on Two Wheels: The Bicycle in Literature and Film* (Withers & Shea, 2016). The cinematic world, as an example, has featured bicycles in film for decades, used for purposes such as social commentary (e.g. *Bicycle Thieves* (Ladri di biciclette), 1948) comedy (e.g. *The Triplets of Belleville*, 2003) or adventure (e.g. *BMX Bandits*, 1983). In 2018, Schwinn released a limited-edition version of a bike from the popular streaming series, *Stranger Things*: Mike's Bike. This is an example of storytelling popularizing the cycling culture of a former era, in this case the 1980s: cyclonarrative at work.

But, more simply, stories about cycling can be carried from one person to the next via conversation. Language can go a long way to inspiring more riding. One participant in the movement *Londoners on Bikes* noted that joining LOB provided a “vocabulary” for advocating for bike safety and access. Another participant mentioned noticing that LOB was such a new protest movement that it hadn't yet generated its own protest songs. Common vocabulary linked to chants, songs, and narratives leads to the dissemination of ideas. Cycling advocates can only benefit from the inclusion of new cyclo-terms to familiarize people with their visions for change. If, as Bonham and Koth (2010, pp. 98-99) argue, the motorist is posited as “normal” and the cyclist as “abnormal,” no amount of bike lockers, showers for commuting office workers, and proper road signage will inspire people to get on their bikes.

Changing the conception of bikes and biking from abnormal, infantile, inconvenient, slow, unreliable, dangerous, *etc.* will require both a shift in vocabulary and “structural stories” (Freudendal-Pedersen, 2015). These “structural stories” are adopted unconsciously and then used when making decisions about riding. Even in urban bike utopias such as Copenhagen, citizens invent plausible narratives to avoid using a bike or allowing their children to ride. Freudendal-Pederson (2015) refers to two such narratives; alongside distance, time, family make-up, finances, and weather, come

premade narratives such as “it is too dangerous for kids to cycle in Copenhagen” and “Copenhagen cyclists are really egoistical” (p. 32). These stories, although rooted in truth, serve to exaggerate and obscure reality, keeping potential cyclists off the road (Steinbach et. al., 2011). “Structural stories” about cycling – *e.g.* cyclonarratives – within our communities prevent us from correcting misconceptions about the dangers of riding. The proliferation of these narratives leads more people to choose to drive, which leads to roads that are even more congested, noisy, polluted, and dangerous – roads that even confident cyclists prefer to avoid. Explaining this vicious cycle using the precise term ‘cyclonarrative,’ as opposed to the more general term “structural stories,” could be valuable.

3. Implications

The value of neology is in identifying a new, real concept by its name: the pattern language approach to making the ephemeral concrete. Encouraging the adoption of ‘cyclo-’, neologisms, such as cycloart or cycloeconomics, forces the connection between the bicycle and the word to which it is attached. Terms like cyclopolitic and cycloidentity may strengthen the legitimacy of communities that ride and promote discussion of socioeconomic issues pertaining to active mobility. As more specific terms are employed, such as cyclofeminism or cycloethnicity, equity issues with respect to gender or ethnicity within a mobility construct are better addressed (Jahanshahi et. al., 2023). These new words may be a catalyst in identifying research gaps, *e.g.* is there a cyclomorality? The ‘cyclo-’ prefix can be used with many more aspects not discussed here, leading to a wider, more robust, and respected analysis of the bicycle’s contribution to society, *e.g.* cyclotherapy, the use of cycling for physiotherapeutic rehabilitation in children (Chuchnowska et. al., 2014) and older adults (Kardan et. al., 2023). This process of concept identification via neology has the potential to encourage sustainable active mobility culture, a cycloclimate. Creating ‘cyclo-’ neologisms can help us to reconsider assumptions and reduce cyclophobias and cycloaversions. Promoting these words in the public sphere, for example, in advertising, city planning, education, government, and media (Kiernan, 2017), would make way for further research into their impact on how, where, and why we ride. Including cycloacademics within the post-secondary education sector is clearly necessary, albeit currently rare. In 2016, the University of Victoria offered Geog 491 #biketoria+, a “unique applied learning experience for UVic students to explore and creatively engage with a range of urban transportation issues” (UVic, 2016). These words might inspire the creation of programs that teach

the contribution and benefits of the bicycle to society and how bicycle infrastructure plans are implemented, e.g. a Bachelor of Arts in cycloplanning or cyclourbanism. If deliberately created ‘cyclo-’ neologisms help reinforce the values and perspectives of active mobility culture, we have an obligation to encourage their creation and subsequent application. We propose that every post-secondary institution’s geography department develop a cyclogeography course, perhaps cross-listed in partnership with communications, English, sociology, or psychology, to rewrite the cyclonarrative, to close the gap between what we say about cycling and how we actually ride (Kollmus and Agyeman 2002).

Conclusion

To understand cycling and the bicycle as object and process, beyond basic transport, we enter the cycloimaginary, the plethora of all possible connections that involve cycling. The neologisms used here are part of this “imaginary.” Through the prefix ‘cyclo-’ we can re-imagine urban spaces and ways of navigating them that possibly do not yet exist. Spinney (2009) warns of the bicycle being restricted in its interpretation, its relevance in society as “...an environmental and transport practice...bicycle activism, bicycle messengers, urban cycling, road racing, mountain biking....” (p. 824) and suggests it instead be understood from an “embodied experience” perspective. Active mobility culture then, with its language and movement (the process) reflects the human experience. The bicycle is a disruptive technology (the object), with the potential of changing the patterns of human cultures. With the bicycle, we interact differently both with our environment and with each other. Cycloneologisms have the potential to bring bicycles and cycling into the spotlight, where they inspire us to embrace that difference.

Acknowledgements

Thanks, are gratefully extended to Dr. Glenn Norcliffe for his valuable comments on a previous draft of this manuscript.

References

- Aldred, R. (2013a). Incompetent or Too Competent? Negotiating Everyday Cycling Identities in a Motor Dominated Society. *Mobilities*, 8(2), 252-271.
<http://dx.doi.org/10.1080/17450101.2012.696342>
- Aldred, R. (2013b). Who are Londoners on Bikes and what do they want? Negotiating identity and issue definition in a 'pop-up' cycle campaign. *Journal of Transport Geography*, 30, 194-201.
<http://dx.doi.org/10.1016/j.jtrangeo.2013.01.005>
- Atherton, S. (2018, May 30). Chill out and ride a bike. [Letter to the editor]. *Castanet.org*.
<https://www.castanet.net/news/Letters/227548/Chill-out-and-ride-a-bike>
- Becker, K. L. (2015). *Developing a chronic pain vocabulary: Communication preferences among individuals with chronic pain*. (Doctoral dissertation, North Dakota University). UND Scholarly Commons.
<https://commons.und.edu/theses/1742>
- Belina, B. (2005). Anglophones: If you want us to understand you, you will have to speak understandably! *Antipode*, 37, 853-855. <https://doi.org/10.1111/j.0066-4812.2005.00534.x>
- Berger, P. L., & Luckman, T. (1966). *The social construction of reality: A treatise in the sociology of knowledge*. Penguin Books.
- Blickstein, S. (2010). Automobility and the politics of cycling in New York City. *International Journal of Urban and Regional Research*, 34(4), 886-905. <https://doi.org/10.1111/j.1468-2427.2010.00914.x>
- Bonham, J., & Koth, B. (2010). Universities and the cycling culture. Transportation research part D. *Transport and Environment*, 15, 94-102. <https://doi.org/10.1016/j.trd.2009.09.006>
- Bouclin, S. (2015). Identifying pathways to and experiences of street involvement through case law. *Dalhousie Law Journal*, 38(2), 345-383.
- Caimotto, M. C. (2022). Cycling promotion and narratives of urban development: an ecolinguistic approach. In R. Hickman & C. Hannigan (Eds.) *Discourse Analysis in Transport and Urban Development*. (pp. 186-198). Edward Elgar Press.
<https://doi.org/10.4337/9781802207200.00022>
- Chaouachi, K. T. (2007). The narghile (hookah, shisha, goza) epidemic and the need for clearing up confusion and solving problems related with model building of social situations. *The Scientific World Journal*, 7, 1691-1696. <https://doi.org/10.1100/tsw.2007.255>
- Chen, E. (2017). Freedom or constraint: The speeding bicycle and the industrial subject in H.G. Wells's *The Wheels of Chance*. *Victorian Literature and Culture*, 45, 433-447.
<https://doi.org/10.1017/S1060150316000693>
- Chuchnowska, I., Sękała, A., Dobrzańska-Danikiewicz, A. (2014). Interactive rehabilitation of small children with lower limbs dysfunction, *Journal of Achievements in Materials and Manufacturing Engineering* 64(1), 20-26.
- Clark, A. (2015). Gym bodies (3): Spinning. *Sports and Body Cultures Embodied Thoughts of the Month*, 1. 39-43. <https://repository.canterbury.ac.uk/item/879qz/gym-bodies-3-spinning>
- Connolly, S. (2012). Cycling to Renvyle. *The Poetry Ireland Review*, 106, 42.
- Cox, P., & Koglin, T. (2020). *The politics of cycling infrastructure: Spaces and (in)equality*. Bristol University Press.

- Day, J. (2015). *Cyclogeography: Journeys of a London bicycle courier*. Notting Hill Editions.
- de Rome, L., Boufous, S., Georgeson, T., Senserrick, T., & Ivers, R. (2014). Cyclists' clothing and reduced risk of injury in crashes. *Accident Analysis and Prevention*, 73, 392-398.
<http://dx.doi.org/10.1016/j.aap.2014.09.022>
- de San Eugenio-Vela, J. (2014). Approaches to the study of individual–landscape interaction as an evocation of intrapersonal communication. *Convergencia Revista de Ciencias Sociales* 64, 13-38.
- Dietrich, D. (2013). *Cycling 11 as a step to align learning in secondary schools with learning in the 'real world'*. (Master's thesis, University of British Columbia). Open Collections.
<https://open.library.ubc.ca/cIRcle/collections/graduateresearch/42591/items/1.0054650>
- Engstrom, C. L. (2017). Cycling in the city: An actor-network-theory perspective on urban practices. In E. A. Atay & J. Brower (Eds.), *Communication, culture, and making meaning in the city: Ethnographic engagements in urban environments*. Lexington Books.
- Ferrell, J. (2006). *Inside the urban underground of dumpster diving, trash picking, and street scavenging*. New York University Press.
- Ferrero-Regis, T. (2018). Twenty-first century dandyism: Fancy Lycra® on two wheels. *Annals of Leisure Research*, 21(1), 95-112, <https://doi.org/10.1080/11745398.2017.1379028>
- Frank, T. O. (2014). Neologisms in the language of tourism as indicators of innovativeness in tourism. *Academica Turistica*, 7(2), 69-76.
- Freudendal-Pedersen, M. (2015). Cyclists as part of the city's organism: Structural stories on cycling in Copenhagen. *City & Society*, 27(1), 30-50. <https://doi.org/10.1111/ciso.12051>
- Fullagar, S., & Pavlidis, A. (2012). "It's all about the journey": Women and cycling events. *International Journal of Event and Festival Management*, 3(2), 149-170,
<https://doi.org/10.1108/17582951211229708>
- Garvey, E. (1995). Reframing the bicycle: Advertising-supported magazines and scorching women. *American Quarterly*, 47(1), 66-101.
- Gauthier, A. (2004). Using bicycles to save lives: Lessons from the first two years of ITDP's *Access Africa Project*. *Transport Matters* 16. <https://www.itdp.org/2004/01/01/using-bicycles-to-save-lives-issue-16-2004/>
- Guttman, A. (1996). *The erotic in sport*. Columbia University Press.
- Hanlon, J., & Smart, T. (2008). *Do bicycles equal development in Mozambique?* Boydell and Brewer.
- Hargraves, O. (2004). *New words*. Oxford University Press.
- Heesch, K., Giles-Corti, B., & Turrell, G. (2014). Cycling for transport and recreation: Associations with socio-economic position, environmental perceptions, and psychological disposition. *Preventive Medicine*, 63, 29–35, <http://dx.doi.org/10.1016/j.ypmed.2014.03.003>
- Horton, D. (2006). Environmentalism and the bicycle. *Environmental Politics*, 15(1), 41-58,
<https://doi.org/10.1080/09644010500418712>
- Howard, D. (1973). Multivariate relationships between leisure activities and personality. (Doctoral dissertation, Oregon State University).
<https://ir.library.oregonstate.edu/downloads/br86b707m>

- Jahanshahi, D., Costello, S. B., Dirks, K. N., Chowdhury, S., & Wee, B. van. (2023). Understanding perceptions of cycling infrastructure provision and its role in cycling equity. *Transportation Research Record*, 2677(3), 820-835. <https://doi.org/10.1177/03611981221117821>
- Karageorghis, C., Hutchinson, J., Jones, L., Farmer, H., Ayhan, M., Wilson, R., Rance, J., Hepworth, C., & Bailey, S. (2013) Psychological, psychophysical, and ergogenic effects of music in swimming. *Psychology of Sport and Exercise*, 14, 560-568, <http://dx.doi.org/10.1016/j.psychsport.2013.01.009>
- Kardan, M., Akter, T., Iqbal, M., Tcymbal, A., Messing, S., Gelius, P., & Abu-Omar, K. (2023). Cycling in older adults: a scoping review. *Frontiers in Sports and Active Living*, 5, 157503. <https://doi.org/10.3389/fspor.2023.1157503>
- Kiernan, P. (2017). Introduction: Exploring language, identity, and cycling in the new media age through systemic functional linguistics. In P. Kiernan, Ed.), *Language, identity and cycling in the new media age* (pp. 1-36). Palgrave Macmillan.
- Kollmuss, A. & Agyeman, J. (2002) Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8, 239-260. <https://doi.org/10.1080/13504620220145401>
- Koorey, G. (2007). Are you a cyclist or do you cycle? The language of promoting cycling. New Zealand Cycling Conference. <http://hdl.handle.net/10092/688>
- Koszowski, C., Gericke, R., Hubrich, S., Götschi, T., Pohle, M., & Wittwer, R. (2019). Active mobility: Bringing together transport planning, urban planning, and public health: Challenges, solutions and collaborations. In B. Müller, & G. Meyer (Eds.), *Towards user-centric transport in Europe*. (pp. 149-171). https://doi.org/10.1007/978-3-319-99756-8_11
- Kunieda, M., & Gauthier, A. (2007). Gender and urban transport: Smart and affordable. *Module 7a, sustainable transport: A sourcebook for policy-makers in developing cities*. In Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH. Division 44, Environment and Infrastructure Sector Project, Transport Policy Advisory Service. Eschborn, Germany.
- Larsen, J. (2014). (Auto)ethnography and cycling. *International Journal of Social Research Methodology*, 17, 59-71, <http://dx.doi.org/10.1080/13645579.2014.854015>
- Leiblum, S., & Nathan, S. (2001). Persistent sexual arousal syndrome: A newly discovered pattern of female sexuality. *Journal of Sex & Marital Therapy*, 27, 365-380. <https://doi.org/10.1080/009262301317081115>
- Levin, S. (1993). Does exercise enhance sexuality? *The Physician and Sportsmedicine*, 21, 199-203. <https://doi.org/10.1080/00913847.1993.11710346>
- Liu, W., & Liu, W. (2014). Analysis on the word-formation of English netspeak neologism. *Journal of Arts and Humanities*, 3(12). <https://doi.org/10.18533/journal.v3i12.624>
- Maas, J., Verheij, R., Spreeuwenberg, P., & Groenewegen, P. (2008). Physical activity as a possible mechanism behind the relationship between green space and health: A multilevel analysis. *BMC Public Health* 8, 206. <https://doi.org/10.1186/1471-2458-8-206>
- Maciel, T. R. C. (2017). As Mulheres, a Bicicleta e o Direito à Cidade: Um Estudo Sobre o Projeto Ciclofeminista “Pedalzinho Das Minas”. Trabalho de Conclusão de Curso (graduação) – Universidade Federal do Ceará, Fortaleza, Brasil

- Mackintosh, P., & Norcliffe, G. (2007). Men, women and the bicycle: Gender and social geography of cycling in the late-nineteenth century. In D. Horton, P. Rosen, & P. Cox (Eds.), *Cycling and society* (pp. 153-177). Ashgate Publishing Limited.
- Mackintosh, P., & Norcliffe, G. (2006). Flâneurie on bicycles: Acquiescence to women in public in the 1890s. *The Canadian Geographer* 50, 17-37.
- Mäki-Opas, T., Borodulin, K., Valkeinen, H., Stenholm, S., Kunst, A. E., Abel, T., Härkänen, T., Kopperoinen, L., Itkonen, P., Prättälä, R., Karvonen, S., & Koskinen, S. (2016). The contribution of travel-related urban zones, cycling and pedestrian networks and green space to commuting physical activity among adults – a cross-sectional population-based study using geographical information systems. *BMC Public Health*, 16, 760.
<https://doi.org/10.1186/s12889-016-3264-x>
- Manwaring, K. (2022). The Herepath Project: Deep mapping and hedge-springing during lockdown. *Writing in Practice*, 8, 74-87.
- Markides, C. (2014). Children and cycling independence: Recommendations for the city of Vancouver. *University of British Columbia Open Collections*.
<https://open.library.ubc.ca/cIRcle/collections/undergraduateresearch/52966/items/1.0075681>
- McCormick Weng, J., 2016. Her “bisexycle,” her body, and her self-propulsion in *Finnegans Wake*. *Journal of Modern Literature*, 39(4), 49-66. <https://doi.org/10.2979/jmodelite.39.4.05>
- McIlvenny, P. (2014). Vélomobile Formations-in-Action: Biking and Talking Together. *Space and Culture*, 17(2), 137-156. <https://doi.org/10.1177/1206331213508494>
- Morhayim, L. (2018). Nightscapes of play: Enjoyment of architecture and urban space through bicycling. *Antipode*, 50, 1311-1329. <https://doi.org/10.1111/anti.12400>
- Murray, J. (2017). *Hamlet on the Holodeck: The future of narrative in cyberspace*. MIT Press.
- Norcliffe, G. (2016). *Critical geographies of cycling: History, political economy and culture*. Routledge Publishing.
- Osborne, N. & Grant-Smith, D. (2017). Constructing the cycling citizen: A critical analysis of policy imagery in Brisbane, Australia. *Journal of Transport Geography*, 64, 44-53.
<https://doi.org/10.1016/j.jtrangeo.2017.08.015>
- Petty, R. (1995). Peddling the bicycle in the 1890s: Mass marketing shifts into high gear. *Journal of Macromarketing*, 15, 32-46. <https://doi.org/10.1177/027614679501500105>
- Pivato, S. (1990). The bicycle as a political symbol: Italy, 1885–1955. *The International Journal of the History of Sport*, 7, 173-187. <https://doi.org/10.1080/09523369008713722>
- Raab, A. (2012). Wheels of fire: Writers on bicycles. *World Literature Today*.
<https://www.worldliteraturetoday.org/2012/september/wheels-fire-writers-bicycles-alon-raab>
- Ravensbergen, L. (2022). ‘I wouldn’t take the risk of the attention, you know? Just a lone girl biking’: examining the gendered and classed embodied experiences of cycling. *Social & Cultural Geography*, 23(5), 678-696. <https://doi.org/10.1080/14649365.2020.1806344>

- Ravensbergen, L., Buliung, R., & Laliberté, N. (2019). Towards feminist geographies of cycling. *Geography Compass*, e12461. <https://doi.org/10.1111/gec3.12461>
- Rosner, D., Saegusa, H., Friedland, J., & Chambliss, A. (2015). Walking by drawing. *Music & Art*, Paper presented at CHI Crossings, Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems. pp. 397-406.
- Schafer, R.M. (1977). *The soundscape: Our sonic environment and the tuning of the world*. Destiny Books.
- Shaw, C., Russell, M., Keall, M., MacBride-Stewart, S., Wild, K., Reeves, D., Bentley, R., & Woodward, A. (2020). Beyond the Bicycle: Seeing the context of the gender gap in Cycling. *Journal of Transport and Health*, 18, 10087. <https://doi.org/10.1016/j.jth.2020.100871>
- Simpson, C. (2007). Capitalising on curiosity: Women's professional cycle racing in the late-nineteenth century. In D. Horton, P. Rosen, & P. Cox (Eds.), *Cycling and society*. (pp. 47-65). Ashgate Publishing.
- Simpson, S., & Karageorghis, C. (2006). The effects of synchronous music on 400-m sprint performance. *Journal of Sports Sciences*, 24, 1095-1102. <https://doi.org/10.1080/02640410500432789>
- Skinner, D., & Rosen, P. (2007). Hell is other cyclists: Rethinking transport and identity. In D. Horton, P. Rosen, & P. Cox (Eds.), *Cycling and society*. (pp. 83-96). Ashgate Publishing.
- Skjaerven, L. H., Gard, G., Gómez-Conesa, A., & Catalan-Matamoros, D. (2019). A vocabulary describing health-terms of movement quality – a phenomenological study of movement communication. *Disability and Rehabilitation*, 42(22), 3152–3161. <https://doi.org/10.1080/09638288.2019.1585970>
- Smith, F. (2012). “Before a race I get my eyeliner perfect and do my hair.” Post-feminism and Victoria Pendleton. *Feminist Media Studies*, 12, 608-611. <https://doi.org/10.1080/14680777.2012.723932>
- Spinney, J. (2009). Cycling the city: Movement, meaning and method. *Geography Compass*, 3(2), 817-835. <https://doi.org/10.1111/j.1749-8198.2008.00211.x>
- Spinney, J. (2007). Cycling the city: Non-place and the sensory construction of meaning in a mobile practice. In D. Horton, P. Rosen, & P. Cox (Eds.), *Cycling and society*. (pp. 25-45). Ashgate Publishing.
- Spinney, J. (2006). A place of sense: A kinaesthetic ethnography of cyclists on Mt. Ventoux. *Society and Space*, 24, 709-732. <https://doi.org/10.1068/d66j>
- Spinney, J. (2019). *Cycling: Sociology of vélomobility*. Routledge.
- Steinbach, R., Green, J., Datta, J., & Edwards, P. (2011). Cycling and the city: A case study of how gendered, ethnic and class identities can shape healthy transport choices. *Social Science & Medicine*, 72, 1123-1130. <https://doi.org/10.1016/j.socscimed.2011.01.033>
- Stewart, C. (2018). Utilizing sporting autobiographies for feminist research: The case of cyclist Nicole Cooke. In L. Mansfield, J. Caudwell, B. Wheaton, & B. Watson (Eds.), *The Palgrave handbook of feminism and sport, leisure and physical education*. (pp. 293-311). Palgrave Macmillan.
- te Brömmelstroet, M., Nello-Deakin, S., Quillien, J., & Bhattacharya, I. (2018). Towards a pattern language for cycling environments: merging variables and narratives. *Applied Mobilities*, 6(1), 35-53. <https://doi.org/10.1080/23800127.2018.1505261>

- Teyeme, Y., Malengier, B., Tesfaye, T., Vasile S., Ciocci M.-C., & Van Langenhove, L. (2021). Users' Perceptions on Comfort Level of Cycling Clothing. TTPF 2021. Proceedings of the 7th International Symposium, Technical Textiles-Present and Future". Gheorghe Asachi Technical University of Iasi, Romania, Faculty of Industrial Design and Business Management, <https://doi.org/10.2478/9788366675735-003>
- Tilley, C., & Cameron-Daum, K. (2017). *An anthropology of landscape: The extraordinary in the ordinary*. University College London Press.
- Tumarkin, M. (2005). *Traumascapes*. Melbourne University Press.
- Turpin, R. (2018). *First taste of freedom: A cultural history of bicycle marketing in the United States*. Syracuse University Press.
- UVic 2016. #biketoria+.
<https://www.uvic.ca/socialsciences/geography/assets/docs/courseoutlines/201701/Geog%20491%20A02%20Straatsma.pdf>
- van Duppen, J., & Spierings, B. (2013). Retracing trajectories: The embodied experience of cycling, urban sensescape and the commute between 'neighbourhood' and 'city' in Utrecht, NL. *Journal of Transport Geography*, 30, 234-243. <http://dx.doi.org/10.1016/j.jtrangeo.2013.02.006>
- van Hulst, J. (2017). Troubled topography: A phenomenological 'Cyclo-Geography' research into the borderlands of the Irish Northern-Irish border. (BA thesis, Radboud University). Communities and Collections. <https://theses.uibn.ru.nl/handle/123456789/5815>
- VanWynsberghe, R. (2016). Green jobs for the disadvantaged in British Columbia: The perspectives of non-governmental organisations and social entrepreneurs. *Local Environment*, 21, 504-526. <http://dx.doi.org/10.1080/13549839.2014.974151>
- Winkworth, K. (1989). Women and the bicycle: Fast, loose and liberated. *Australian Journal of Art*, 8, 96-121. <https://doi.org/10.1080/03146464.1989.11432907>
- Withers, J., & Shea, D. (Eds). (2016). *Culture on two wheels: The bicycle in literature and film*. University of Nebraska Press.
- Woods, V. (2012). Bicycle. *The Poetry Ireland Review* 107, 78.
- Yang, X., Telama, R., Hirvensalo, M., Tammelin, T., Viikari, J. S. A., Raitakari, O. T. (2014). Active commuting from youth to adulthood and as a predictor of physical activity in early midlife: The Young Finns Study. *Preventative Medicine*, 59, 5-11.
<http://dx.doi.org/10.1016/j.ypmed.2013.10.019>



This page left intentionally blank