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Phd Thesis

**Re-conceptualising how teacher agency/ies are becoming:
Thinking with new materialism
Ashraf, Tanjin**

Ashraf, Tanjin (2024) Re-conceptualising how teacher agency/ies are becoming: Thinking with new materialism [PhD Thesis]. Australian Catholic University. DOI:

<https://doi.org/10.26199/acu.90w8x>

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**Re-conceptualising how teacher agency/ies are becoming: Thinking
with new materialism**

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A thesis submitted in total(partial) fulfilment of the requirements of the degree of
Doctor of Philosophy

Institute for Learning Sciences and Teacher Education
Faculty of Education and Arts

Australian Catholic University
2024

Abstract

In this thesis, I explore the significance of thinking with new materialism to re-conceptualise how teacher agency is becoming. Teacher agency is considered to be one of the most important factors in education reform, because teachers have the strongest influence on students, and their decision-making practices can determine whether they remain in the profession (Buchanan, 2015; Crandall, 2020; Datnow, 2012). The significance of teachers and their influence on students has been particularly salient during the COVID-19 pandemic and the post-pandemic period (Campbell, 2020; Ehren et al., 2021; OECD, 2023). The novelty of the spatial and temporal re-configurations caused by the pandemic has prompted new materialist discussions on developing novel ways of thinking, including a consideration of how nonhuman matter is also significant to the teaching profession (Heikkilä & Mankki, 2021).

As such, I think with Karen Barad's agential realism, a new materialist framework, to explore: how teacher agency is becoming through human-nonhuman intra-actions; the significance of the intertwined re-configuration of space, time, and matter when teacher agency is becoming; and implications for power dynamics in the teaching profession. In addition, I explain throughout the thesis how my doctoral journey has been becoming in a nonlinear manner, which was imperative to describe because thinking with new materialism entails acknowledging the nonrepresentational nature of research (Barad, 2007).

I explore how teacher agency is becoming through three boundaries: 1. Exploring how teacher agency is becoming in *public school*; 2. Exploring how *primary teacher* agency is becoming; and 3. Exploring how primary teacher agency is becoming in *Canada, Australia, and the United States (US)*. With respect to these bounded areas of inquiry, I employed a qualitative case study approach and generated semi-structured interviews and photo-elicitation data with 10

primary school teachers during the COVID-19 lockdowns in 2021. I identified each teacher participant as a *case-entanglement* which denotes that teachers are not predefined entities because they emerge through their relations with human-nonhuman phenomena. Next, I share the insights that emerged from the interview and photo-elicitation data including: how the COVID-19 pandemic significantly re-configured common temporal, spatial, and material aspects of teaching; how these re-configurations were produced by multicausal human-nonhuman intra-actions and elicited multidirectional effects; and how the research process itself is intra-acting in the entanglement where teacher agency is becoming.

Next, I discuss that the interview and photo-elicitation data, along with insights from the rest of the thesis, illuminate how thinking with new materialism and the usage of teacher agency as a term are incommensurable. I address this incompatibility by re-conceptualising teacher agency into *teacher agencies*. Teacher agencies diverges from teacher agency, because this notion focuses on the causes AND effects on the outcome of whether possibilities emerge for teachers to shape their practice. Lastly, I explain how thinking with teacher agencies, as an apparatus and other material-discursive practices, has significant implications for understanding and addressing the power dynamics of the teaching profession, including in-justices teachers experience. I detail key implications for policy and practice in addressing such in-justices in the teaching profession including: emphasising relationality, not individuality; acknowledging the significance of space, time, and nonhuman matter; and re-configuring key elements of public school teaching such as teacher accountability practices and curriculum development.

Through this thesis, I make significant theoretical, methodological, and empirical contributions to knowledge. Theoretically, I think with new materialism and agential realism, which is seldom done to explore teacher agency, and provide a novel re-conceptualisation of

teacher agency through the notion of *teacher agencies*. Methodologically, I re-configure the process of doing research by sharing a nonrepresentational account of writing this thesis. Empirically, I provide novel insights on the temporal, spatial, and material aspects of teaching to re-work teacher policies, practices, and power dynamics.

Keywords: Teacher agency, teacher agencies, teacher profession, new materialism, agential realism, spacetimemattering

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Declaration of Authorship

This thesis contains no material that has been extracted in whole or in part from a thesis that I have submitted towards the award of any other degree or diploma in any other tertiary institution.

No other person's work has been used without due acknowledgment in the main text of the thesis.

All research procedures reported in the thesis received the approval of the relevant Ethics Committees.

Signed:

Date: February 26th, 2024

Publications Produced During Candidature

Publication related to thesis:

Holloway, J., Langman, S. & Ashraf, T. (2024). Thinking with Foucault for understanding education policy. (in progress). In M. Stacey, N Mockler (Eds.), *Policy analysis in education* (pp. 44–58). Routledge. <https://doi.org/10.4324/9781003353379>

Conferences related to thesis:

2023. Ashraf, T. *Teacher agency, education policy discourse, and the covid-19 pandemic: An exploration through a new materialist lens*. Paper presented at the Comparative and International Education Society Conference (CIES) Conference, Washington DC, United States.

2022. Ashraf, T. *The dynamic between education policy discourse and the enactment of teacher agency: An exploration through a comparative case study*. Paper presented at the Australian Association for Research in Education (AARE) Conference, Adelaide, Australia.

2021. Ashraf, T. *Power is power: Exploring the significance of teacher agency in the primary teaching profession*. Paper Presented at the Australian Association for Research in Education conference, online.

Digital content related to thesis:

Ashraf, T. (October 2023). The s/paces social movements are in. *JCACS (Canadian Association for Curriculum Studies) Musings*. <https://medium.com/jcacs-musings/the-s-space-social-movements-are-in-79fb4d2abd2e>

Ashraf, T. (August, 2022). The pandemic and the forlorn academic: Experiencing the fall and rise of in-person conferences. *JCACS (Canadian Association for Curriculum Studies)*

Musings. <https://medium.com/jcacs-musings/the-pandemic-and-the-forlorn-academic-experiencing-the-fall-and-rise-of-in-person-conferences-4ec4f24963b2>

Ashraf, T, Krabtree, K. (May 2020). Two stories of international study in the covid-19 pandemic by Katie Crabtree and Tanjin Ashraf. *American Journal for Education Forum.*
<http://www.ajeforum.com/pandemic-series-two-stories-of-international-study-in-the-covid-19-pandemic-by-katie-crabtree-and-tanjin-ashraf>

Acknowledgements

These acknowledgements transgress this section they reside in. The following human-nonhuman phenomena have been phenomenal in helping me un-learn, grow, become.

First, I would like to acknowledge the lands I traverse-d while writing this thesis. Space and place have been significant aspects of my doctoral journey, and have shaped who I am today. Namely, I would like to acknowledge the land I completed most of my doctoral studies, which is the traditional territory of many nations including the Mississaugas of the Credit, the Anishinaabeg, the Chippewa, the Haudenosaunee and the Wendat peoples and is now home to many diverse First Nations, Inuit, and Métis peoples. I also acknowledge that Toronto, Canada is covered by Treaty 13 with the Mississaugas of the Credit.

I would also like to acknowledge the traditional owners of the unceded land where I finished my doctoral studies. I recognise the place held by Aboriginal and Torres Strait Islander Peoples as the original owners and custodians of the lands and waterways across the Australian continent, with histories of continuous connection dating back more than 60,000 years. I pay respect to Elders past, present, and future and acknowledge the importance of Indigenous Knowledge in the Academy.

Starting my doctoral studies during a pandemic was no easy task. However, I am privileged to be surrounded by such beautiful and supportive people wherever I go. I would like to thank you all for taking the time to attend my Confirmation and Final Year Review. I could not have passed these milestones without your support. In addition, I would like to thank the following people, within and beyond academia, who in some way or another has a hand in Tanjin and her becoming.

Thank you, Jessica Holloway, for your unwavering faith in me as my Primary Supervisor. I have been putting this section off for weeks because I could not figure out how to express my gratitude to you. An acknowledgement section is not enough to articulate how you have helped me see the best in myself as an academic and a human. You know how much you mean to me and others around you, and I am beyond happy that I made a lifelong friend through this doctoral journey.

Thank you, Bob Lingard and Andrew Skourdombis for co-supervising my doctoral studies. I am grateful for your valuable insights and generosity.

Thank you, Nina Bascia, for your ongoing mentorship and genuine care. I continue to cherish our reunions around the world where we share our similar takes on life.

Thank you, Blake Cutler, Hardie Malhotra, Rebecca Spratt, Sarah Langman, Sharanya Menon, and Steven Lewis for making me feel at home in Melbourne. It was not easy to leave Toronto behind and relocate to Australia, but you all made it so much more wonderful with your warmth and support.

Thank you, Flora Yu, Shafferan Noor, Tea Zujovic, and Towhid Alam for reminding me that friendships transgress time and place. I know whenever I am in Toronto that I'll find a home in you.

Thank you, Debbie Singh, Farzana Rahman, George Phillip, Marshall Pepe, and Rono Khan, and Veronica Klassen for being some of the loyalest friends I have. On top of that, you're all brilliant in your own ways, and I continue to be inspired by your unprecedented drive and ambition.

Thank you, Divij Gupta, Joy Mazumdar, Prithila Angkan, Riyan Khan, and Zunayad Mahmud for always emanating positive energy. The best part about being stuck in Canada during my doctoral studies was meeting and becoming friends with you.

Thank you, Adriana Marroquin, Ceara Khoramshahi, Erica Cheng, Jason Singh, Indira Quintasi, Nadia Salama, Yoyo Zhang, and Zohra Backtash for your kindness and support; our ongoing friendships are a constant reminder that my Master of Education studies were some of the best few years of my life.

Thank you, Angel Yeh, Chelsea Wong, Catherine Reyes, Kristie Cairns, and Sigrid Roman for inspiring me during our teaching and travelling adventures — your hard work continues to motivate me to stand in solidarity with teachers near and far.

And last but certainly not least, thank you mom and papa for your steadfast support. I know it was hard for you when I made the big move from Toronto to Melbourne, and I will never take for granted that you overcame those difficult emotions to support me in fulfilling my dreams.

Dedication

Questions of science, science and progress,

do not speak as loud as my heart.

The Scientist, Coldplay

I would like to dedicate this thesis to my sister, Afsheen Ahmed Chowdhury. Thank you for shedding light on one of our favourite Coldplay songs, which helped me realise that there is no boundary between the researcher and research. I would not have been able to finish this thesis if it wasn't for your unconditional support. Thank you for always being my best friend.

Chapter 1: Introducing

I open at the close.

Harry Potter and the Deathly Hallows

1.0 Introducing the Introducing

It is Thursday, December 21st, 2023, in Melbourne, Australia. I am writing the introduction of my doctoral thesis. Of course, I have introduced my thesis before through my milestone documents and conference presentations, but this is a formal attempt at writing out an introduction. When I started my doctoral studies on February 26th, 2020, I did not expect to write the introduction of my thesis near the end of my studies. However, over the past four years, I have un-learned that time is linear; rather, time *emerges*, as do the phenomena that emerge through their interactions with time. Some scholars are challenging the linear perception of traditional doctoral journeys and theses and arguing for an openness to wider possibilities (Gravett, 2021; Ingram, 2021). I attempt to contribute to that discussion by interweaving insights about my nonlinear doctoral journey throughout this thesis.

I am starting this chapter by pointing out the nonlinear nature of this thesis because my doctoral journey is entangled with my research project. In subsequent chapters, I detail the inseparability of the researcher and the research by detailing the process of writing, rather than treating the thesis as a representational artefact of my doctoral studies. In addition, I use *becoming* as an ontological stance to describe how every single aspect of the thesis is constantly changing and evolving (Barad, 2003, 2007; Kuby & Zhao, 2021). This is why all the names of the thesis chapters end with the suffix *-ing*, because I want to emphasise how the chapters and the thesis itself do not end once it has been written, submitted and examined, and my degree has been conferred. Rather, my thesis is becoming and will continue to become as it interacts with

humans and nonhumans. Hence, it makes sense that I am opening at the close, as I could not introduce how the thesis would become over the past four years until it did. As such, I formally welcome you to this nonlinear journey.

1.1 Chapter Overview

First, I introduce this chapter to establish the general tone of this thesis. After the chapter overview, I discuss the topic and how it became over time. Next, I describe the main purpose of the thesis and outline the research questions. I also briefly explain the key terms in the research questions and further elaborate on these concepts in [Chapter 2: Theoretical Framing](#). Finally, I provide an overview of the thesis including the contents of each chapter.

1.2 Thesis Topic

In the past four years, the topic of my thesis has been changing, evolving, becoming. Interestingly, the changes do not exist in isolation; rather, they are entangled in and inform the purpose and significance of this thesis. I began my doctoral journey exploring the status of the teaching profession. Kindergarten to Grade 12 (K–12) teachers are considered the most important actors in education because they have a diverse range of roles including socialising students, which helps develop society, and structuring the future growth of knowledge (Béteille et al., 2020; Buyruk, 2014; OECD, 2023). Despite the significance of teachers, there has been the longstanding issue of a global teacher shortage (Lampert et al., 2023; Perryman & Calvert, 2020). While exploring the literature on teacher retention and attrition, I discovered how scholars cite the amount of power teachers have in their profession as a significant factor in their job satisfaction and whether they choose to stay or leave (Buchanan, 2015; Lampert et al., 2023; Narayanan et al., 2023; Perryman & Calvert, 2020).

Based on this insight, I decided to narrow the focus of my thesis to teachers' power, and particularly how accountability practices impact teachers' sense of power and produce different types of teachers (Buchanan, 2015; Campbell, 2019; Perryman & Calvert, 2023). During my exploration on power dynamics, I noticed the conceptualisation of teachers' power itself was a topic of discussion, so I decided to narrow down the thesis topic even further. In the literature, *autonomy* and *agency* are the most common terms used to conceptualise teachers' power and control in their profession (Ashton, 2021; Biesta et al., 2015; Campbell, 2019; Eteläpelto et al., 2013; Narayanan et al., 2023). *Teacher agency* has been a popular discussion topic in recent decades, especially on whether the locus of teachers' agency, meaning the capacity to make decisions, is within the teacher or their sociocultural relations (Aspbury-Miyaniishi, 2022; Biesta et al., 2015; Campbell, 2019; Eteläpelto et al., 2013; Priestley et al., 2015). Both stances carry the underlying humanist assumption that teacher agency is informed by human phenomena. In contrast to humanist conceptualisations, I started finding a range of frameworks that focus on the significance of nonhuman phenomena, including new materialism. New materialist scholars argue that considering 'nonhuman' phenomena will elicit new ways for knowing and understanding the complexities of teachers and teacher agency (Appadoo-Ramsamy, 2023; Heikkilä & Mankki, 2021; Murriss, 2022).

I became interested in new ways of thinking especially because I started my doctoral journey during the COVID-19 pandemic, which changed the work of teachers worldwide (Berry, 2020; Kaden, 2020; Napitupulu et al., 2023; Teruya, 2021). COVID-19 acted as a temporal rupture that re-configured the teaching space; in 2020, 194 countries closed their physical schools and shifted to the remote space, which impacted 1.5 billion students and 63 million K–12 teachers (Li & Lalani, 2020; The World Bank, 2020; The UNESCO, 2020). These space-time re-

configurations provided an unprecedented opportunity to revisit and re-conceptualise significant aspects of teaching and explore how “phenomena are not located in space and time; rather, phenomena are material entanglements enfolded and threaded through the spacetime-mattering of the universe” (Barad, 2017, p. 111).

1.3 Research Purpose and Questions

Based on the context described in the previous subsection, I decided to leverage the temporal and spatial distinctiveness of COVID-19 and respond to the call for re-conceptualising teachers and teaching by thinking with new materialism, both to produce different ways to re-conceptualise how teacher agency is becoming and explore the significance of a re-conceptualisation. This purpose is significant for three reasons. First, the way teacher agency is conceptualised matters because it shapes how teachers are understood, how power dynamics are constructed, and how different aspects of the teaching profession are problematised (Aspbury-Miyanishi, 2022; Heikkilä & Mankki, 2021; Priestley et al., 2015). In addition, teacher agency continues to be “an inexact and poorly conceptualised construct” (Priestley et al., 2015, p. 2), which highlights the urgency in re-conceptualising how teacher agency is understood.

Second, this purpose is ethically significant because the pandemic illuminated the importance of teachers on students’ wellbeing (Campbell, 2020; Ehren et al., 2021; OECD, 2023). As such, re-conceptualising teacher agency can impact the wellbeing of both teachers and students in terms of how power materialises and is impacted by/impacts them. Third, it is worth embarking on a new materialist exploration of teacher agency, especially in the post-pandemic period because it is a nascent research area with the potential to elicit novel insights, including challenging taken-for-granted assumptions about teachers and teacher agency. Hence, it is

valuable to gauge how new materialist thinking produces possibilities to re-conceptualise teacher agency and the significance of those re-conceptualisations.

There are three boundaries for the research purpose:

1. Exploring how teacher agency is becoming in *public schools*;
2. Exploring how *primary teacher* agency is becoming; and
3. Exploring how primary teacher agency is becoming in *Canada, Australia, and the United States (US)*.

I further explain the nature of these boundaries in [Chapter 4: Literature Cutting](#). There is one main research question and three sub-questions underpinning the research topic and purpose. It is important to note that even though there are four distinct questions, they are not meant to live in isolation. These questions engage with each other to inform the key insights on the main question addressed by the thesis. Hence, even though these questions are temporarily apart, they are essentially together, also referred to as *together-apart*, a notion I explain [in Chapter 2: Theoretical Framing](#). In addition, in [Chapter 5: Research Process is Becoming](#), I detail how the research questions emerged in a nonlinear manner, as well as the importance of letting research questions become or as Jackson and Mazzei (2022) put it, the process of *becoming-questions*.

Main question: What is the significance of thinking with new materialism to re-conceptualise how teacher agency is becoming?

Sub-questions:

1. How is teacher agency becoming through human-nonhuman intra-actions?
2. What is the significance of *spacetime mattering* when teacher agency is becoming?
3. How does power materialise when teacher agency is becoming?

In these research questions, I describe teacher agency as *becoming* because it aligns with the new materialist understanding of how onto-epistemologies are always evolving (Barad, 2007; Fox & Alldred, 2015a, 2015b; Kuby & Zhao, 2021). In this thesis, I refer to *human* phenomena as the physical human body and mind and use the term *nonhuman* to capture the tangible and intangible phenomena that are not constituted within the physical human body. It is imperative to note that human-nonhuman entities are inseparable from their interactions with each other (Barad, 2007; 2017). However, I make temporary distinctions between them throughout this thesis to illuminate certain insights.

The main question articulates the key purpose of this thesis. I use Jackson and Mazzei's (2012, 2022) *thinking with theory* to denote that theory is not an objective tool used to replicate previous findings; rather, theory engages with this thesis in a unique manner to produce distinct insights. The hyphen in "re-conceptualise" indicates possibilities for integrating extant and novel insights through conceptualisation and reconceptualisation. I detail the theoretical underpinnings behind *thinking with* and the use of hyphens in [Chapter 2](#).

The motive of the first sub-question is to contribute to the extremely limited literature on a new materialist understanding of how teacher agency is becoming through human-nonhuman interactions, or rather, *intra-actions*, a term I define in [Chapter 2](#). The purpose of the second sub-question is to further narrow down the research topic by focusing on the specific material-discursive relationships between space, time, and human-nonhuman phenomena. The third sub-question endeavours to explore the insights that a new materialist framework can provide on power in the teaching profession and implications for teachers and other human-nonhuman phenomena. These relationships are particularly relevant to the post-pandemic period since COVID-19 caused significant spatial, temporal, and material re-configurations.

In addition to *intra-action*, both *becoming* and *spacetime-mattering* are integral concepts to agential realism, which is the specific new materialist framework I think with in this thesis, and I describe these terms in further detail in [Chapter 2](#). Finally, as I emphasised before, these four questions are together-apart; essentially, they intra-act in thinking with new materialism to produce ways to re-conceptualise teacher agency, and to illuminate the significance of these re-conceptualisations.

1.4 Overview of the Thesis

As I also explain in [1.0 Introducing the Introducing](#), the names of the chapters in this thesis end with *-ing* to signify how this thesis will always be becoming. In addition, even though this thesis seemingly presents itself in a linear fashion, no aspect of it emerged in that sense, nor do I assume that it will be read in a linear manner from the cover page to the end of the appendices. As such, I attempt to facilitate the nonlinear reading of this thesis by signposting and providing hyperlinks as much as possible. In addition, I use present-tense verbs when I connect the chapters and subsections of the thesis, such as, “As I *explain* in Chapter 2” instead of, “As I *explained* in Chapter 2”. By using present instead of past tense, I am reaffirming the achronological nature of this thesis, because I did not write it from beginning to end in a sequential fashion.

One of the motifs of this thesis is the importance of human-nonhuman engagements. I include some examples of my experiences engaging with nonhumans that helped me write this thesis. For example, when I was planning the sequences of my chapters, I drew a diagram with visual illustrations of each chapter. My engagement with the materiality of the colours of the markers and the marks I produced on the paper helped me decide how to organise the chapters of my thesis. Figure 1 below is a photo of my diagram.

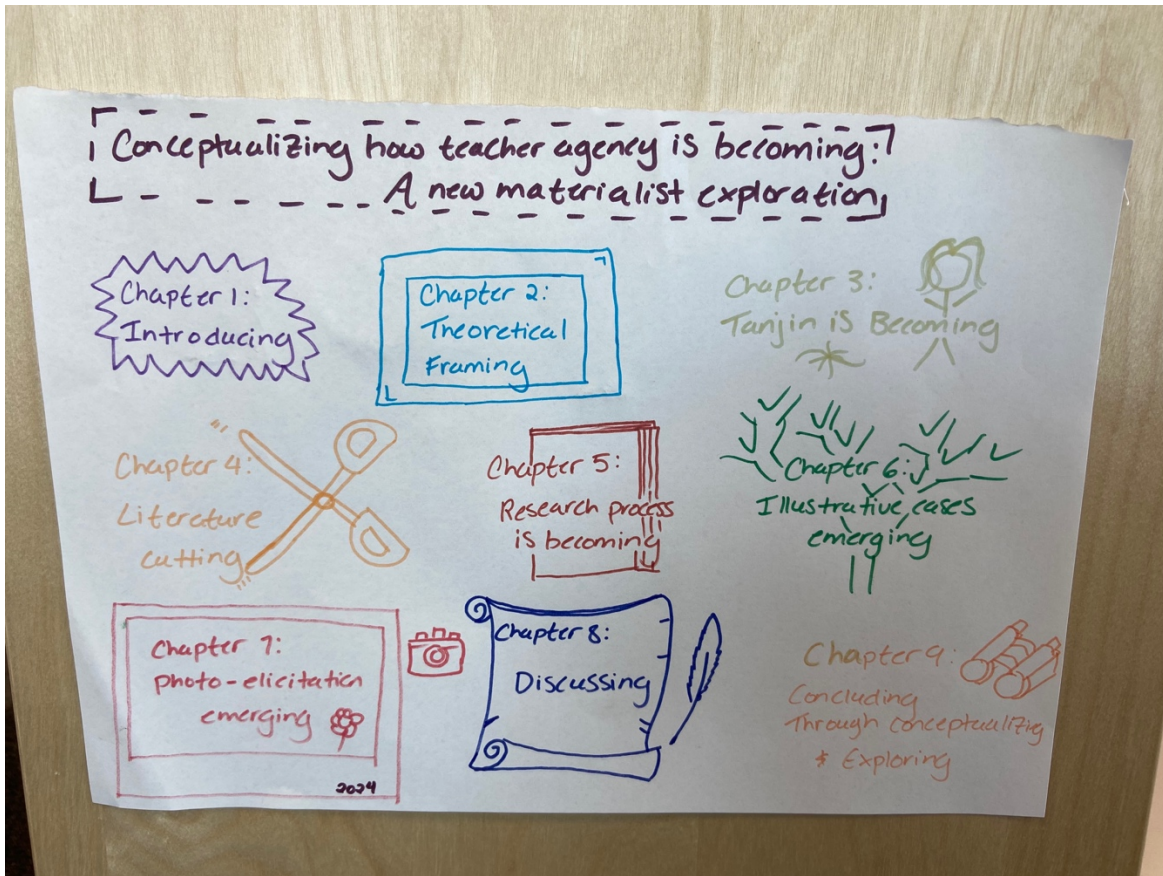


Figure 1: Visualising my thesis chapters

As I will explain throughout this thesis, this diagram, along with other visuals, are not depictions or representations of reality; rather these visuals engage in producing reality. As such, Figure 1 does not represent the structure of my thesis, because it actually contributed to organising my thesis.

Throughout this thesis I explain that the chapters are *together-apart* — a concept that means certain components might seem disparate but in actuality are provisionally separated through specific causes and effects, but these components actually exist by engaging together (Barad, 2007). In [Chapter 1: Introducing](#), I explain how the research topic, purpose, and questions have been evolving from the beginning of my doctoral journey. In addition, I describe the potential significance of the research purpose and outline the research questions.

In [Chapter 2: Theoretical Framing](#), I provide a general description of new materialism and outline key onto-epistemological features from new materialist lines of thinking. Next, I provide an in-depth description of agential realism, which is the specific new materialist framework I think with in this thesis. I explain what it means to *think with* theory more broadly and what thinking with agential realism for this thesis entails. Lastly, in [2.5: Table of Key Terms and Concepts for this Thesis](#), I provide a table of key agential realist terms and concepts that I use throughout this thesis.

In [Chapter 3: Tanjin is Becoming](#), I discuss how I think with new materialism and agential realism to understand how I am becoming through this research process and how the research process is becoming through my intra-actions with me. I begin this chapter by tracing my onto-epistemological beliefs and its entanglement with my higher education and formal teaching experiences. I explain how this theoretical exploration involved numerous onto-epistemological paradigm shifts that produced the conditions of possibility to think with new materialism and agential realism. Afterwards, I detail how thinking with new materialism and agential realism challenged and disrupted my deeply ingrained onto-epistemological beliefs, particularly about doctoral studies. I ruminate on how un-learning is a difficult material-discursive practice while acknowledging that un-learning is a nonlinear process that requires

self-compassion. Lastly, I describe what thinking with new materialism and agential means for Tanjin as a researcher and human.

In [Chapter 4: Literature Cutting](#), I share my review of the pertinent literature for this thesis and I explain why I refer to the literature review as *literature cuts*. The literature cuts include:

- [Cut One: Teaching Profession Becoming](#);
- [Cut Two: Humanist Conceptualisations of Teacher Agency](#);
- [Cut Three: New Materialist Conceptualisations of Teacher Agency](#);
- [Cut Four: Teacher Agency and Neoliberalism](#);
- [Cut Five: Teacher Agency and COVID-19](#); and
- [Cut Six: National and Local Cuts](#).

Lastly, I describe the implications of these literature cuts for this thesis and how I intra-act with these cuts in a diffractive manner, especially because these cuts are not representational, meaning they are neither objective nor static.

In [Chapter 5: Research Process is Becoming](#), I describe how the research process has been evolving. I begin by describing how the qualitative case study approach of this thesis has been becoming from taking a structural traditional case study approach to a new materialist approach where I acknowledge the cases as *case-entanglements*. Next, I delineate how the research questions for this thesis changed through multiple iterations and how I refer to them as *becoming-questions*. Afterwards, I explain the data and methods of this thesis, the methods I used to generate data with teacher participants including interviews and photo-elicitation, and the process of generating that data. In addition, I describe the principle ethics and ethic of care I engage in as a researcher. Lastly, I describe how the data analysis process has been becoming

through multiple approaches and iterations, and I emphasise how these messy, chaotic processes should be embraced because that is the nature of research.

In [Chapter 6: Illustrative Case-Entanglements Emergings](#), I present findings, which I deem *emergings*, through five illustrative case-entanglements that emerged from the interview data I generated with ten teacher participants from Canada, Australia, and the United States. Afterwards, I provide a summary of the illustrative case-entanglements to highlight the opportunities and insights that emerge from using interview as a method to embark on a new materialist exploration of how teacher agency is becoming.

In [Chapter 7: Photo-elicitation Emergings](#), I present thematic findings from the photo-elicitation data that was generated through the 10 case-entanglements. The emergings include photos, summaries, and excerpts to describe the intra-actions between the photo content, the conversations about the photos during the semi-structured interview, and any insights the teacher participants provided on their experience with photo-elicitation. Like [Chapter 6](#), I conclude [Chapter 7](#) by providing a summary of the emergings to highlight the opportunities and insights that emerge from using photo-elicitation as a method to embark on a new materialist exploration of how teacher agency is becoming.

In [Chapter 8: Discussing](#), I re-conceptualise teacher agency into *teacher agencies*. I begin with recapping Chapters 1 through 7 to describe how they are together-apart with [Chapter 8](#) in illuminating the significance of this thesis and its contribution to knowledge. Next, I define *teacher agencies* and the necessity of this re-conceptualisation, and what thinking with *teacher agencies* entails. Lastly, I think with *teacher agencies* to describe implications for policy and practice pertaining to public school primary teachers in Canada, Australia, and the United States.

In [Chapter 9: Concluding](#), I answer the main research question and three sub-questions using the insights from Chapters 1–8. Next, I highlight my theoretical, methodological, and empirical contributions to knowledge. Lastly, I conclude this thesis by explaining how conclusions do not have to entail concluding.

Chapter 2: Theoretical Framing

There is no difference between what a book talks about and how it is made.

Gilles Deleuze and Félix Guatarri (1988, p. 4)

2.1 Chapter Overview

This is a pivotal chapter that describes the theoretical foundation and defines concomitant terminology I think with for this thesis. Unlike the other chapters, I do not describe how aspects of the thesis have been becoming. Instead, I describe how the theoretical foundation for this thesis has been becoming in [Chapter 3: Tanjin is Becoming](#), where I also describe how my own beliefs on knowledge and reality have been re-shaped through the process of choosing a theoretical framework for this thesis. One of the key characteristics of agential realism is making temporary separations between components to focus on a specific aspect of research (Barad, 2007). As such, I made this temporary separation so that I can focus on describing the theoretical framing and provide a clear understanding of how I think with theory for this thesis.

In subsection [2.2: New Materialism](#), I provide a general description of new materialism and outline key onto-epistemological features from new materialist lines of thinking. Next, in [2.3: Agential Realism](#), I provide an in-depth description of agential realism, which is the specific new materialist framework I think with in this thesis. In [2.4: Thinking with Agential Realism for this Thesis](#), I explain what it means to *think with* theory more broadly and what thinking with agential realism for this thesis entails. Lastly, in [2.5: Table of Key Terms and Concepts for this Thesis](#), I provide a table of key agential realist terms and concepts that I use throughout this thesis.

2.2 New Materialism

New materialism is a diverse range of frameworks with an onto-epistemological stance that nonhuman matter (e.g., non-human animals, plants, materials that do not breathe) is not passive but works to produce agency (Coole & Frost, 2010). In contrast, “old” materialism refers to notions where social constructs are subjective and passive matter are objective (Coole & Frost, 2010; Fox & Alldred, 2017; Gamble et al., 2019). An example of old materialism is Karl Marx’s structural materialism, which argues that objective material conditions produce a top-down social hierarchy (Coole & Frost, 2010; Fox & Alldred, 2017). The popularity of old materialism started dwindling in the 1970s because of scepticism over the growing divide between scientific realism and social constructivism, with an absence of a paradigm to challenge this binary (Coole & Frost, 2010).

New materialism is part of an evolving range of frameworks and theories that emphasise the inseparability between human and nonhuman phenomena — some of these related lines of thinking include posthumanism, theories of the rhizome, and post-qualitative inquiry (Barad, 2007; Bennet, 2010; Deleuze & Guattari, 1988, St Pierre, 2011). Each line of thinking has a rich, nonlinear evolution which can warrant its own thesis. Even though it is beyond the scope of my thesis to describe each framework and/or theory in detail, it is important to explain how new materialism is situated within this scholarship and why I chose to think with new materialism. First, Barad (2007) describes agential realism as a new materialist framework, and further on in this subsection, I justify how it was pertinent for me to think with agential realism. Second, new materialist thinking provides opportunities to consider using methodologies and methods. This is contrary to post-qualitative inquiry, where one of the central tenets put forth by St. Pierre (2011) is to do away with methodologies altogether. In [Chapter 5: Research Process is Becoming](#), I explain how my use of case study research and concomitant methods have been becoming, and

why it was important for me to diffract with new materialism in retaining these aspects in my thesis. Lastly, it is challenging to disentangle the common tenets and genealogies of these frameworks and theories; as such, I had to make an agential cut and choose to think with new materialism while I acknowledge that it is not isolated from the aforementioned scholarship.

In the last 25 years, new materialism has evolved in a nonlinear manner through multidisciplinary perspectives (Fox & Alldred, 2015a, 2017). The term itself was coined by Rosi Braidotti (1991) and Manuel DeLanda (1996). The “new” in new materialism does not deny its rich, nonlinear genealogy. Instead, it denotes a renewed interest and re-reading of materialism in recent decades, where the binary between natural/social is problematised (Coole & Frost, 2010; Dolphijn & van der Tuin, 2012). Coole and Frost (2010) emphasise the necessity of re-conceptualising materialism because its onto-epistemology has significant ethical and political consequences, particularly with how we address our relationships with human-nonhuman phenomena and the nature of agency and causation.

Even though there are no central concepts binding new materialist frameworks, there are a few distinct features among them (Fox & Alldred, 2015a; St. Pierre et al., 2016; Wolfe, 2017). New materialist scholars use various agentic adjectives to describe matter, including Jane Bennett’s (2010) usage of “vibrant” and “vital” matter. New materialist thinking diverges from Cartesian and Euclidian notions of matter being stable and fixed in space. Hence, part of that divergence involves challenging binaries and dualisms, such as the perceived dichotomy between human/nonhuman, object/subject, sentient/nonsentient phenomena, and structure/agency (Coole & Frost; Dolphijn & van der Tuin; 2012; Fox & Alldred, 2017).

Another part of the endeavour of challenging binaries is to foster thinking and practices that are “more positive and constructive than critical or negative” (Coole & Frost, 2010, p. 8).

This means no forms of knowledge are privileged over another; rather, it is one's ethical responsibility to understand how knowledge impacts human and nonhuman phenomena. Cutting through dualisms implies a relational ontology where matter and meaning are not distinct but exist in producing and re-configuring one another through their relationships (Coole & Frost, 2010; Fox & Alldred, 2017). A relational ontology also implies that the locus of agency is not within the cognate human, but nonhumans as well (Coole & Frost, 2010; Fox & Alldred, 2017). Hence, new materialists reject social structures, and argue that reality is produced through a series of interwoven cultural and material relations (Coole & Frost, 2010; Fox & Alldred, 2017). Coole and Frost (2010) emphasise the relevance of new materialism with the epochal state of digital technologies that is blurring perceived boundaries between humans and nonhumans. An example of this disrupted binary is Donna Haraway's (1991) conceptualisation of cyborgs, which are humans with nonhuman enhancements that, in turn, have no boundaries between subject and object.

Indeterminacy is also a key notion within new materialist lines of thinking, in that there is no certainty in how human-nonhumans will emerge, develop, and dissipate (Coole & Frost, 2010). Thus, *becoming* is a key ontological notion denoting how human and nonhuman phenomena, relations, and concepts are always changing and impacting each other in a nonlinear manner (Barad, 2003, 2007; Coole & Frost, 2010; Kuby & Zhao, 2021). If there is no certainty in how human-nonhumans are becoming, because the nature of becoming is contingent on specific relations, then the outcomes will always be different and distinctive (Bozalek & Zhao, 2021). As such, new materialism uses the notion of indeterminacy to focus on difference rather than replication of existence (Bozalek & Zhao, 2021; Murriss, 2021). Difference is not perceived as producing negative implications, such as pitting two people against each other to decide who is

better (Bozalek & Zhao, 2021); rather, new materialists encourage acknowledging and normalising that difference is inevitable and produces unique insights (Bozalek & Zhao, 2021; Barad, 2007).

Out of a wide range of new materialist frameworks and lines of thought, I selected agential realism to think with in this thesis for three key reasons. First, agential realism provides a thorough explanation of the relationship between discourse and human-nonhuman relationships. It is imperative to consider the role of discourse in this thesis since the dominant argument in the literature is that discourses significantly shape teacher agency (Biesta et al., 2015; Biesta et al., 2017; Cong-Lem, 2021; Connors & Bengston, 2020; Digón-Regueiro, 2021; Priestley et al., 2015; Robinson, 2012). Second, agential realism provides rich insights on considering the significance of space and time in producing knowledge and existence. In the proceeding chapters, I explain how space and time emerged as significant components whereby teacher agency is becoming, which was why I needed a theoretical underpinning that could adequately accommodate these concepts. Lastly, an agential realist framework emphasises the importance of ethics when producing onto-epistemologies. The ethical implication of research is a major theme of this thesis, so it is crucial to think with a framework that illuminates the importance of ethics. I explain how agential realism conceptualises these aspects in the next two subsections. In subsection [2.3](#), I describe the key concepts and notions of agential realism, and then, in [2.4](#), I explain how I think with the concepts and notions of agential realism for this thesis.

2.3 Agential Realism

Agential realism was created by Karan Barad, a feminist scholar and quantum physicist. Barad thinks through various scholars from multiple disciplines to coin concepts that are unique to

agential realism, while also echoing the key new materialist features that I outlined in [2.2](#). In this subsection, I begin by describing how Barad builds a nonrepresentational onto-epistemology and emphasises the inseparability between humans and nonhumans. Next, I describe the key components of agential realism's onto-epistemology, which Barad (2007) refers to as an *ethico-onto-epistemology*. Afterwards, I describe *diffraction* and *spacetime-mattering*, which are key concepts that reaffirm agential realism's understanding of how knowledge and reality are always becoming. Lastly, I describe an agential realist understanding of agency and power.

2.3.1 Nonrepresentationalism

Barad (2003, 2007) explicitly diverges from representationalism, which is a two-world notion that there is an external objective reality and an internal world that represents subjectivity. Representationalism is a Cartesian legacy of producing a binary between external/internal, resulting in the perception that humans can be a part of their internal world as opposed to the external world out there (Barad, 2003, 2007). An example of the hegemonic nature of representationalism is how the binary between subject/object has become commonplace in Western research (Murriss & Zhao, 2021). According to the binary, the subject, who is human, is the examiner and producer of knowledge, while the object is an objective reality that is waiting to be examined (Barad, 2003, 2007; Murriss & Zhao, 2021). This notion implies that the subject is always separate from the object, and that knowledge can only be created by human subjects using discourses, which refers to meanings and symbols, to represent the object.

Barad (2003, 2007) diverges from representationalism by thinking through Niels Bohr, Judith Butler, and Michel Foucault, three scholars who also question representationalism. Barad's (2003, 2007) mission to debunk representationalism entails an intricate discussion about these three scholars' understandings on the nexus between object, subject, and discourse.

Foucault (1982) shared two definitions of “subject”. First, a subject is a conscious and self-aware producer of knowledge. Second, a subject is controlled by other people or themselves, and those conditions arise through social relationships. Foucault referred to objects as knowledge that is claimed to be neutral and objective. He further argued there were various methods that humans pursued to produce so-called objective knowledge about themselves, including through language, creating binaries such as mad/sane, and using macro-level concepts such as “sexuality”. In this subsection, I will use Foucault’s definition of object and only the first definition of the subject as being a conscious producer of knowledge, because I choose not to delve into the relationship between subject and power here. Instead, in [Chapter 3: Tanjin is Becoming](#), I juggle Foucault’s two definitions of subject to explain how a Foucauldian conceptualisation of power changed my onto-epistemological beliefs.

Foucault (1980) troubles the dominant notion that discourses are solely transmissions of language that humans use to represent reality, by arguing instead that discourses can impact the humans who produce it themselves. This means that discourses do not represent reality, but they *produce* reality and conditions of possibility. In addition, Foucault’s conceptualisation of discourse as an active producer of humans – via subjectification – also challenges the subject/object binary because discourses cannot represent an objective reality if the producers are impacted by it.

Barad (2007) works with Foucault’s notion of discourse by also agreeing that discourses produce reality and do not represent an external reality. However, Barad (2003, 2007) also argues that Foucault is unclear about the relationship between nonhumans and discourse, and suggests he believed the role of nonhumans is to passively support discourses emerging from the cognitive capacities of human relations and actions. Moreover, Foucault (1982) argued that only

conscious and self-aware beings can be transformed into subjects or objects, which implies that he believed only humans could be subjects, or producers of knowledge.

Barad (2007) also thinks through Bohr, one of the founders of quantum physics, and his conceptualisation of scientific apparatuses to build an argument that nonhumans are involved in producing discourse. In research, and particularly in science, apparatuses usually refer to instruments that are used to examine or observe human-nonhumans. Barad (2007) explains how Bohr asserted that scientific apparatuses, which he refers to as non-human material devices, do not solely measure the phenomena being examined, but they instead produce and re-configure the phenomena. This means that apparatuses themselves are not objective instruments, nor do they have the sole purpose of producing objective knowledge, or what he referred to as "abstract concepts". Rather, apparatuses are phenomena themselves and can be re-configured through human-nonhumans and the concepts they produce. As such, Bohr concluded that material and concepts cannot exist without each other, because concepts need to be materialised in order to exist, and materials need conceptual understandings to exist. Moreover, Bohr rejected the subject/object binary because the subject, or in this case the researcher using the apparatus, can also be re-produced through the apparatus and concepts.

Barad (2007) uses Bohr's assertion of the inseparability between materials and concepts to further defy the subject/object binary. However, like Foucault, Bohr was not clear on whether defying the subject/object binary removes the distinction between humans and nonhumans, and subject and material apparatus. As such, Barad (2007) extends on Bohr and Foucault's lines of thinking by explicitly putting forth an argument that there are no characteristics that distinguish between humans and nonhumans, or between subjects and objects. Rather, humans and nonhumans materialise discourse and are materialised by discourse. Hence, knowledge and

discourses can be produced through specific engagements between human-nonhumans. This implies that the production of discourses is not confined to human cognition, nor that knowledge and memory are unique to humans. In addition, Barad (2007) emphasises the importance of acknowledging the causality of apparatuses because “accounting for apparatuses means attending to specific practices of differentiating and the marks on bodies they produce” (Barad, 2007, p. 232). I explain the ramifications of apparatuses illuminating *marks on bodies* for research and this thesis in [Subsection 2.4](#).

An example of nonhumans producing discourse is the brittlestar, which is an invertebrate creature related to starfish (Barad, 2007). Even though the brittlestar has no brain, it can use light to increase its vision and change colour to ward off predators. In this example, the discursive practice are the boundaries the brittlestar enact to increase vision or to stay away from predators, and these boundaries materialise through its bodily changes. Barad (2007) also uses this example to argue that human and nonhuman materiality and discursive practices are inseparable because materialisation occurs through discourse, and that materiality re-produce and re-configure each other. It is important to note that an agential realist understanding of knowledge is different from dominant human notions that discourse is confined to the human brain (Barad, 2007). Instead, discourse, or discursive practices, are understood as ongoing engagements between human-nonhumans and their re-materialisations are seen as a response to those engagements, just like the brittlestar’s re-materialisation in its response to light and predators (Barad, 2007). As such, Barad (2003, 2007) coined the term *material-discursive practices* to denote the inseparability of material and discourse as they both impact and are impacted by each other.

Barad further builds on the nonrepresentational notion of knowledge and being by re-working Butler’s theory of gender performativity. Butler (2006) theorises that gender is not an

immutable trait. Rather, gender emerges through multiple power relations among humans. This concept is referred to as *performativity*, which is different from “performance” because a performance is an individual act whereas performativity arises from multiple, intertwined discourses and actions (Butler, 1997).

Barad (2007) uses Butler’s theorisation to emphasise how knowledge and existence emerges from material-discursive practices, rather than from individual entities. In addition, Barad also agrees with Butler’s (1993) argument that nonhumans are not passive and are intertwined with discourse. However, Barad (2007) notes that, like Foucault, Butler also challenges the subject/object binary but focuses solely on the production of humans. In addition, Barad (2007) argues that Butler does not provide a sound explanation for how nonhumans and discourse are intertwined in producing each other. As such, Barad (2007) re-works Butler’s theory of performativity by asserting that performativity involves nonhumans that are also engaging in material-discursive practices to produce human-nonhumans and concepts. Hence, Barad (2003, 2007) refers to this notion of performativity as *posthumanist performativity* to decentre human phenomena and emphasise that material-discursive enactments between human-nonhumans produce a one-world reality.

2.3.2 Ethico-onto-epistemology

Through an understanding of posthumanist performativity that is nonrepresentational, Barad (2003, 2007, 2010) proposes a relational ontology whereby human-nonhuman phenomena exist through relations; as opposed to *thingification*, where phenomena are reduced to individual things. A relational ontology also highlights the inseparability of ethics, ontology, and epistemology (Barad, 2007; Murriss, 2021). Barad (2007) denotes this inseparability as an *ethico-onto-epistemology*. The ethical element emphasises how there is a responsibility, or *response-*

ability, which is the ability to respond and be aware, of acknowledging how in a nonrepresentational world, one is not obtaining knowledge from the periphery because they are part of the processes of knowledge making (Barad, 2003, 2007; Ingram, 2021). Hence, the *realism* in agential realism denotes a reality where knowledge and existence are not mirrored or seen from the outside but are produced internally (Barad, 2007).

Agential realism deviates from thingification by referring to human-nonhumans as *phenomena*, rather than things (Barad, 2003, 2007). An agential realist conceptualisation of phenomena is that they are fundamental ontological units, such as atoms (Barad, 2003, 2007; Jackson & Mazzei, 2022). Usually, atoms are referred to as primary ontological units of matter, but an agential realist framework uses phenomena instead to emphasise that even the tiniest ontological units are not independent entities but are produced through engagements between human-nonhuman material-discursive practices. Barad (2007) also uses phenomena instead of subject and object because there are no distinctions between subject and object; hence, these terms are rendered obsolete. Phenomena are rendered objects and subjects only through specific material-discursive practices and that denotation is not set in stone. An agential realist conceptualisation of phenomena also accentuates how human-nonhumans do not pre-exist outside of their enactments, which is why their interactions are referred to as *intra-actions* (Barad, 2007). Hence, knowledge and existence are based on intra-acting phenomena, rather than individual things (Barad, 2007; Jackson & Mazzei, 2012, 2022; Murriss, 2022). Murriss (2022) explains how agential realism is distinct from other relational ontologies because it emphasises that knowledge and existence emerge *within* intra-activity, and they do not pre-exist those intra-actions.

Aligned with new materialist lines of thinking, phenomena are nonlinear, produce multidirectional causes, and are non-deterministic (Barad, 2003, 2007). The nonlinear, multidirectional nature of the relationships between these intra-acting phenomena are denoted as *entanglements*, further accentuating how phenomena lack an independent existence (Barad, 2003, 2007). Phenomena are not dictated by determinism, nor do they emerge through free will; rather, they emerge through conditions of possibility and provide possibilities of choice and change as well. It is also important to note that when thinking with agential realism, the use of *emerge* stems from emergence theory, which is a relational ontology asserting that entities do not possess individual characteristics but instead come into being by emerging through relations within a wider body (Stark, 2019).

In terms of the ethical aspect of agential realism's ethico-onto-epistemology, humans have an ethical response-ability to understand how we are impacted and impact phenomena with which we intra-act, because we do not exist as individual entities who can choose not to impact or be impacted by human-nonhuman phenomena. Rather, our causal intra-actions with human-nonhuman phenomena are inevitable, so we need to acknowledge and take accountability for our material-discursive practices (Barad, 2003, 2007). In addition, it is also an ethical matter of what boundaries and exclusions are produced through specific intra-actions, because those boundaries and exclusions have the potential to produce power imbalances to the detriment of specific human-nonhuman phenomena (Barad, 2003, 2007). In the next subsection, I describe an agential realist understanding of diffraction, and how Barad uses diffraction to provide a sound ethical framework for making knowledge.

2.3.3 Diffraction

As I also state in [2.2](#), new materialism focuses on ontological difference, rather than replication. In agential realism, the role and significance of difference is explored through a concept called *diffraction*. Diffraction is a physical phenomenon whereby a wave changes direction because of an intra-action with a physical obstacle (Barad, 2007). Barad (2007) asserts that phenomena exist through perpetual differences by analogising it through the concept of waves, which are marked differences, and how they are always intra-acting, overlapping, and re-configuring each other. Hence, an agential realist framework extends on the new materialist ontological notion of becoming by considering the significance of difference and refers to it as *differential becoming*. Barad (2007) uses Thomas Young's enigmatic two-slit experiment with Niels Bohr's insights to explain the ontology of diffraction. According to the laws of physics, particles and waves function differently because particles *are* matter, whereas waves are interferences *caused by* matter. However, in the two-slit experiment, when light particles go through a two-slit mechanism, they come out of the slits exhibiting a wave pattern as opposed to the presumed particle pattern. Moreover, when Barad re-configured the two-slit mechanism by placing a spring in the top slit, the particles exhibited a particle pattern in the top slit while continuing to perform a wave pattern in the bottom slit (Dolphijn & van der Tuin, 2012). In this entanglement, the two-slit mechanism and the protons changed through their intra-actions. This experiment is used to explain the entanglement between the apparatus, (i.e., the two-slit mechanism) and the object (i.e., the particles) and how they re-configure each other in their intra-actions: the apparatus changed the patterns of the particles, and the particles changed the apparatus with the modification of the spring for it to exhibit particle patterns (Barad, 2007; Dolphijn & van der Tuin, 2012).

Furthermore, Barad (2007) was also intra-acting in this entanglement by modifying the two-slit mechanism with the added springs, which also impacted Barad as a physicist because it changed their understanding of physics. In summary, the two-slit experiment dispels binaries, particularly between particle/wave and apparatus/object. According to an agential realist framework, the objectivity lies in understanding and acknowledging how the intra-actions between human-nonhuman phenomena impact each other. The experiment also reaffirms the inseparability of discourse and material, and it illuminates how concepts, such as theories, are indeterminate until conditions of possibility materialise (Barad, 2010).

I include three figures below to illustrate these experiments. Figure 2 shows the patterns that are expected when particles and waves go through the two-slits of the apparatus. Following that, Figure 3 shows the actual results where the particles exhibit wave pattern. Lastly, Figure 4 showcases the modified apparatuses with two springs.

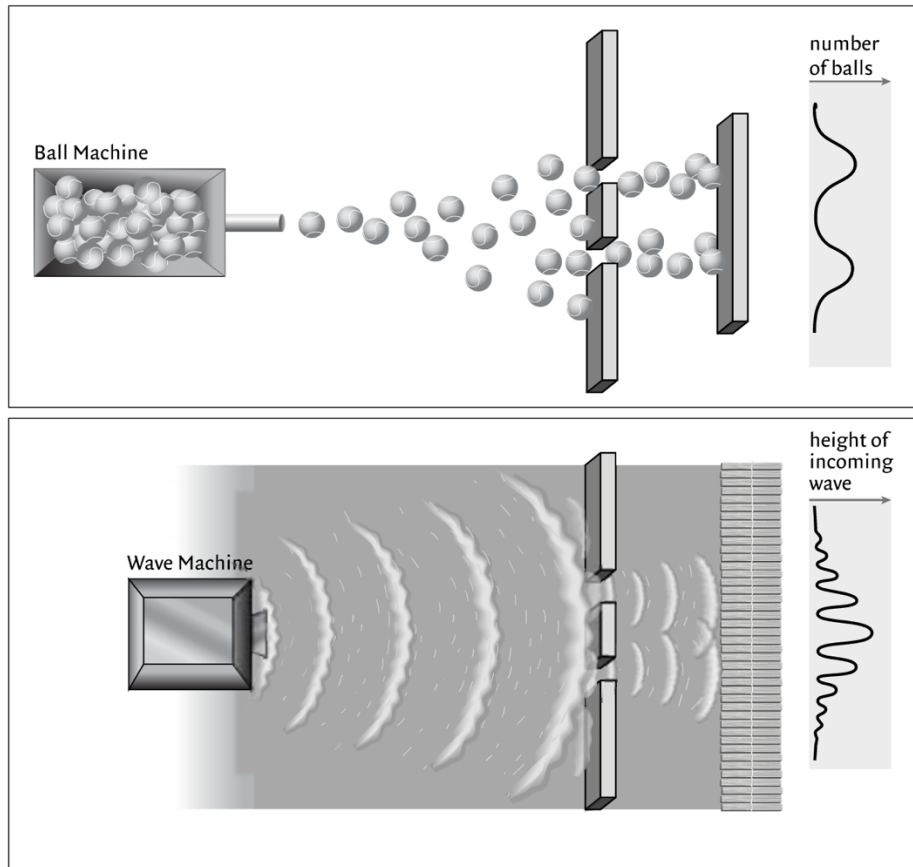


Figure 2: Expected two-slit experiment results

(Barad, 2007)

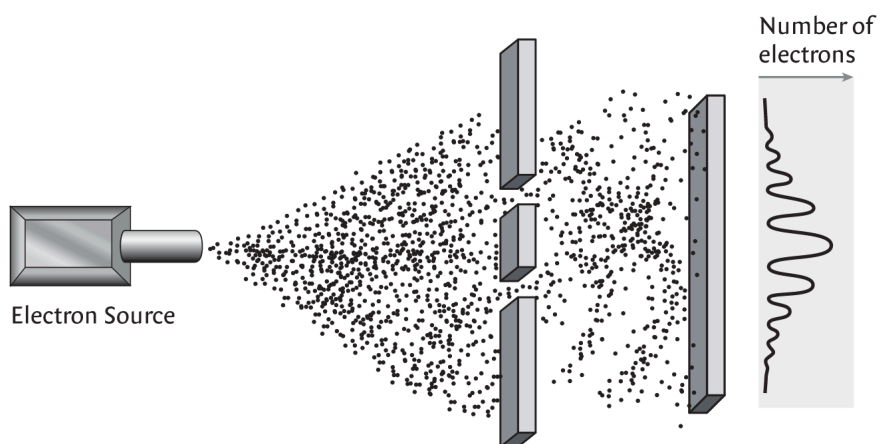


Figure 3: Actual two-slit experiment results

(Barad, 2007)

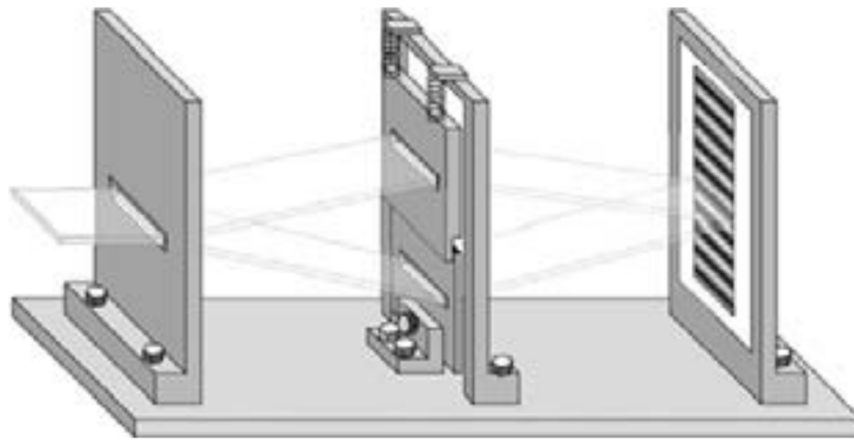


Figure 4: Modified two-slit experiment results

Using the physics notion of diffraction, Barad (2007, 2014, 2018) developed diffraction as a methodology where onto-epistemologies are understood by reading *through them*, rather than *against* each other. This approach does not privilege any forms of knowledge or existence, and instead focuses on how the differences within these forms can further contribute to the understanding of phenomena (Barad, 2007). For example, in an interview with Dolphijn and van der Tuin (2012), Barad expresses disinterest in critique because it is a destructive practice, such as making someone feel inferior, which they term as subtraction. Instead, a diffractive approach explores differences to analyse how they provide different insights on specific phenomena, agencies, intra-actions, and entanglements (Barad, 2007; Dolphijn & van der Tuin, 2012; Taylor, 2021). Diffraction is an ethical enactment because it involves the response-ability of being mindful of how material-discursive practices are being enacted with respect and care (Barad, 2007; Dolphijn and van der Tuin, 2012). Interestingly, Barad (2007) embodies the ethical practices of diffraction by building an agential realist framework that diffracts through Bohr, Butler, and Foucault, which I detail in [Subsection 2.3.1](#). Barad does not pit these scholars against each other by making any claims that any of them are superior to one another. Rather, Barad

(2003, 2007) describes the scholars' insights on defying the subject/object binary and how those insights produced conditions of possibility to create a nonrepresentational theoretical framework. As such, I embody this response-able diffractive practice throughout this thesis. In the next subsection, I describe spacetime-mattering, which is another concept that reaffirms agential realism's understanding of the indeterminate nature of knowledge and existence, and it is an integral concept for this thesis.

2.3.4 Spacetime-mattering

Space-time, a term that originates from physics, implies that spatiality and temporality are interconnected and interdependent on each other (Mcgregor, 2003; St. Pierre, 2011; Weidenhaus, 2023). The concept and relevance of space-time has been explored in social contexts, where the definition of space and time varies by different cultures and individual perceptions (Weidenhaus, 2023). As Barad (2003) articulates "this ongoing flow of agency through which 'part' of the world makes itself differentially intelligible to another 'part' of the world and through which local causal structures, boundaries, and properties are stabilised and destabilised does not take place in space and time but in the making of spacetime itself" (p. 817). This means that knowledge and existence are becoming through the production of time and space.

Barad (2007, 2010, 2017, 2018) uses the term *spacetime-mattering* to extend the lines of thinking on space-time by asserting how materiality is also enfolded within space-time entanglements. Spacetime-mattering is a verb used to denote the entanglement of space, time and matter that produce, reproduce, and re-configure each other (Barad, 2007; Scantlebury, 2019). Barad (2007) uses spacetime-mattering to challenge the notion of change as a temporally linear and continuous phenomenon, and rejects the Euclidean model of space as contained and fixed. Rather, space, time, and matter intra-act in a non-deterministic manner. Time is not linear or

neatly separable into discrete units. Events, physical matter, ideas are not becoming in a linear manner; rather, these phenomena materialise in a nonlinear manner where they might emerge, develop, and dissipate sporadically. As such, the locus of phenomena is not within specific spaces or time periods, because phenomena are becoming through spacetimemattering. Hence, “boundaries don’t hold; times, places, beings bleed through one another” (Barad, 2014, p. 179).

Barad (2017, 2018) explores atomic bomb blasts and associated radioactivity to illuminate the nonlinearity of space and time. For example, when the atomic bombs dropped in Hiroshima and Nagasaki in Japan, they obliterated human and nonhuman phenomena, enacting a significant disruption of time (Barad, 2018). Moreover, the atomic bomb blasts do not sit in one space-time point. The radiation exposure has long-lasting, insidious effects on human-nonhuman phenomena, including sporadic incitements of terminal diseases and material decay. Barad (2018) also discusses how mushrooms flourish under radioactive exposure, which is atypical because most human-nonhuman phenomena deteriorate. Mushrooms thrive under radioactivity because they are entangled in a specific manner where mushrooms leverage the energy from the radioactive emissions to produce food. This is an example of another material-discursive practice, where mushrooms are materialising food through their discursive response (i.e., ionising radiation through their melanin) to the characteristics of radioactivity. Moreover, Barad’s (2018) analysis of atomic bombs and radioactivity highlights how these phenomena do not sit in specific points of space and time since their effects are not immediate, and they produce different types of marks on bodies depending on specific material-discursive practices.

As such, the purpose of spacetimemattering is to rethink taken-for-granted assumptions of space, time, and material by asserting that “phenomena are material entanglements that ‘extend’ across different spaces and times” (Barad, 2007, p. 383). Throughout this thesis, I

explain how spacetime mattering provides pivotal insights on how teacher agency is becoming, and implications for power dynamics. Before delving into that discussion, I describe an agential realist understanding of agency and power itself in the next subsection.

2.3.5 Agency and power

Agency is usually conceptualised through scientific realist and social constructivist paradigms, which I explain in further detail in [Chapter 4: Literature Cutting](#). Agential realism rejects the dichotomy between scientific realism and social constructivism (Barad, 2007; Dolphijn & van der Tuin, 2012; Murriss, 2022). Instead, it emphasises how power is materialised through material-discursive practices (Barad, 2007). As I mentioned earlier, the *realism* in agential realism rejects a two-world reality (Barad, 2007). In addition, the *agential* in agential realism rejects the agency/structure binary because the locus of agency and power are not situated within an individual, but is instead distributed between human and nonhuman phenomena that do not pre-exist their intra-actions (Barad, 2007). Barad (2007) conceives this relational notion of power and agency by diffracting through Foucault and Butler. Foucault and Butler both argued that the locus of power did not reside within an individual entity but rather emerged through a multiplicity of relations (Foucault, 1978; Butler, 2006). As such, these scholars argued that power is an action that is exercised, rather than a finite resource to be shared or acquired. However, Barad (2007) argues that both scholars believed agency was unique to humans. As such, even though Barad (2007) uses Foucault and Butler's understanding that power is a relation and action, Barad diverges from the latter two's humanist understanding of agency.

Barad steers away from using terms like *agent* and *actant* because those terms denote an individual human capacity (Dolphijn & van der Tuin, 2012). Rather, Barad (2007) describes the intra-acting emergence of agency as collective “entangled state of *agencies* [emphasis added]”

(p. 23). I emphasise *agencies* because this will be a key notion when I reconceptualise *teacher agency* as *teacher agencies* in [Chapter 8: Discussing](#). Hence, within an understanding of posthumanist performativity, agency is “doing/being” rather than “having”, which means agency is an enactment, performance, and practice (Barad, 2007; Bozalek, 2021; Jackson & Mazzei, 2012, 2022). This enactment entails “making iterative changes to particular practices through the dynamics of intra-activity (Barad, 2007, p. 214). This means that agency emerges if specific material-discursive practices induce certain phenomena to cause changes within other phenomena and those changes are denoted as effects. There are significant implications for nonhuman phenomena when agency is conceptualised as an enactment rather than a possession, because then the focus is on the marks on bodies that are enacted by human and nonhuman phenomena (Barad, 2007). As such, agency is not about *choice* but instead concerns *possibilities* and *accountability* in producing and acknowledging material-discursive practices (Barad, 2007, p. 218).

Agencies are entangled with power and causality because “agential intra-actions are causal enactments” (Barad, 2003, p. 824). Barad (2007) argues that like agency, power is not external because it is propagated through the intra-actions between the social and material. This means neither structures nor phenomena are fixed in time and space, because even time and space are not stationary. Hence, like agency, power and causality also do not pre-exist intra-actions, and they produce and are produced through intra-acting entanglements (Barad, 2007; Jackson & Mazzei, 2012, 2022). In addition, the non-deterministic changes through the agential flows of intra-activity produces possibilities of ongoing change and becoming (Barad, 2007). This means power and agency are fluid and can change, meaning that “intra-actions are *constraining but not determining* [emphasis added]” (Barad, 2003, p. 826). As such, cause and

effect emerge from within entangled agencies and are not deterministic but produce conditions of possibility (Barad, 2007; Jackson & Mazzei, 2022; Naraian, 2022). During an interview, Barad briefly discusses how multiple causes can produce certain effects and refers to this complex multitude of causalities as *multicausality* (Barad & Gandorfer, 2021). Murriss (2022), who diffracts through Barad acknowledges multicausality as *mutually performative*. In this thesis, particularly in [Chapter 8: Discussing](#), I elaborate on the notion of multicausality and introduce the notion of multidirectional effects.

Aligned with agential realism's ethico-onto-epistemology, the most significant implication of agency, power, and causality is the ethical response-ability to understand the possibilities that are produced through specific intra-actions and the impact on human-nonhuman phenomena, and Barad (2007) refers to these effects as "marks are left on bodies" (p. 824). While such a response-ability begins with acknowledging power imbalances (Barad, 2007; Dolphijn & van der Tuin, 2012), the next step is addressing those power imbalances by the possibilities, exclusions, and boundaries that are being produced within material-discursive practices, and the marks left on bodies (Barad, 2007; Dolphijn & van der Tuin, 2012). This means one must take initiative in enacting the accountable practice of identifying marks on bodies and extant power dynamics, rather than deferring the response-ability to other human-nonhuman phenomena (Barad, 2007).

Barad (2007) refers to the re-production of boundaries and exclusions as *agential cuts*. Agential cuts are temporary separations between phenomena and intra-actions (Barad, 2007). These cuts, which are produced through specific material-discursive practices, produce agencies, meaning, changes and causalities. Ontologically, these cuts are not permanent because phenomena are inseparable from their entanglements, and the exclusions and boundaries cause

specific effects. Hence, the phenomena from the cuts are *together-apart* with the entanglements because phenomena can be explored, temporarily, apart from the entanglements but they are effectively together. Human-nonhuman phenomena are made into subjects and objects through agential cuts; however, these denotations are temporary because subjects and objects are not fixed entities. In that case, “objectivity is not about offering an undistorted mirror image of the world, it is about accountability to marks on bodies, and responsibility to the entanglements of which we are a part” (Dolphijn & van der Tuin, 2012, p. 52). This means response-ability necessitates understanding what agential cuts are becoming, how those agential cuts are not permanent, why they are becoming, and how these cuts leave marks on bodies (Barad, 2007).

As Ingram (2019) puts it “a new materialist ontology has significant epistemological consequences for how we ‘do’ research, how we understand ‘data’, the human ‘subject’ and how ‘knowledge’ is produced” (p. 3). In the next subsection, I detail what it looks like to think with an agential realist framework for this thesis and address the epistemological consequences for doing so.

2.4 Thinking with Agential Realism for this Thesis

I use Jackson and Mazzei’s (2012, 2022) phrase *thinking with theory* to denote how theory is intra-acting with this thesis. Thinking with theory is an apt phrase to use for such a purpose because its onto-epistemological underpinnings are similar to agential realism, in that both focus on difference rather than replication. *Thinking with* emphasises that thinking is an enactment that emerges through multiple intra-activities of human-nonhuman phenomena, rather than an action by a single human entity (Murriss, 2021). Thinking with theory entails “plugging in”, a phrase conceptualised by Deleuze and Guattari, which entails plugging in different theories to various parts of research to elicit different insights (Jackson & Mazzei, 2022). Plugging in is a

diffractive practice because it does not privilege one theory over another, since theories are not treated as rigid, *a priori* frameworks; rather, they are becoming through intra-active experimenting (Barad, 2012). It is therefore one's response-ability to acknowledge the effects of plugging in a specific theory through a process of un-doing and working with entangled multiplicities (Jackson & Mazzei, 2022).

My choice to think with agential realism became through my intra-actions with my own ethico-onto-epistemological journey and how the research process of this thesis was becoming; I detail how I ended up choosing to think with agential realism in [Chapter 3: Tanjin Becoming](#) and [Chapter 5: Research Process is Becoming](#). Using the words of St. Pierre (2018), because I am thinking with agential realism, I believe I can “live the theories (will not be able not to live them) and will, then, live in a different world enabled by a different ethico-onto-epistemology” (p. 604). As such, when referring to theory in relation to this thesis, I purposefully use phrases such as “thinking with agential realism” and “thinking with new materialism”.

A key implication of thinking with agential realism, and new materialism more broadly, is acknowledging that this thesis is nonrepresentational or a *performative account* (Jackson and Mazzei, 2022). New materialist lines of thinking assert that in nonrepresentational research, the researcher is not working with the research as an outsider (Barad, 2007; Jackson & Mazzei, 2012, 2022). This is why I included the Deleuze and Guattari (1987) quote at the beginning of this chapter. Like a book, the contents of this thesis and the process how it became are entangled in re-configuring one another. Hence, as the researcher, my response-ability involves not externalising myself from the research process by enacting in three ways: first, by acknowledging that I am inseparable from that process; second, to understand how I am impacting and am impacted by the research process; and third, to act in accordance with the

acknowledgment and understanding (Barad, 2007; Bozalek, 2021; Hayes et al., 2020; Jackson & Mazzei, 2012, 2022). With regards to the third enactment, [Chapter 3: Tanjin is Becoming](#) explores how I, Tanjin Ashraf, the researcher, the doctoral student, is becoming through the research process and is understood as a subject when thinking with agential realism. In addition, I engage in a diffractive approach to acknowledge my positionality throughout the thesis. The diffractive approach is similar to reflexivity because it involves identifying how one is impacting the research, but it also entails identifying how one is impacted by research and is open to *repositioning*, which is changing approaches and methods in the research process (Jackson & Mazzei, 2012, 2022).

Another implication of thinking with agential realism is acknowledging that “apparatuses are themselves phenomena” (Barad, 2003, p. 816). This means every aspect of the research process for this thesis — such as the research questions, literature review, methods, data analysis process etc. — do not serve to measure how teacher agency is becoming; rather, these phenomena *are becoming* through their intra-actions with each other. In this thesis, there are several ways I acknowledge how the apparatus is becoming. First, I detail how the research process has been becoming, both specifically in and more generally throughout this thesis. In addition, I think with Murriss (2021) and use hyphens in this thesis to highlight intra-activities of phenomena, such as material-discursive practices, response-ability, in-justices etc. Also, as I describe in [Chapter 1.0: Introducing the Introducing](#), all the chapters end in the suffix *-ing* to denote how these chapters are differentially becoming post-thesis examination. Lastly, I identify and describe the agential cuts that emerge throughout this thesis. For example, the chapters are not meant to live in isolation, but they serve as agential cuts to explore specificities.

Part of my response-ability in exploring how agential cuts are emerging is to identify how the marks on bodies produce epistemic injustices. New materialism rebukes a neoliberal understanding of research and reframes it as an activist pursuit of addressing in-justices (Taylor, 2021). One of the ways of addressing in-justices is by exploring the power dynamics of knowledge. New materialist scholars challenge the dominance of certain bodies of knowledge and urge the importance of taking response-ability of exploring how certain lines of knowledge became dominant and what exclusions have and are being made (Barad, 2007; Mayes et al., 2020; Taylor, 2021). Taylor (2021) differentiates between “knowledge production” and knowledge making”, where the former is tied to market logics of producing knowledge outputs for metrics and rankings, and the latter acknowledges the response-ability to understand its ethical and political consequences. As such, I also use the term *knowledge making* in this thesis in terms of my endeavours as a doctoral student.

Lastly, thinking with agential realism provides me with the opportunity to explore the spatial and temporal dimensions of epistemic injustices. Barad (2018) emphasises how justice is not possible without response-able practices, and agential realism provides possibilities for “justice to come” (p. 62) through a relational ontology of spacetime-mattering, where social injustices are acknowledged and possibilities to seek justice emerge. Barad (2018) illustrates this by using quantum field theory to do a diffractive reading of Kyoko Hayashi’s accounts of living through the atomic blasts in Nagasaki, Japan, where the protagonist in this novella visits Nagasaki and discusses the continuous impact of the atomic bomb blasts, including getting leukemia. Barad (2018) calls this *travel hopping*, which is a material-discursive act of undoing time and the colonial underpinnings of its linear notions.

For research as justice, this implies that through my thesis, I can study the specificities of the entanglements from which in-justices emerge by being cognisant of the apparatuses I create, while also acknowledging that the apparatuses are also becoming in the process (Barad 2007, 2018). This means that in addition to being cognisant of epistemic in-justices within my thesis topic of re-conceptualising teacher agency, I also need to be response-able about the epistemic in-justices that can emerge within the research processes of this thesis itself. An example of an epistemic in-justice that could have emerged is how the teacher participants were treated when they were intra-acting with the interview and photo-elicitation process. I could have asked questions that insinuated that teachers are just implementers of knowledge, rather than producers. This approach would exclude teacher participants from sharing their experiences about producing knowledge, which is a significant exclusion, because as I also discuss in [Chapter 4: Literature Cutting](#) and [Chapter 8: Discussing](#), teachers are far from being passive phenomena. As such, this kind of approach would produce significant epistemic in-justices. Instead, I outline the ethical standards I maintained through the thesis, including revering teachers as producers of knowledge rather than merely being passive implementors. Also, I must be mindful that injustices cannot be erased because they reappear through spatial, temporal, and material re-configurations. This also ties into agential cuts and the notion of together-apart, because erasures are never actual erasures: they continue to exist through their material-discursive intra-actions, which can be traced through careful and deliberate enactments (Barad, 2007). Taylor and colleagues (2021) fittingly use the term *becoming-activist*, to describe the role of the researcher in examining the entanglements producing epistemic injustices and to address them accordingly. Hence, as I think with agential realism in this thesis, I am a becoming-activist who is acting response-ably.

2.5 Table of Key Terms and Concepts for this Thesis

Using the framework I have described in this chapter, I created a truncated table of key terms and concepts as an apparatus to refer to while navigating this thesis. As I mentioned earlier, this thesis is not becoming in a nonlinear process, nor does it have to be read in such a manner. This table should aid in that nonlinear endeavour while you are reading:

- [Chapter 1: Introducing](#)
- [Chapter 3: Tanjin is Becoming](#)
- [Chapter 4: Literature Cutting](#)
- [Chapter 5: Research Process is Becoming](#)
- [Chapter 6: Illustrative Case-Entanglements Emergings](#)
- [Chapter 7: Photo-elicitation Emergings](#)
- [Chapter 8: Discussing](#)
- and [Chapter 9: Concluding](#).

In these chapters, these key terms are used to describe the process of writing this thesis, the research process, key emergings, and significance of these emergings. I use these terms throughout the thesis, because thinking with new materialism entails writing this thesis non-representationally; this means my use of a framework is not isolated to empirical findings, but is entangled in all aspects of this thesis (Barad, 2007; Jackson & Mazzei, 2012; 2022).

Table 1: Key terms and concepts for this thesis

Term or concept	Definition
Human phenomena	For this thesis, human phenomena refer to the human body and mind which are inseparable from their material-discursive intra-actions with other human-nonhuman phenomena (Barad, 2007; 2017). It is important to note that I am considering intangible

	objects and concepts — such as discourse, teacher beliefs, skills, and knowledge — as human phenomena because it is imperative to cut through the mind-matter duality and acknowledge that intangible phenomena can produce agencies through their intra-actions with human-nonhuman phenomena as well (Anwaruddin, 2016; Barad, 2007; Nikula et. al, 2023).
Nonhuman phenomena	Nonhuman phenomena refer to tangible and intangible phenomena that are not constituted within the physical human body.
Agential realism	Agential realism is a new materialist framework that dispels the material/discourse binary, and binaries in general, and asserts that language, discourse, and human-nonhumans are inseparable phenomena that are identified through their relations and enactment of agency with one another (Barad, 2007). Within this framework, agency is not something one can <i>have</i> ; rather, phenomena are <i>doing, enacting, performing</i> agencies where they impact and change each other (Barad, 2007; Ringrose & Rowlings, 2015). In addition, <i>knowing</i> is not confined to human cognition; nonhuman phenomena also enact knowing through intra-actions (Barad, 2007; Scantlebury, 2019). Agential realism is an <i>ethico-onto-epistemology</i> which denotes the inseparability of ethics, ontology, and epistemology (Barad, 2007).
Phenomena	Agential realism refers to human-nonhumans as <i>phenomena</i> , rather than things (Barad, 2003, 2007). Contrary to common perceptions of phenomena, an agential realist conceptualisation of phenomena sees them not incidents or instances but as fundamental ontological units (Barad, 2003, 2007; Jackson & Mazzei, 2022). The use of phenomena also emphasises how human-nonhumans do not pre-exist outside of their enactments, which is why their interactions are referred to as <i>intra-actions</i> (Barad, 2007).
Intra-action	Intra-action, as opposed to inter(action), is a concept used to denote that human-nonhuman phenomena are not distinct, pre-existing entities but are defined and acknowledged as emerging from relations that are affecting each other (Barad, 2007; Ringrose & Rawlings, 2015).
Entanglement	Entanglement is an ontological principle that human-nonhuman phenomena exist through intra-actions and the agencies emerging

from these intra-actions produce causes and effects that cannot be reduced into separate constituents (Barad, 2007).

In this thesis, I use the term *case-entanglements* instead of case, which emerge primarily through their intra-actions with me, the researcher, thinking with agential realism as apparatus, and the unpredictable nature of the pandemic. In-line with agential realist thinking, case-entanglements are phenomena that emerge through human-nonhuman intra-actions (Barad, 2007). As such, I identify the teacher participants as case-entanglements, but there are distinct implications of that when thinking with agential realism. First, the “teacher” is not a predefined entity, but is phenomena that emerged through its intra-actions with human-nonhuman phenomena. Second, the case-entanglements need to be described by identifying the intra-acting agencies.

Teacher agency

Since the purpose of this thesis is to reconceptualise teacher agency by thinking with new materialism, I use a working definition of teacher agency to experiment with: it is an enactment emerging from human-nonhuman intra-activities, whereby teachers are making decisions in their profession because of the intra-actions between teachers and human-nonhuman phenomena. In that regard, the locus of teacher agency is within human-nonhuman entanglements, not within an individual teacher, which is why I refer to teacher agency as *becoming*. I detail how I created this working definition in [Chapter 4: Literature Cutting](#).

In addition, I provide an in-depth re-conceptualisation of teacher agency, or rather *teacher agencies* in [Chapter 8: Discussing](#).

Agential cut

An agential cut is a temporary separation of phenomena and relations within entanglements (Barad, 2007). The separation is transient because phenomena and relations are never actually discrete from an entanglement; rather, these cuts are becoming for a multitude of factors and causes, hence the cuts and entanglements are *together-apart* (Barad, 2007).

Becoming

Rather than *being*, which is static and constant, *becoming* denotes how phenomena, relations, and concepts are always changing and evolving (Barad, 2003, 2007; Kuby & Zhao, 2021). An agential realist framework extends on the new materialist ontological notion of becoming by considering the significance of difference and refers to it as *differential becoming* (Barad, 2007).

In relation to this thesis, I am exploring how teacher agency continues to evolve, emphasising that it is not a static capacity within an individual teacher but is instead relational and differentially becoming through complex human-nonhuman intra-actions.

Spacetimemattering Spacetimemattering is the entanglement of space, time and matter which re-produce and re-configure each other (Barad, 2007; Scantlebury, 2019). This principle implies that time is not linear, and space is not fixed or confined, because “phenomena are material entanglements that ‘extend’ across different spaces and times” Barad, 2007, p. 383). The enactment of revisiting a concept or phenomena and reworking in the present is referred to as *re-turning*. The enactment of undoing time and the colonial underpinnings of its linear notions is referred to as *travel hopping* (Barad, 2018).

For this thesis, I operationalise *time* as moments, events, experiences, and memories that occur-ed in the past, present, and/or future. And I operationalise *space* as the material environments and places where human-nonhumans are intra-acting. These space-time phenomena are not stationary and can be re-configured through spacetimemattering (Barad, 2007, 2013). Even though I consider all pertinent temporal, spatial, and material phenomena that emerged in my study, I mostly focus on COVID-19 as a temporal rupture and the shift from in-person to remote learning as a spatial re-configuration.

Diffraction Using the physics notion of diffraction, Barad (2007, 2014, 2018) developed diffraction as a methodology where onto-epistemologies are understood by reading *through them*, rather than *against* each other. This approach does not privilege any particular form of knowledge or existence, and instead focuses on how the differences within these forms can further contribute to the understanding of phenomena (Barad, 2007).

Material-discursive practices Material-discursive practices underpin the ontological tenet of agential realism, that language does not mirror reality, because language and matter are performative in iteratively re-configure one another in being (Barad, 2003, 2007; Ingram, 2021). Like matter, meaning is not an independent entity representing reality, it is produced through iterative intra-actions (Barad, 2003, 2007).

As such, materiality and discourse are inseparable, because both impact and are impacted by each other (Barad, 2003, 2007).

Apparatus

Apparatuses are “material-discursive practices that are inextricable from the bodies that are produced and through which power works its productive effects” (Barad, 2007, p. 32). This means that apparatuses themselves are not objective instruments nor do they have the sole purpose of observing and measuring phenomena; rather, apparatuses are phenomena themselves and can be re-configured through its intra-actions with objects and subjects (Barad, 2003, 2007). In relation to this thesis, there are no boundaries between the apparatus, object of research, and the researcher.

Response-ability

Barad (2007) re-configures responsibility as response-ability, which is the ability to respond and being aware of the inseparability of ethics, ontology, and epistemology.

Chapter 3: Tanjin is Becoming

I came to theory because I was hurting — the pain within me was so intense that I could not go on living. I came to theory desperate, wanting to comprehend—to grasp what was happening around and within me. I saw in theory then a location for healing.

bell hooks, *Teaching to Transgress: Education as the Practice of Freedom*

The purpose of this thesis is to explore the significance of thinking with new materialism, and specifically agential realism, to re-conceptualise how teacher agency is becoming. A crucial element of undertaking this mission is being response-able and understanding myself as the researcher, to be “accountable to those with whom/ that I come into contact with through my research and pedagogy” (Taylor, 2021, p. 25). This means that I am challenging the representational binary between researcher/researcher by acknowledging the effects of my intra-activities with the research process, and vice-versa. As such, I think with new materialism and agential realism to understand how I am becoming through this research process and how the research process is becoming through my intra-actions with me. Please refer to [Chapter 2.5: Table of Key Terms and Concepts for this Thesis](#) for the terminology I use in this thesis.

This chapter is unique because I do not use any headings or sub-headings to divide the chapter. In the other chapters, I use headings or sub-headings as agential cuts to provide a clear roadmap of what each chapter entails. However, I want to present this particular chapter in a seamless manner to exhibit the human-nonhuman phenomena that are entangled in producing Tanjin and her becoming without enacting any agential cuts. Moreover, Bright and colleagues (2023) point out how in the doctoral journey “the location of the Self is to be found not only in the fieldwork, experiments or analysis; but is essentially and always part of the writing process, and, perhaps more importantly, is created within the process of writing” (p. 2). As such, the

enactment of writing seamlessly is also contributing to Tanjin and her becoming, where agential cuts in a chapter are not separating the phenomena that are intra-acting in this becoming.

I begin this chapter by tracing my onto-epistemological beliefs and its entanglement with my higher education and formal teaching experiences. I discuss how the COVID-19 pandemic significantly disrupted my doctoral journey where I faced a myriad of challenges. Next, I detail how I turned to theory to understand my circumstances and how I was becoming. I explain how this theoretical exploration involved numerous onto-epistemological paradigm shifts that produced the conditions of possibility to think with new materialism and agential realism. In particular, I detail how thinking with Foucault provided the conditions of possibility to think with Barad. Afterwards, I detail how thinking with new materialism and agential realism challenged and disrupted my deeply ingrained onto-epistemological beliefs, particularly about doctoral studies. I ruminate on how un-learning is a difficult material-discursive practice while acknowledging that un-learning is a nonlinear process that requires self-compassion. Lastly, I describe what thinking with new materialism and agential means for Tanjin as a researcher and human.

My insights in this chapter are becoming through the entanglement between three years' worth of journal entries; conference presentations; informal conversations with my supervisor, colleagues, and critical friends; numerous thoughts while walking, running, sleeping, breathing. Again, I do not isolate these phenomena to describe the insights that emerged, because these human-nonhuman phenomena are all entangled in impacting how Tanjin is becoming.

Ever since I started my undergraduate studies, my assumptions about reality and knowledge have constantly been evolving, becoming; and I acknowledge that my onto-epistemological stance will continue to evolve, and I need to be open to this change. I majored in

psychology during my undergraduate years. Since psychology is a predominantly positivist field where the scientific method is considered creed, I became a positivist thinker myself. In accordance to the positivist tenets of scientific realism, I assumed reality was objective and that knowledge was found and gathered through nomothetic means (Barad, 2007). Along with my psychology degree, I was concurrently completing an education degree to obtain formal teaching credentials. My experience as a pre-service teacher made me realise I did not work well in a rigid classroom environment that is public school education, and would rather explore issues related to public education through research. However, I also wanted to teach to discover the education issues I was interested in researching. For this reason, I chose to spend a few years being a teacher before I started pursuing graduate studies in education.

My teaching experiences made me start to question some deeply entrenched beliefs on education. In 2017, I was a teacher for a private school in Toronto, Canada and this position in particular challenged my beliefs. The school was in its infancy when I started working there and because of its small class size, I was teaching multi-grade classes, ranging from Grades 4 to 8. I had a very difficult time planning and working with multiple age groups because I was used to teaching two grade levels at most and believed that is how classrooms operate. Through this experience, my hegemonic beliefs on education started unravelling, and I started to question the taken-for-granted structures of mass schooling. The un-learning journey continued a year later when I started my Master of Education degree at the Ontario Institute for Research in Education (OISE), University of Toronto.

There were two aspects of my graduate studies that disrupted my beliefs on education and onto-epistemology. First, I was a Research Assistant for a project that focused on teacher and learner agency in Toronto's alternative schools. Alternative schools in Ontario are unique in that

they are publicly funded by the provincial government, but the schools do not have to adhere to any curriculum stipulations. During my field visits at a few alternative schools, I was surprised to see students and teachers co-creating knowledge, rather than the teacher didactically interacting with students. These field visits further challenged my beliefs on education, and I started realising there are possibilities beyond the rigid beliefs I had on the structural approaches to teaching and learning.

Second, I pursued the thesis-stream in the Master of Education program which entailed taking some research methods courses. At the time, OISE research courses focused on qualitative methodologies, which was novel to me, because to date, I had only learned about positivist research. Un-learning quantitative research was a significant culture shock for me — I could not fathom how a research study did not start off with a hypothesis that would be tested through the insight of an objective reality. However, I eventually developed a newfound appreciation for qualitative approaches because I was already questioning my entrenched beliefs due to my teaching and research assistant experience. I started appreciating the process of carrying out a study without holding expectations of using objective facts to confirm or reject assumptions. I also related to idiographic methodologies and methods because I knew from my own classroom teaching positions that my colleagues and I had different experiences which could not be generalised.

I appreciated qualitative approaches so much that I ended up conducting a qualitative thesis for my Master of Education degree. One of my co-supervisors for my thesis made a comment in her feedback that provided the impetus of a paradigm shift for me. I had written in my thesis that I took every measure possible to remain objective in my thesis so that my biases did not impact the findings. My co-supervisor pointed out that I do not have to claim to be

objective, especially in qualitative research. Her comment ruptured my belief on the binary between research/researcher, as well as my deeply rooted fear that I would taint the research with my biases. I realised I was contradicting myself by claiming to be objective in my thesis, especially because I used a sensemaking framework that is undergirded by an interpretivist paradigm, in which knowledge and reality are socially constructed by deriving meaning out of reality. By the time I graduated from my Master of Education studies, I had transformed from a positivist to a social constructivist researcher.

When I started my Doctor of Philosophy degree, I was bursting with excitement and energy. I took a leap of faith and moved from Toronto, Canada to Melbourne, Australia to pursue my doctoral studies. I was looking forward to diving into social constructivist frameworks and expanding my knowledge on making sense of reality through meaning-making processes. I moved to Melbourne in February 2020. I had a very easy time adjusting to this new city and my primary doctoral supervisor and I got along really well. I felt extremely confident that I was going to have a smooth and enjoyable doctoral journey in Melbourne. That sense of optimism was short-lived when COVID-19 was declared a pandemic in March 2020. I decided to fly back to Toronto to be with family at an unprecedented time. My supervisor was supportive of that decision but said Australia would likely close its borders. We predicted I would be able to come back in a few months. Sometimes I re-turn to that conversation and laugh at how inaccurate our prediction was from how the situation panned out.

On March 17, 2020, I flew back to Toronto, and I received an email right away that my flight back to Melbourne that following month was cancelled because Australia closed its borders to those who are not citizens. This was expected as per my conversation with my supervisor. However, what I did not expect was the border to remain closed for two years. As

each month passed by, I was impacted by the physical distance between Toronto and the city where I was supposed to pursue my studies. In addition, I became wary of the injustices international students were facing during the pandemic. Here is an excerpt from my journal from March 21, 2020, where I share my concerns about international students.

I'm starting a course next week and the first module is on handling social isolation — what a fitting module to do at a time like this! I cannot even fathom the rapid turn of events. I'm glad I made the decision to be an international student — it has opened my eyes to the issues students face that domestic students don't even have to worry about including visa conditions, relocation funding, and now in this case, whether to stay abroad or go home. I am fortunate that my program is remote for the most part so I will not be as affected (not to mention having ongoing support from my supervisor). However, not everyone can leave, as classes might start or they might not be able to afford a flight back, etc. But I feel that higher education institutions have not supported international students very well. Even the other day, the university sent international students an email saying, "If you leave then you might not be able to come back". Not very comforting, eh?

The pandemic was the first time I started reflecting on the nexus between spaces and injustices, which in this case refers to how international students were treated based on the space they were residing in and the space they were from. I was privileged in the sense that I was back at home and was able to continue my doctoral studies, because I had set up a bank account in Australia. However, I also faced my fair share of challenges. I found I was dissociating from my doctoral studies because I lacked a sense of belonging by studying remotely. I also kept ruminating on the in-justices that were emerging during the pandemic, such as the lack of support for international students and their lack of control over their situation. These thoughts

made me re-turn to my past experiences as a teacher and how I would feel powerless at times due to regimented state curricula and policy. When thinking with agential realism, these entangled sentiments can be explained by spacetime mattering, where my past teaching experiences do not sit in the past; rather, they dissipate and emerge depending on the conditions of possibility (Barad, 2007). My fixation on in-justices was one of the reasons I decided to change my topic from the status of the teaching profession to teacher agency. With this change, I hoped to gain an understanding of how teacher agency can illuminate the power dynamics of the teaching profession and if teachers face any in-justices in their profession. Here is an excerpt from April 2nd, 2020, where I share my realisation.

In these past few weeks, I've been thinking about how our lives have been turned upside down, and all our measures, rules, and guides are up in the air. I realised that at this point, I do not want to focus on teacher assessment anymore. As we are living through an unprecedented time in history, I felt it wouldn't do justice to do a thesis that did not have some focus on the COVID-19 phenomenon and how it has been affecting lives.

As I pursued teacher agency as a research topic, I decided to explore Michel Foucault's notions of power because thinking with Foucault can help elicit insights on multidirectional relations of power (Jackson & Mazzei, 2022). Thinking with Foucault made me challenge my deep-seated beliefs on power and helped me understand my previous teaching experiences and my circumstances with COVID-19 at the time. I predominantly believed that power was an external form of dominance with the locus of power residing within the individual. Conversely, as I also describe in [Chapter 2: Theoretical Framing](#), Foucault (1978) believed "power is everywhere, not because it embraces everything, but because it comes from everywhere" (p. 93). Power is present in all relations, whether they be romantic, professional, interpersonal, or

intrapersonal, because these relationships impact, shape, and modify the behaviours of one another. In addition, power is an action that is exercised, rather than shared or acquired (Foucault, 1978; 1982).

Foucault's conceptualisation of "subject" in relation to power was especially helpful in my un-learning process as I analysed teacher agency and my experiences during the pandemic. Foucault (1982) believed subjects were either controlled by other human relations or by the subjects themselves. A subject cannot be solely dominated by a sovereign individual or disciplinary power (Foucault, 1986). Rather, disciplinary power evolved and functioned in conjunction with more ubiquitous forms of structural and organisational power relations (Perryman et al., 2017). In the modern state, sovereign and disciplinary power are interweaved with "pastoral power" or government, which seeps into the conscience and governs using knowledge of the inner workings of the human mind (Foucault, 1986; Perryman et al., 2017). This nuanced conceptualisation of governance is termed "governmentality", which combines the words "government" and "mentality" to describe a set of tools and procedures used to govern subjects (Ball, 1990). The subject is therefore being dominated or subordinated through what Foucault (1986) terms *technologies of power* or mechanisms of power. Technologies of power are not forms of domination, but they may lead to a state of domination through their relationships with one another (Ball & Olmedo, 2013).

Exploring Foucault's notions of the subject's self-governance and self-subjugation was a significant un-learning process for me, because I always believed I could only be controlled through external means. I re-turned to experiences as a classroom teacher and remembered how my teaching experience in England consisted of rigid accountability practices. I had internalised the expectations of those practices so deeply that I ended up implementing some of the

conforming routines in my subsequent teaching positions, even though those positions did not entail any use of those routines. Re-turning to those experiences re-configured my onto-epistemological beliefs, because I started shedding my social constructivist beliefs and believing in the relational and nonlinear nature of power instead.

In addition, Foucault's notion of discourse challenged my representational beliefs. As I explain in [Chapter 2: Theoretical Framing](#), Foucault (1980) argued discourses do not represent reality because instead, they produce reality and its conditions of possibility. This notion was troubling because of my belief in the subject/object binary. In fact, my representational belief was so hegemonic that I mistakenly stated in my preliminary draft of my thesis proposal that "Foucault believed discourses represent knowledge". However, when I analysed the media discourses that were produced about COVID-19 at the time, I started to realise that these discourses were not representing objective knowledge; rather, they were producing insights that were materialising into specific practices. For example, during the first two years of the pandemic, there was a dominant discourse that COVID-19 was more contagious to humans if they engaged in outdoor environments. This discourse materialised into pandemic lockdowns in Canada, where humans remained within brick-and-mortar establishments. However, that discourse changed to COVID-19 being less contagious in outdoor environments, and the lockdowns ended and were not enforced again. I started embracing the nonrepresentational view on onto-epistemology after making the connections between Foucauldian notions of power and my own circumstances at the time.

Lastly, Foucault's notion of care of the self particularly resonated with me because it provided me with hope that I would not be perpetually confined within my ways of knowing, and that un-learning is possible. Foucault (1986) argues that one can resist constraining forms of

power or dominant discourses by critically examining constructed “truths”. As Foucault (1988) argues, “one cannot care for self without knowledge” (p. 16) and that knowledge emerges from relationships with constructed rules, regulations, values, and beliefs. Truly caring for oneself is knowing who they are and what their purpose is. As such, care of the self serves as a method of liberating oneself from being a dominated subject.

Even though thinking with Foucault helped me to start making sense of my circumstances, I was facing significant challenges when I started generating interview and photo-elicitation data with teacher participants. I noticed that nonhuman phenomena, such as classroom materials, were causally significant in how teacher agency was becoming. I found I was reaching a dead end while thinking with Foucault (1980) because even though he states that “we should try to discover how it is that subjects are gradually, progressively, really and materially constituted through a multiplicity of organisms, forces, energies, materials, desires, thoughts etc” (p. 97), he did not elaborate on those relationships with the materiality of nonhuman phenomena. One day, just before my mid-candidature review, I serendipitously came across a journal article by Heikkilä and Mankki (2021), on a new materialist understanding of COVID-19 and teacher agency. Their insights on the significance of nonhuman phenomena were a watershed moment for me in understanding the emergent interview and photo-elicitation data for my study. As much as I enjoyed thinking with Foucault, I made the hard decision of pursuing a new materialist theoretical direction to make sense of the nonhuman significance of teacher agency. I was surprised to find that this journey helped me understand my own life circumstances and myself.

As I embarked on my exploration of the new materialist literature, I encountered endless contradictions, fissures, and disagreements among scholars. However, it is within this jungle that I felt a sense of belonging because the nonrepresentational and indeterminate characteristics of

new materialism were helping me understand the chaotic circumstances of my doctoral journey. At that time, which was my second year of doctoral studies, Australia was beginning to re-open its borders and I decided to remain in Toronto to finish my studies. My parents were getting divorced after 30 years of marriage. In addition, I transferred from Deakin University to Australian Catholic University to follow my supervisor. On top of that, every aspect of my thesis was evolving and changing, which I explain in detail in [Chapter 5: Research Process is Becoming](#). I was anxious because my doctoral journey and life circumstances were chaotic and unpredictable. I also felt ashamed that I could not adhere to a linear method of finishing each aspect of my thesis and proceeding to the next in a seamless manner. Reading new materialist literature significantly alleviated those feelings of anxiety and shame because the scholarship provided possibilities to normalise the chaotic and unpredictable nature of being. Here is an excerpt from my journal dated December 29th, 2021, where I accept the becoming nature of my thesis for the first time.

Your literature review is a live document that will need reworking throughout the thesis journey. This is actually a good thing because you will gain confidence in your niche as you become more familiar with the scholars.

In addition, when I chanced upon Karen Barad's work, I felt I had found the missing pieces of the puzzle — albeit a puzzle that was always evolving and becoming! First, Barad began part of their work on creating agential realism by thinking with Foucault. Barad (2007) shared the same frustrations I experienced when thinking with Foucault, including the lack of insight on the significance and agentic nature of nonhuman phenomena. In addition, Barad's insights on the inseparability between the researcher and apparatus was a breakthrough for me in realising that I was not just producing my thesis; my thesis was also producing me. Barad's

(2007) emphasis on the ethical response-abilities of a researcher helped me understand the significance of this thesis in highlighting the impacts of re-conceptualising how teacher agency is becoming. Lastly, the chaotic circumstances while writing this thesis made me question my onto-epistemological beliefs and I ended up thinking with new materialism and agential realism. Again, this is why it was important to write this chapter, because I need to be a response-able researcher and trace how my becoming is impacting and is impacted by how teacher agency is becoming. I detail these relationships in [Chapter 8: Discussing](#).

I would not have had this realisation if I continued thinking with Foucault, which Barad also notes as a limitation of Foucault's work, because his conceptualisation of apparatuses does not consider the agency of nonhuman materiality within these practices, but these apparatuses instead support the discourses produced by humans (Foucault, 1995). It might seem like I am sharing an endless list of grievances *against* Foucault; however, like Barad (2007), I appreciate how my intra-actions with Foucault helped me learn about the relational nature of agency and power, and the nonrepresentational nature of knowledge and being. In addition, Foucault's care of the self helped me realise that I could change my ways of knowing, which is how I mustered up the courage to change my theoretical framework. Just like how Foucault produced conditions of possibility for Barad to create a nonrepresentational framework, thinking with Foucault produced the conditions of possibility for me to think with Barad.

I also started to realise that I was more passionate about theory than I was before I started my doctoral studies. For example, when I attended conferences before I started my doctoral studies, I would only be interested in the empirical findings without considering the significance of the theoretical underpinnings. In contrast, when I go to conferences now, I find I am more interested in how a study is ungirded by theory. My newfound appreciation for theory is the

reason why I included bell hooks' beautiful quote at the [beginning of this chapter](#). It is interesting because when I first read *Teaching to Transgress* in 2019, I could not relate to bell hooks' respite through theory. However, when I re-read the book around the time I started thinking with new materialism, I finally understood how one could find solace in theory because theory helped me navigate and embrace the unpredictable nature of my doctoral journey and life.

By thinking with new materialism and agential realism, I experienced another paradigm shift, or rather a paradigm shock, because these lines of thinking diverged significantly from my previous beliefs. Kuby (2021) asserts that paradigm shifting is an action, and they encourage everyone to engage in it because it helps to develop an appreciation of our previous knowledge for producing conditions of possibility to make new knowledge. Coole and Frost (2010) echo this sentiment when discussing how the articles in their special issue are not “hostile to constructivism, and new materialists countenance no simple return to empiricism or positivism, we share the view current among many critics that our contemporary context demands a theoretical rapprochement with material realism” (p. 6). As such, despite the challenges I have been facing, I am beyond grateful for the conditions that made such paradigm shifting possible.

Barad's (2007) conceptualisation of spacetime-mattering has also been helping me understand how the re-configuration of space and time has impacted my doctoral journey. In this case, COVID-19 is the temporal phenomena and Canada, Australia, and the United States are the spatial phenomena. COVID-19 and its intra-actions with human-nonhuman phenomena — including human bodies, human responses, physical surfaces, masks, goggles, etc. — re-configured my doctoral experience because I ended up completing most of my doctoral studies in Canada instead of Australia. It is important to note that my choice to fly back from Melbourne to Toronto in March 2020 was also a significant factor that re-configured my doctoral experience

because I otherwise would have worked on my doctoral studies in Melbourne. My choice to fly back home emerged from the intra-actions between myself, my family, friends, the place, the airports, etc.. I wanted to pinpoint this material entanglement to emphasise the inseparability of space, time, and matter in re-configuring each other.

For the past four years, I have been realising how the physical distance between myself and the university I am studying in significantly impacted my doctoral experience. From 2020 to mid-2023, I was completing my thesis from Toronto, Canada. There were certain aspects of studying remotely that I did not anticipate would be a challenge until I experienced them. For example, I was restricted from pursuing any paid work in Australia, such as research assistantships and tutoring positions, due to tax-related stipulations by the Australian national government. In addition, I could not access a physical library and relied on electronic copies of resources. Perhaps the most significant challenge I have experienced during my doctoral studies is a looming feeling of disconnection. Within the four walls of my home in Toronto, I felt isolated from my academic colleagues and university faculty.

To alleviate myself from this feeling of disconnection, I pursued multiple means of building my academic community. I attended virtual and in-person conferences during the pandemic, which helped me meet new people and expand on my community. I also joined the editorial teams for a few journals and participated in writing groups. However, conference and journal work were transient and sporadic. None of these experiences compensated for the lack of a consistent, physical space where I could work on my doctoral project, forge connections, and build community. I started realising the value of physical proximity to an academic community when I was writing with a few friends at my alma mater where I completed my undergraduate

and graduate studies. Knowing I was in the same space as friends and colleagues who cared about the same issues as I did provide a significant course of comfort and motivation.

This realisation came to its peak after June 2023, which was my fourth year of doctoral studies. I received an email from Australian Catholic University informing me that the Australian Government had requested all education institutions to “return to compliance” with all the regulations that they were following during the pandemic. One of those regulations was for offshore students to return to Australia to pursue their studies onshore. In short, I would have to return to Australia by June 30th, 2023, and would have to live there until I finished my studies in February 2024. After re-turning to Melbourne, I realised returning to Australia was the best-case scenario for me to finish my doctoral studies. I was able to pursue a few casual academic positions that helped me connect with other academics and learn new skills. I have also been enjoying seeing my primary supervisor frequently and engaging in focused writing sessions with my friends. My re-turn to Melbourne came full circle in my realisation of the significance of space for my doctoral experience.

As such, my doctoral studies did not occur in a fixed physical space; it extended across various geographical locations and my experience evolved through the re-configuration of time which was spearheaded by COVID-19 and human responses to it. It is interesting because during the global lockdowns, I could not see anyone outside of my household, regardless of whether I was in Canada or Australia. In addition, when I transferred from Deakin University to Australian Catholic University, I did not feel much of a difference in being enrolled at another university. Yet, when I re-turned to Melbourne, I experienced the difference it made to pursue my doctoral studies at the university, sitting in a designated office, hearing my supervisor and colleagues typing away. All these human-nonhuman phenomena and intra-actions matter. Matter *matters*.

Of course, I am not making a blanket statement that everyone prefers to pursue in-person studies. What I am emphasising here is how spacetime-mattering helped me understand the significance of temporal and spatial phenomena in shaping my doctoral experience. I garnered two insights from thinking with spacetime-mattering to understand my doctoral experience. First, this process of reflecting, reflexing, and diffracting produced insights for my research as well. As I explain in detail from Chapters 5 through 9 of this thesis, the interview and photo-elicitation data I generated with teacher participants emphasise the significance of spacetime-mattering when teacher agency is becoming. These emergent temporal and spatial phenomena in the data would not be as salient to me if I was not experiencing significant space-time re-configurations as well. Again, this is why it is important to share my experiences while writing this thesis, because these experiences are inextricably entangled with the research process itself. As Coffey (2023) puts it, “the ontological and epistemological position of the researcher mediates and affects ‘intra-actions’ between all research ‘phenomena’, including ‘method’, ‘data’, ‘participant’ and ‘researcher’” (p. 849).

The second key insight I garnered is that one’s doctoral journey is not linear. New materialist lines of thinking challenge the dominant perception that doctoral journeys are simple and linear, because knowledge and being are becoming in an indeterminate manner (Gravett, 2021; Ingram, 2021). As Murriss (2021) asserts “postqualitative, new materialist and critical posthumanist research engages with a world that doesn’t sit still” (p. 2). Acknowledging that the world does not “sit still” produces conditions of possibility to normalise different ways of pursuing doctoral studies and academic pursuits in general.

With regards to that line of thinking, a key theme I have been reflecting on a lot is the space I have been in and the pace of my studies. The concept of space is omnipresent. Even in

the word ‘space’, one can re-configure it with a hyphen as s-space’; that is, to refer to “space” and “pace” (or time) simultaneously. This re-configuration is analogous to my nonlinear doctoral journey, and COVID-19 as a temporal and spatial rupture that made me embrace the indeterminate nature of that journey. For example, I chose to take a 3-month break and complete the doctoral studies in four years rather than the typical 3-year timeframe in Australia. I would not have felt confident in re-configuring the pace of my studies if the pandemic did not illuminate how we do not need to play by the book, because in actuality, there is no book to play by.

Of course, embracing the chaotic, messy nature of a doctoral journey has come with its own set of quagmires. These quagmires are not destructive *per se*; rather, they are like convoluted puzzle sets that are equally satisfying and frustrating. For example, as I also explain in [Chapter 5: Research Process is Becoming](#), I enjoyed embracing the becoming nature of my research questions for this thesis. However, I also felt the research questions were constraining, because I felt this pressure to craft my thesis in a way that focuses on answering these research questions. I eventually solved this quagmire when I re-configured the purpose of the research questions. Rather than having the questions serve as a road map to finding answers, the research becoming-questions are provocations for thinking about the significance of this thesis. Again, I explain these purposes of the becoming-questions in [Chapter 5](#).

Un-learning representational and humanist ways of doing research has been a challenging, nonlinear, yet enjoyable process. I sometimes feel a strong sense of hesitation in interweaving my experiences as a researcher and human, because I am battling between my new-found beliefs after I started thinking with new materialism and the hegemonic perception that discussing your own experiences in your research work is narcissistic (Bright et al., 2023).

Within these material-discursive practices, I navigate my fear of overindulgence by reading and re-turning to various theories, paradigms, and scholars.

An example of actively engaging in the un-learning process is when I presented at a symposium during the 2023 Australian Association for Research in Education Conference. Instead of preparing a slide deck, I chose to read out of my notebook. Usually, when I prepare a presentation, I love to create a slide deck with neat and organised diagrams and a sound colour palette. A presentation is more than sharing insights for me; I prefer to intra-act with the materiality of the slide deck. However, as I was preparing for the symposium, I had a hard time organising my thoughts into discrete slides. I ended up intra-acting with the pen and my notebook. And my thoughts became as I was affected by the firmness of the pen in my fingers and the softness of the paper on my palm – a material-discursive practice. As Richardson and St. Pierre (2005) note “Writing is inquiry, writing is thinking, writing is analysis, writing is indeed a seductive and tangled method of discovery” (p. 967). After the presentation, a couple of my colleagues came up to me and remarked how my presentation was so atypical. Their feedback made me realise how engrained certain practices can be, that the slightest deviation from the *status quo*, such as changing the mode of presenting, can seem significantly unusual. I was also glad that I chose to engage in this un-learning process, because now I feel more confident in further participating in un-learning practices.

Conversely, there are times when I revert to my un-learned material-discursive practices. For example, when I was writing the introduction of this thesis, I was initially having a difficult time articulating how the research topic and purpose was becoming. After racking my brain for days, I shared my frustration with one of my colleagues at Australian Catholic University. My colleague, who is also dabbling with new materialism, took a brief look at my introduction and

suggested that I insert my own experiences of changing the research topic and purpose. When she made that suggestion, I realised I was unaware that I was separating myself from the research in the introduction. Even though I am actively un-learning representational ways of pursuing research, these deeply ingrained practices sporadically seep into my writing. However, I learned it is important to practice self-compassion and accept the nonlinear process of un-learning.

So, who — or what, or when, or where — is Tanjin then? When thinking with new materialism and agential realism, Tanjin is performative phenomena. When the pronouns I, me, my, mine are being used in this thesis, they do not refer to a single entity; rather, these pronouns are materialising through material-discursive practices of intra-acting human-nonhuman relations. As Barad (2003) posits, “boundaries do not sit still” (p. 817). As such, Tanjin is no stationary phenomena; instead, I am becoming through perpetual entanglements with human-nonhuman phenomena, from the keyboard below my fingers, the glasses on my face, to the human who is reading this thesis. There are no boundaries between us; we are iteratively re-configuring each other in becoming. Only agential cuts can denote any boundaries for specific purposes and effects where we are together-apart.

I also want to emphasise that there are no boundaries between me as the researcher and the research that is produced through my doctoral studies (Fox & Alldred, 2015a, 2017; Ganz, 2023). Interestingly, I wanted to call this chapter “researcher is becoming” but by referring to myself as the anonymous “researcher”, I would be fallaciously distancing myself from the research and cutting myself from the entanglement. Rather, it is important to acknowledge how I, Tanjin the performative phenomena, are becoming through my doctoral studies. Tanjin as a researcher, student, human are not discrete identities; they are together-apart and are materialising through material-discursive practices, including agential cuts.

Tanjin is also inseparable from the apparatus and the research. Tanjin has been impacting and has been impacted by every material-discursive enactment of the apparatus and research, from writing and deleting every word of this thesis, intra-acting with the literature, pressing enter on the Zoom screen, to re-crafting the becoming-questions. “The researcher has no control over knowledge-production” (Murriss & Zhao, 2021, p. 18), because no matter how much effort I put into crafting an apparatus to produce certain outcomes, reality has the potential to materialise in unpredictable ways. I learned this especially through my doctoral research, and thinking with spacetime-mattering to understand how COVID-19 re-configured my experience.

Of course, this line of thinking makes us susceptible to falling down a rabbit hole, ruminating about the boundless entanglements of being. For example, I joined a reading group that Murriss (2022) mentioned, and during one of the sessions, we discussed what constitutes a prosthetic, such as glasses or a wheelchair. During that session, all the members of the reading group shared a sense of confusion while attempting to make agential cuts to conceptualise prosthetics. For this thesis, it is important for me to not fall down the rabbit hole. Instead, it is imperative to make agential cuts to focus on my response-ability in understanding whether any insights on epistemic and material in-justices are emerging through this research study. I want to continue challenging my thinking and perspectives by not treating commonplace practices as “truth”. Because, as St. Pierre (2011), says:

At this very moment, we are latched onto descriptions that are producing us and the world, descriptions that, over time, have become so transparent, neutral, and real that we’ve forgotten they are fictions. We accept them as truth. (p. 623).

I will continue to trace how Tanjin as researcher and her research are re-configuring each other. I will continue to pinpoint how research practices produce marks on bodies. And I will continue to

acknowledge how Tanjin is performative phenomena who is inextricably entangled with human-nonhuman phenomena. Because through these material-discursive practices, Tanjin is becoming.

Chapter 4: Literature Cutting

My thoughts are stars I cannot fathom into constellations.

John Green, *The Fault in Our Stars*

4.1 Chapter Becoming and Overview

The purpose of this thesis is to explore the significance of thinking with new materialism, and specifically agential realism, to re-conceptualise how teacher agency is becoming. As such, thinking with new materialism and agential realism entails providing an understanding of how this chapter and the literature cutting has been evolving. In addition, please refer to [Chapter 2.5: Table of Key Terms and Concepts for this Thesis](#) for the terminology I use in this thesis.

This chapter, which is typically known as a “literature review”, was one of the first parts of the thesis I started working on and it has been the most challenging to write because of the myriad of literature that is becoming. This is why I included the quote at the beginning of this chapter; my thoughts were scattered, intra-acting, becoming with the literature and it was nearly impossible to organise these thoughts into neat constellations. Eventually, thinking with agential cuts helped with this quagmire, and I realised that constellations themselves are never neat and tidy because they are becoming across space and time (Furman, 2022). Through it all, it has been a privilege to see this chapter becoming over the past four years, and to become-with the literature cutting itself.

As I started thinking with agential realism, I realised I was doing more than “reviewing” the literature to provide representational context. In intra-acting with the literature, I was making agential cuts by choosing specific topics, scope, and methods, and I was using these cuts to diffract through, rather than merely contribute. Hence, instead of using the words “review” and “context”, I use *cut* to emphasise the notion of perpetual entanglement and the temporary

separation of agencies, exclusions, and boundaries that can help explore specific circumstances (Barad, 2007).

In [4.2: Process of Cutting](#), I describe the literature cuts and how the process of making those cuts has been becoming. The subsequent six subsections are the literature cuts including: [4.3 Cut One: Teaching Profession Becoming](#); [4.4 Cut Two: Humanist Conceptualisations of Teacher Agency](#); [4.5 Cut Three: New Materialist Conceptualisations of Teacher Agency](#); [4.6 Cut Four: Teacher Agency and Neoliberalism](#); [4.7 Cut Five: Teacher Agency and COVID-19](#); and [4.8 Cut Six: National and Local Cuts](#). Lastly, in [4.9 Diffracting Through the Literature Cuts](#), I describe the implications of these literature cuts for this thesis and how I intra-act with these cuts in a diffractive manner, especially because these cuts are not representational, meaning they are neither objective nor static. It is imperative to note that in the cuts, I describe teacher agency in the manner of the scholarship at-hand. I will share my own working definition of teacher agency in subsection [4.9](#), and a full-fledged discussion of re-conceptualising into *teacher agencies* in [Chapter 8: Discussing](#).

4.2 Process of Cutting

The literature cuts both inform and are informed by the research questions of this thesis. As I also explain in [Chapter 1.3: Research Purpose and Questions](#) and [Chapter 5: Research Process](#) is Becoming, my research, topic, purpose, and questions (or becoming-questions) have been evolving through spacetime-mattering, producing thought-provoking insights worth considering. In-line with this processual evolution, the literature cuts are also becoming through these intra-acting agencies.

Main question: What is the significance of thinking with new materialism to re-conceptualise how teacher agency is becoming?

Sub-questions:

1. How is teacher agency becoming through human-nonhuman intra-actions?
2. What is the significance of spacetime mattering when teacher agency is becoming?
3. How does power materialise when teacher agency is becoming?

There are six literature cuts that I share in this chapter. The first one explores how the teaching profession is becoming, which stems out of my original research thesis topic on the status of the teaching profession. This cut is pertinent to the current topic because when thinking with agential realism, it is imperative to explore the temporal re-configurations of teaching to analyse how the specific intra-actions have impacted how teacher agency is conceptualised. In addition, it was prudent to explore the status of the teaching profession, as well as teacher profession, professionalism, and professionalisation, because these foci helped me garner a richer understanding of teaching itself, which is imperative in understanding teacher agency and how it is considered in the discourse on the teaching profession. The second and third literature cuts are on humanist and new materialist conceptualisations of how teacher agency is becoming, which provides rich insight to think with when re-conceptualising teacher agency in this thesis. The fourth literature cut is on teacher agency and neoliberalism because the teaching profession is significantly shaped by education policy (Biesta et al., 2015; Biesta et al., 2017; Campbell, 2012; Cong-Lem, 2021; Connors & Bengston, 2020; Digón-Regueiro, 2021; Robinson, 2012; Teruya, 2021). The fifth literature cut is on teacher agency and the COVID-19 pandemic, which emerged as I was writing this thesis when the pandemic started. The sixth cut is a description of public school teachers in Canada, Australia, and the United States. Figure 5 below illustrates the literature cuts of this chapter.

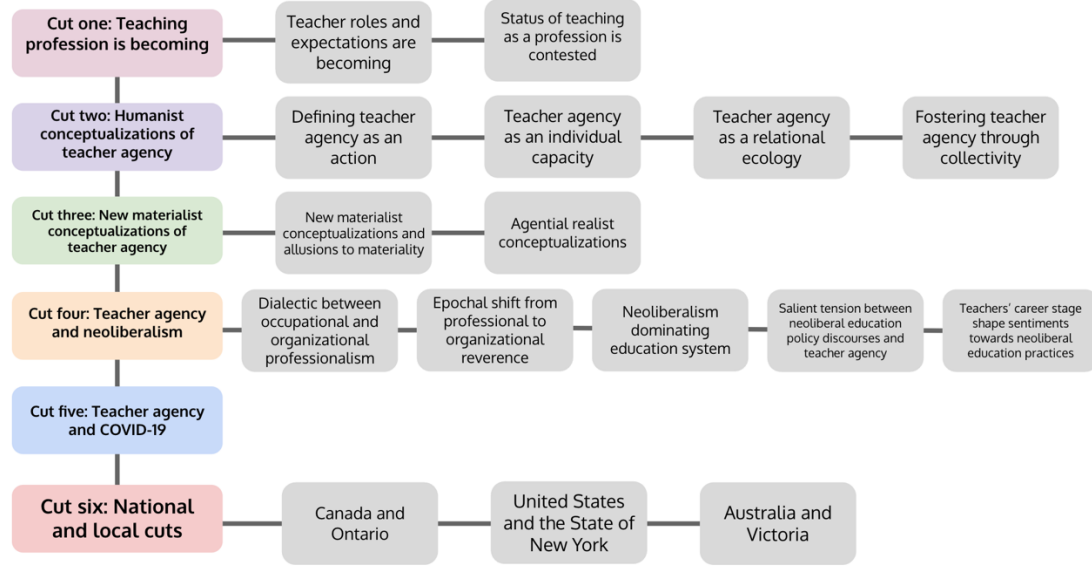


Figure 5: Literature cuts

These cuts intra-act with three boundaries of this thesis. The first boundary focuses only on public schools. I chose to make public schools as a boundary because these schools are funded by the State, which provides an opportunity to explore how State funding is specifically entangled where teacher agency is becoming. The second boundary focuses on primary teachers because primary teachers are unique from other classroom teachers where they teach generalist subjects and tend to have the same cohort of students through the year. Even though this thesis focuses on primary teachers, I expanded the boundaries to primary and secondary teachers for the literature cuts to garner a more comprehensive outlook. There are key differences between elementary and secondary teaching, such as having a cohort versus multiple classes, but there are also other commonalities, such as curriculum implementation, that would be key to think through when exploring how teacher agency is becoming.

The third boundary is a spatial focus on Canada, Australia, and the United States (US). This boundary became through the research process, since I was originally using a comparative case study approach in which I intended to bound each nation as a case. I chose these nations

because although they underwent a neoliberal shift in the 1970s, the education policy discourses arising from the principles of neoliberalism differ across these nations; for example, the US and Australia have more teacher accountability measures than Canada does (Anderson & Cohen, 2015; Connell, 2009; Leicht et al., 2009). However, due to the complex nature of teacher agency, there is susceptibility in simplifying this complexity if insights on teacher agency is generalised by country. As a researcher, I have the ethical response-ability to not simplify the complexity of how teachers' experiences are becoming (Barad, 2007; Warfield, 2017). To avoid reductions, I bounded each teacher as a case instead, and I detail this process in [Chapter 5: Research Process is Becoming](#). Even though I did not bound each nation as a case, I still wanted to consider the national and local cuts that the participants were residing in, because these human constructs exert significant effects that warrant attention. I also acknowledge that these cuts should not be deemed solely as contextual because “the notion of context connotes separability as a starting point: it presumes there is an object that exists apart from its environment or surroundings and that this environmental context matters in some way” (Barad, 2007, p. 459). In other words, global, national, and local cuts are inextricably entangled with teachers' work, lives, and how agency is becoming, but for a structural thesis, I had to make some agential cuts.

When I first embarked on the literature search of the cutting journey, I was using a rigid and systematic process where the literature search was restricted to grey literature, policy reports, journal articles, books, conference papers, and theses that were published between 1990 to 2021. I chose 1990 to 2021 because the scholarship on teacher agency was emerging in the 90s and I believed that I would not re-work this chapter beyond 2021. The types of literature include peer-reviewed journal articles, conference papers, theses, policy briefs, and research reports. I created a list of key terms and its related terms and used Google Scholar and the Australian Catholic

University library search tool to find pertinent academic books, articles, and theses. Then, I entered each concept or term individually into the search tool. Table 2 showcases a list of concepts and terms I entered to elicit pertinent literature. The literature cuts of this chapter continued to evolve in tandem with the becoming of the scholarship at-large. I used Google Scholar alerts on the key concepts of the original literature search to stay up to date on the state-of-the-art research and amended this chapter accordingly.

Table 2: List of key concepts and related terms of the literature search

<i>Key concept(s)</i>	<i>Related terms</i>
Teacher agency	teacher agency; teacher autonomy; meaning of teacher agency; definition of teacher agency; teacher freedom; teacher liberty; teacher agency AND Canada; teacher profession AND Australia; teacher agency AND United States; Teacher agency AND America; classroom teacher profession; teacher agency perception; state of teacher agency; K–8 teacher agency
Teacher agency and COVID-19	Teacher pandemic; teach pandemic; educator pandemic; K–8 teacher pandemic; COVID-19 teachers
Teacher accountability practices	Teacher accountability; teacher accountability policy; teacher testing; teacher observation; teacher surveillance; teacher accountability policy discourse; teacher policy
New materialism and teacher agency	New materialism AND teacher agency; new materialism AND teacher autonomy
Agential realism and teacher agency	Agential realism AND teacher agency; agential realism AND teacher autonomy

Teacher profession

Teacher profession; teacher professionalisation; teacher deprofessionalisation; teacher professional identity; teacher anti-profession; teacher effectiveness

4.3 Cut One: Teaching Profession Becoming

An imperative part of exploring how teacher agency is becoming is to understand how the teaching profession has evolved, because the enactment of teacher agency re-shapes and impacts the profession itself (Biesta et al., 2015; Priestley et al., 2015; Robinson, 2012). In this literature cut, I explore the literature on teacher roles and expectations, the status of the teaching profession, and the professionalisation of the teacher profession.

4.3.1 Teacher roles and expectations are becoming

The literature from Canada, the United States, and Australia assert that teacher roles and expectations are becoming because it is influenced by a number of significant factors including the state, policy, professional development, parents, accountability measures, and teachers' relationships with stakeholders (Connell, 2009; Goepel, 2012; Evetts, 2009, 2011; Hargreaves, 2000; Sachs, 2001, 2003, 2016; Štech et al., 2020). In addition to the teaching profession itself, the “ideas about what makes a ‘good teacher’ varies over time, between and within cultures” (Connell, 2009, p. 214).

Anglophone cultures exhibit a similar trajectory in the evolving role of teachers (Connell, 2009; Hargreaves, 2000). Hargreaves (2000) postulates that the teaching profession has undergone four phases in Anglophone cultures: (1) the pre-professional age; (2) the autonomous professional; (3) the collegial professional; and (4) the postmodern professional. Each phase is demarcated by changes in teacher agency and autonomy, collegial interactions, and shifting eras

from modernity to globalisation to the digital era. Connell (2009) explicates similar trends and characteristics especially in Australia.

During the pre-professional age, teaching was perceived as a linear process of acquiring knowledge and then relaying that knowledge without any assistance or sources. Hargreaves (2000) explains how schools tended to have poor quality teachers and poor quality of learning when they endorse this view of “pre-professional” teaching. The creation of teacher preparation programs provided a more theoretical and philosophical foundation for teachers. However, once they served as an apprentice during practicums, teachers did not end up communicating with their colleagues at all. This served as “restricted professionalism.” Hence, the pre-profession era was “managerially demanding but technically simple” (Hargreaves, 2000, p.156).

Hargreaves (2000) calls the second phase the autonomous professional, which came into prominence from the 1960s and onwards during the “welfare state” years (Buyruk, 2014; Hargreaves, 2000). The teaching profession became more professionalised in this period, with higher wages and more teacher autonomy; being professional and autonomous were practically synonymous. A characteristic of the teaching profession was individualism – teachers just working on their own. Pedagogy often stagnated because teachers did not branch out to their colleagues or establish networks to innovate curriculum or pedagogy. He refers to the third era as the age of the collegial professional from the 1980s and onwards. The teaching profession and its meaning started to include collegial collaboration and there were increases in efforts to create a professional culture.

Hargreaves (2000) denotes the fourth stage as the post-professional or postmodern professional, which was his projection for what he expected the future of the profession to trend towards. Teacher professionalism was entering a postmodern era from around the early-2000s

onwards. There is no certainty as to what the new teacher professionalism would look like, but Hargreaves (2000) speculated it would either be postmodern professionalism, with broader, professional, democratically inclusive of all groups, or else teacher professionalism would diminish or be eradicated. The postmodern age, which started in 1970s, was driven into prominence by two factors: (1) globalisation, and particularly international interdependence; and (2) the electronic and digital revolution. A consequence of postmodern developments is a threat to democracy. Hargreaves (2000) asserts that to preserve teacher professionalism, teachers would need to stand up for themselves, maintain collaborative energy, and set and enact practice standards.

Buchanan (2015) argues Hargreaves' (2000) projection of the post-professional is accurate — at least in the US — because teacher accountability policies in the US continue to constrain teachers' pedagogy and practice, as teachers are regulated through students' standardised test scores and valued-added models. Teaching is morphing into an “instrumentalist notion” (Buchanan, 2015, p. 702), in which it is a means to an end for student learning outcomes prescribed by external agents. New materialist and agential realist scholars disrupt the notion of the teacher as an individual with roles and expectations; rather, teachers are phenomena that are intra-acting in the making of knowledge (Appadoo-Ramsamy, 2023; Furman, 2022; Murriss, 2022).

4.3.2 Status of teaching as a profession is contested

In addition to the discussion on the evolution of teaching as a profession, the status of teaching as a profession itself is contested. Stakeholders, states, and scholars diverge in their perception of teaching as a profession. In Canada, there is scant literature on the status of teaching as a profession, and there is no consensus among scholars what the status of the teaching profession

is. Hargreaves (2000) states that teaching in Canada is close to being an “all-graduate profession” while Leicht et al. (2009) claims teachers have a “fragile” claim to professional status. In the US, whether teaching is a profession or semi-profession is a focal debate (Buyruk, 2014). Some scholars point out how teaching is regarded by some as a “semi-profession” as opposed to a full-fledged profession (Hoyle, 1982; Ingersoll and Collins, 2018; Mehta & Teles 2014), and a “quasi-profession” (Hildebrandt & Minhee, 2011).

Mehta and Teles (2014) explain how teaching is considered a semi-profession because teachers do not charge a significant fee for clients, like general practices in law and medicine, which is one of the criteria in deeming a profession. According to the literature, possessing a collaborative knowledge base is identified as one of the key characteristics of a profession (Evetts, 2006, 2013; Ingersoll & Collins, 2018; Mehta and Teles, 2014; Sachs, 2001, 2016). A few scholars claim that teachers lack a collaborative and shared knowledge base which everyone contributes to, unlike other occupations such as medicine and law (Mehta, 2013; Mehta et al., 2012). In the US, teachers do not have the chance to create a knowledge base, because researchers do not mobilise knowledge nor evaluate or publicly share their knowledge (Bourke et al., 2015).

Another term that is used in the literature is the “proletarianization” rather than professionalisation of teaching (Ballet et al., 2006; Buyruk, 2014). The first studies on proletarianization explore the professionalisation thesis of whether teaching can be classified as a profession. The argument here is that teachers are increasingly getting deskilled and losing their agency and autonomy in practice and professional knowledge (Buyruk, 2014). During the rise of industrialisation and prominence of capitalism, teachers started losing their autonomy and were

subjected to managerial control. Once teachers lose their agency or autonomy, teaching is considered proletarianised or deprofessionalised.

There are some arguments for teaching to be recognised as a profession. Jackson (1968) asserts teaching is viewed as professional work because teachers need to make a significant number of micro decisions per day. Another type of teacher professional is the “activist professional” who has the agency to fight for issues by building relationships with people in the community (Anderson, 2009; Sachs, 2000).

4.3.3 Lack of consensus and diversified perspectives on how to professionalise teaching

Professionalisation is the endeavour to improve the status of the profession or for an occupation to achieve profession status (Buyruk, 2014; Evetts, 2013, 2018; Hargreaves, 2000; Hildebrandt & Minhee, 2011). The professionalisation of teaching has been a “source of hope and frustration for teachers” (Ingersoll and Collins, 2018, p. 200). Since the 20th century, teachers have strived to create a specialised knowledge base and achieve the same status as other professions like law and medicine.

Professionalisation in the United States has been challenging due to the diverse needs and preferences of students and parents (Mehta & Teles, 2014). The US follows decentralised education policy practices where there is no mandatory teacher credentialing system at the national level (Hildebrandt & Minhee, 2011). However, there has been some success at professionalising in the US, including running teacher induction programs (Ingersoll & Collins, 2018). Australia has a high attrition rate with 50% of teachers leaving the profession in the first five years of starting and now the Australian government is focusing on different priorities to improve the status of the teaching profession (Allen et al., 2019; Lampert et al., 2023; Nolan and

Molla; 2020;). The previous focus was on teacher supply and demand, and now the focus is on the quality of teacher candidates and new teachers. (Allen et al., 2019; Lampert et al., 2023).

Some scholars believe the ideal way to professionalise is to consolidate and improve on the knowledge base, stating teaching is or will be designated as a profession when it is professionalised in accordance with the characteristics that define a profession (Buyruk, 2014; Mehta & Teles, 2014). Aspects of professionalising teaching include teaching certification and training/credentials, practicums and placements, professional development, a salary grid, mobility, autonomy, scope for collaboration/teacher learning teams, developing specific skillset/specialisation, regulatory body or professional organisation, prestige and social standing (Evetts, 2006; Ingersoll and Collins, 2018; Hargreaves, 2000; Mehta, 2013; Mehta & Teles, 2014).

Those who place importance on organisational conditions view improving teachers' working conditions as the ideal way to professionalise teaching (Ingersoll & Collins, 2018). Ingersoll and Collins (2018) cite the characteristics of professionalisation that yield the most positive outcomes and that includes teachers' agency, autonomy, and authority. Subsequently, the consequences of weak professionalisation of the teaching field have evolved into "fighting for" agency and autonomy and using it accordingly, instead of collectively forming a set of guidelines, criteria, and skillset for practice (Mehta, 2013). On the topic of trust, Sachs (2016) uses the term "mature profession" to describe how teaching would gain professional status by adopting a transformative model of teacher professionalism. In this model, teachers would be active participants in research and would collaborate and form relationships of trust with other stakeholders.

According to Connell (2009), good teaching needs to be diverse and there should not be a single model of teaching. Mehta and Teles (2014) share that view and suggest an alternative version of professionalisation called “plural professionalisation”. Instead of having a core knowledge base, education systems should propagate multiple knowledge bases that count towards accreditation. Ingersoll and Collins (2018) argue against professionalising because upgrading teacher licensing has been a site of contention. Some argue the requirements for entry into teaching should be more rigorous in order to raise the quality of teaching while others argue entry into teaching should be eased to offer a variety of routes into teaching — such as Teach for America — but one of the most significant consequences is erosion of the professional status of teaching (Ingersoll & Collins, 2018). Overall, the literature illuminates various models to professionalise teaching and there is no consensus on a single effective process or model.

With regards to teacher professionalism and agency, Campbell (2019) argues that teachers are creative rather than mechanistic professionals and that teacher agency takes two forms: either the traits of a bricoleur or an engineer, and the teaching profession itself aligns more closely with a bricoleur. A bricoleur is pragmatic and uses whatever materials they have at hand to come up with creative solutions as they are adaptable, flexible, and spontaneous. An engineer has a specific plan and stringent method to come up with a solution. Both bricoleurs and engineers do not exist in a vacuum; they are informed by their sociohistorical and sociocultural contexts and the teaching profession also shares this similarity.

An engineer’s traits aligns with the managerial outlook on education and a bricoleurs “are much more likely to be active and individualistic in their professional practice, to pursue an eclectic range of methods, to be aware of curriculum and policy demands but to follow their instincts when it comes to doing what they believe is best for their learners” (Campbell, 2019, p.

35). Campbell (2019) argues that education policy discourses should encourage teachers to be bricoleurs because bricoleurs are innovative and subversive, traits that provide scope for transformative education: “Without creating an environment where teachers can research, develop and create their own practice in unique, personal ways, there is limited opportunity for them to become the agents of social and educational change they might otherwise be” (Campbell, 2019, p. 37).

The next literature cuts of this chapter will look at the scholarship that specifically focuses on teacher agency, including humanist and new materialist conceptualisations of teacher agency.

4.4 Cut Two: Humanist Conceptualisations of Teacher Agency

In this literature cut, I explore how the humanist scholarship defines teacher agency, how it is conceptualised as an individual trait and as a relational ecology, and lastly, how the literature argues that teacher agency needs to be fostered through collective approaches.

4.4.1 Defining teacher agency as an action

Most humanist literature allude to teacher agency as being able to make decisions about one’s teaching and professionalism with the scope to create change (Ashton, 2021; Biesta et al., 2015; Biesta & Tedder, 2007; Cobb, 2022; Cong-Lem, 2021). *Capacity* is also a word that is commonly used to describe teachers enacting agency, such as having the capacity to act for themselves or on behalf of others (Buchanan, 2015; Campbell, 2012; Campbell, 2019; Cong-Lem, 2021). Education researchers usually explore teacher agency within the context of their roles in educational settings (Biesta et al., 2015; Campbell, 2012).

In most of the humanist literature, teacher agency is described as a verb. Biesta and colleagues (2015) specifically emphasise that teachers *achieve* agency, and it is something you

do and not *have*. Common phrases with verbs that are used in the literature to describe what teachers do with their agency include: teachers *enact* agency (Ashton, 2021, Brodie, 2021; Priestley et al., 2015); teachers *exhibit* agency (Buchanan, 2015); teachers have the capacity to *act* (Campbell, 2012); and teachers *employ* and *activate* agency (Cobb, 2022). These verbs imply that agency is conceptualised as an activity people do as active agents.

Most scholars classify agency and autonomy as two discrete concepts (Lennert da Silva & Mølstad, 2020). Ashton (2021) articulates that autonomy is used as a synonym for freedom, whereas agency is the *enactment* of that freedom and showing competence to act on their individual terms. Priestley and colleagues (2015) share a similar distinction where autonomy can involve self-regulation without any external governance structures; having autonomy does not necessarily lead to achieving agency, because teachers might be repeating past behaviours established by governance structures and re-producing the status quo. Agency, on the other hand, is staying true to one's beliefs and values regardless of the presence or absence of regulation (Priestley et al., 2015). Some scholars prefer to treat agency and autonomy as synonymous terms (Lennert da Silva, 2021; Lennert da Silva & Mølstad, 2020). Lennert da Silva (2021) argues there are two types of autonomy; the first is freedom without any governance and the other is freedom within governance which most scholars identify as agency.

4.4.2 Teacher agency as an individual capacity

A few scholars argue that the definition of teacher agency is not crystallised because of the ambiguity in the literature on whether teacher agency is conceptualised as an individual capacity or a socio-cultural phenomenon (Aspbury-Miyaniishi, 2022; Eteläpelto et al., 2013; Priestley et al. 2015). For example, an assertion in the literature is that that one of the functions of teacher agency is to uphold morals and values for students (Campbell, 2003; Campbell, 2012; Buzzelli &

Johnston, 2002; Molla & Nolan, 2020; Naraian, 2022). Campbell (2003) specifically describes how teachers have a two-fold role in upholding morality; first, teachers embody the standards of the teaching profession and second, to teach ethical and moral conduct to students. This is an individualistic view of teacher agency, where teachers are responsabilised into being the sole producers of morality. Even when some scholars assert a relational conceptualisation of teacher agency, it is framed as a phenomenon where teachers can make choices out of a range of possibilities (Biesta et al., 2015, 2017; Priestley et al., 2013, 2015). Aspbury-Miyanishi (2022) cautions against conceptualising teacher agency as a choice because it might imply that agency is deterministic as in always within the control of the teacher.

4.4.3 Teacher agency as a relational ecology

Most of the humanist literature fosters a relational, sociocultural notion of teacher agency, where teachers' relationships with actors from macro, meso, and micro-level structures, impact their decision-making capabilities. As opposed to an individual versus environment dichotomy, several scholars use sociocultural frameworks to conceptualise agency as the interaction between humans and social, temporal, and relational contexts (Ashton, 2021; Biesta et al., 2015; Campbell, 2019; Eteläpelto et al., 2013; Priestley et al., 2013, 2015). A model that is frequently adopted by scholars to illustrate this stance is Priestley and colleagues' (2013) ecological model of teacher agency, which is significantly influenced by Emirbayer's and Mische's (1998) conceptualisation of agency. In my read of the literature, I found the ecological model was the dominant framework used to conceptualise teacher agency (Biesta & Tedder, 2007; Biesta et al., 2015, Biesta et al., 2017; Connors & Bengston, 2020; Crandall, 2021; Priestley et al., 2013, 2015).

There are three interrelated, yet distinct, components in Emirbayer's and Mische's (1998) conceptualisation of agency: *iterative*, *projective*, and *practical-evaluative* dimensions. According to Priestley and colleagues (2015), these three dimensions are an interplay between, "influences from the past, orientations towards the future and engagement with the present" (p. 3). The iterative dimension entails individuals applying their prior beliefs and values to inform their current experiences. The projective dimension involves using prior beliefs and experiences to cultivate a vision for the future. Lastly, the practical-evaluative dimension involves individuals using their judgement to make decisions they deem practical for the given context, especially if the situation is dynamic and evolving. Through these dimensions, individuals are *engaging* with their context (Emirbayer & Mische, 1998). Basically, agency is informed by past experiences, which informs decisions for the future, and these ideas are used to act in the present.

Priestley and colleagues (2013) adapted Emirbayer and Mische's (1998) conceptualisation to develop an ecological model of teacher agency, relying on the key principal that agency is a result of a temporal-relational ecology; as articulated in another one of their papers "agency is therefore both a temporal and a relational phenomenon; it is something that occurs over time and is about the relations between actors and the environments in and through which they act" (Biesta et al., 2017, p. 40). With regards to teacher agency, the iterative dimension refers to teachers personal and professional trajectories, where they select specific memories and experiences that teachers process into beliefs, values, and schemas all of which inform how they tackle present situations and plans for the future. The projective dimension of teacher agency involves aspiring, imagining, and constructing, goals for future practice. These projections can illuminate the extent teachers can achieve and enact agency depending on what those actual goals are. For example, if a teacher's projections are based on appealing external

expectations rather than personal and professional beliefs, then that implies teachers might be limited in their agency. Lastly, the practical-evaluative dimension involves teachers' actions in the present, which are informed by the iterative and projective dimensions.

Figure 6 below illustrates the model and how these three dimensions impacts how teachers enact their agency (Priestley et al., 2013).

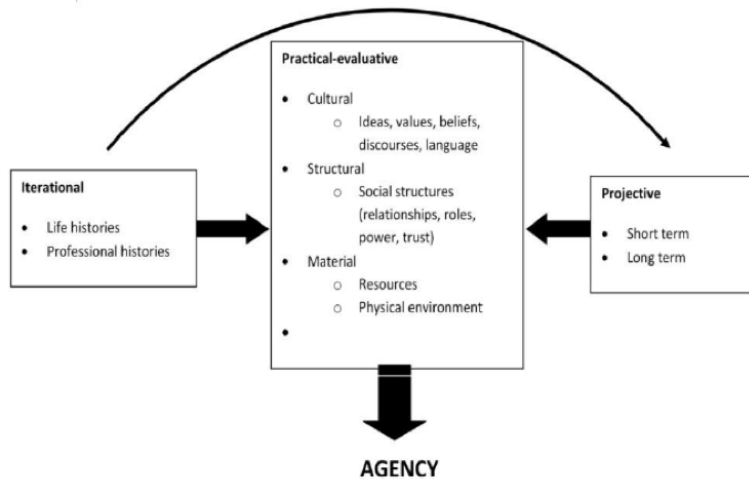


Figure 6: Ecological model of teacher agency
(Priestley et al., 2013)

Scholars who support the ecological view believe teacher agency is impacted by macro, meso, and microstructures. For example, a few studies explored how teacher agency is impacted by district-level structures and policy in the US (Connors & Bengsten, 2020; Datnow, 2012). District offices produce significant levels of mandates for teachers to achieve federal-level expectations (Datnow, 2012). On a microlevel, teacher agency is impacted by schools as they are sites for “complex networks of histories, knowledge, processes and rituals that turn teachers into both social products and producers” (Digón-Regueiro, 2021, p. 3). School culture is another significant factor that impacts teacher agency as well such as the lack of collegial relations also proved to be a constraint since colleagues can be a rich source for resources and learning (Digón-

Regueiro, 2021; Jenkins, 2020). Kinchin and Francis (2017) use the ecological model to consolidate their concept of *pedagogic frailty*. In particular, they emphasize that like teacher agency, teachers' pedagogic frailty is not an individual trait; rather the frailty is the result of disconnections and fragmentations between multiple social actors.

The ecological model is used to argue that teacher beliefs is a significant factor in shaping teacher agency (Biesta et al., 2015, 2017; Buchanan, 2015; Priestley et al., 2015). When teachers' beliefs do not match their external environment, such as school culture, then they feel constrained in enacting their agency (Biesta et al., 2015, 2017; Priestley et al., 2015). Various scholars use different terms to describe how teachers enact their agency to respond to the misalignment between their beliefs and their external environment. For example, Carpendale and colleagues (2021) sorted teacher agency with regards to their reactions to PD programs into four categories: (1) *replication* where teachers ask for insight on activities they see during PD presentation; (2) *application* where teachers apply the activities they see during PD programs but tweaking or adapting to suit the needs of their classes; (3) *adaptation* where teachers take a few ideas and significantly change them; and (4) *amplification* where teachers significantly extend on the concepts of the PD program. Buchanan (2015) categorises agency in a similar way to describe how teachers respond to external governance: *stepping up* or *pushing back*. Stepping up is when teachers' beliefs align with their external culture hence, they go above and beyond to fulfil their expected roles put forth by schools and policies. Pushing back is when teachers' beliefs are dissonant with their external environment and as a result, they resist school expectations and policies (Buchanan, 2015). Whether teachers exhibit agency to step up or push back depends on structures such as state policies impacting agency (Buchanan, 2015). All these concepts describe how teachers' individual beliefs inform how they enact agency.

4.4.4 Fostering teacher agency through collectivity

In the literature, teacher agency is conceptualised as both an individual and collective endeavour (Cong-Lem, 2021; Cooper et al., 2016; Robinson, 2012). A common theme in the literature on teacher agency is how professional development (PD) and collaboration serve as mechanisms to help teachers develop agency (Cong-Lem, 2021; Cooper et al., 2016). It is imperative to consider teacher agency in PD activities, especially in ways that increase their sense of agency (Boylan et al., 2018; Buxton et al., 2015; Carpendale et al., 2021; Cooper et al., 2016). It is also argued that teachers should be treated as active agents rather than passive implementors in professional development activities because it impacts students' subsequent engagement in the activities that teachers create and implement based on their PD activities (Buxton et al., 2015; Cooper et al., 2016). Once again teacher beliefs are asserted as a significant factor in whether teachers enact their agency to partake in professional activities (Buxton et al., 2015; Opfer & Pedder, 2011).

Brodie (2021) explored professional learning communities (PLCs) as part of PD activities. PLCs consist of a group of teachers who engage in systematic inquiry and learning to improve student learning (Brodie, 2021). Professional learning communities are meant to foster teacher agency in that teachers are the agents of their own professional development and pedagogical implementation (Brodie, 2021; Darling-Hammond and Sykes, 1999). Brodie (2021) classified three types of agency in professional learning communities: “engaging with communities, abstaining from communities and rejecting communities” (Brodie, 2021, p. 562). Those who rejected participating in PLC activities cited issues with workload intensification issues and perceived lack of support from senior leadership (Brodie, 2021). Brodie (2021) found that trust is an important component in forming lifelong relationships, and teachers used their

agency to reject participation in PLCs when they felt they could not trust others and were being judged or evaluated.

Most of the literature on teacher agency explores whether teacher agency is an individual capacity, or if their means to enact agency is influenced by external spatial, temporal, and relational contingencies. Both stances carry the underlying humanist assumption that teachers' agency is informed by human phenomena. In the next literature cut, I explore new materialist and agential realist conceptualisations of teacher agency, which deviate from humanist notions of teacher agency.

4.5 Cut Three: New Materialist Conceptualisations of Teacher Agency

In this literature cut, I delineate new materialist and agential realist conceptualisations of teacher agency. The differences are that subsection [4.5.1](#) explores how scholars conceptualise teacher agency using a combination of new materialist concepts or just alluding to material in general, and subsection [4.5.2](#) examines the scholarship that solely uses agential realist concepts to conceptualise teacher agency. Even though agential realism is a new materialist framework, I made the cut to describe these lines of literature in two discrete subsections, because as I also explain in [Chapter 2: Theoretical Framing](#), agential realism has its own distinct set of concepts that illuminate diffractive insights. In subsection [4.9: Diffracting Through the Literature Cuts](#), I describe how the literature on agential realist conceptualisations of teacher agency provides affordances for exploring how teacher agency is becoming.

4.5.1 New materialist conceptualisations and allusions to materiality

Education scholars who are proponents of new materialism have been urging to “(re)conceptualise teaching as a complex phenomenon, which is jointly produced in a constellation of human, nonhuman, discursive, and material elements” (Heikkilä & Mankki,

2021, p. 4). The key implication here is that teacher agency emerges through a relational interplay between human and nonhuman phenomena (Charteris and Smardon, 2018; Heikkilä & Mankki, 2017).

Charteris and Smardon (2018) further contribute to the discussion on new materialism and agency, specifically within the context of learner agency. They delineate a typology of agency in the education sector, ranging from sovereign, relational, ecological, to new material (Charteris & Smardon, 2018). Even though their specific focus is not on teacher agency, their typology of agency provides insight on the differences between widespread conceptualisations of teacher agency. In comparing the ecological and new materialist view, Charteris and Smardon (2018) explain that while the ecological model of agency focuses on how agency is constructed relationally by humans, new materialist notions of agency on the other hand focuses not just on human interactions within education, but the relationship between humans and materials as well: “objects can influence both human and non-human relations, and the relationality between humans” (Charteris & Smardon, 2018, p. 60).

New materialists posit that nonhuman matter, including technology and physical space, are also significant phenomena in producing agency. For example, in their study, Charteris and Smardon (2018) found that students’ learning experiences were impacted when the seating and furniture arrangement changed in the classroom, specifically diversifying the choice of furniture including high tops, couches, and beanbags increased students’ agency to choose where to sit. Charteris and Smardon (2017) also found that principals and teachers mostly commented on *sovereign agency*, where individuals are perceived to be responsible for enacting agency through self-management, which alludes to the notion that agency is primarily derived from the human individual. New materialist notions can help debunk that agency is imbued in self-determination

(Charteris & Smardon, 2017). It is imperative to note that shifting the focus from teachers to teachers and nonhuman phenomena does not diminish the importance of teachers; rather, the shift denotes a change in perspective and can illuminate that the locus of teacher agency is not within an individual entity (Heikkilä & Mankki, 2017).

Heikkilä and Mankki (2021) explored teacher agency during COVID-19 in Finland through a new materialist lens. They argue that school closures changed the materiality in schooling, with pronounced use of technology and physical distance between teachers and students. They found that teachers were experiencing novel limitations and an increase in their agency due to material factors (Heikkilä & Mankki, 2021, p. 5). Perhaps one of the most important points they convey is that a new materialist framework changes the perspective on teacher agency, from an individualised characteristic to “distributed agency” (Heikkilä & Mankki, 2021, p. 5).

In the humanist literature on teacher agency, some scholars allude to materiality but unlike the new materialist perspective, they do not acknowledge that matter produces agency. Priestley and colleagues’ (2013) ecological framework on teacher agency includes materiality in the practical-evaluative dimension, which entails considering how resources and the physical environment contributes to teachers achieving agency: “We would argue that such contexts are also material, in that agency is partly shaped by the availability of physical resources and the nature of physical constraints” (Priestley et al., 2015, p. 7). However, this article and even in their subsequent publications, the scholars do not elaborate on materiality and how it translates in practice, nor do they allude to nonhumans producing agency (Biesta et al., 2015; Biesta et al., 2017; Priestley et al., 2015). In addition, the ecological model is centred on teacher beliefs and

their interpretations of their interactions with material, which does not acknowledge any vitality of matter.

Similarly, a few other scholars make fleeting remarks of the materiality of teacher agency by centring the human. Anand and Lall (2021) briefly acknowledge the significance of materiality in shaping teacher agency as they describe that technology, including hardware and software, have “delegated agency” based on the functions that are built into them which impacts the humans who are using them. Lastly, Buchanan (2015) describes how an accountability regime is “a discourse whose power stretches beyond the material policies into individual consciousness” (p. 712). However, new materialists would assert that discourse does not transgress the material; rather, humans, nonhumans, and discourses are interacting with each other in the continuous act of becoming.

These references to the material, albeit superficial, imply that there is an interest in the material aspect of teacher agency but not the vitality of it. Furthermore, even the new materialist literature on teacher agency is nascent and limited, indicating possibilities for further exploration. The next subsection is on agential realist conceptualisations of teacher agency, which predictably, is also a sparse collection of literature.

4.5.2 Agential realist conceptualisations

Agential realism helps illuminate and disrupt the taken-for-granted binaries in education including teacher/student, adult/child, expert/novice, formal/informal (Bunn & Lumb, 2019; Murriss, 2021). Out of the sparse literature on an agential realist conceptualisation of teachers, a few scholars utilise diffraction as a methodology to conceptualise teachers and teaching (Lambert, 2021; Murriss, 2020; Narayan, 2022). The “diffractive teacher” can be human or nonhuman phenomena (Murriss, 2020; Narayan, 2022). The concept of entanglement is employed

to argue that teachers are becoming through their entanglements with human-nonhuman phenomena, such as students and desks (Appadoo-Ramsamy, 2023; Lambert, 2021). Naraian (2022) emphasises that the researcher is entangled in the production of the teacher, and they share response-able insights on how they contributed the becoming of teachers in their study. As such, teaching and learning are performative and these enactments are not limited to specific entities (Murriss, 2023; Naraian, 2022). Scholars also used spacetime-mattering to assert that teaching is not linear and becoming and teaching spaces are not confined to brick-and-mortar classrooms (Lambert, 2021; Murriss, 2022).

In the literature, Barad's (2007) conceptualisation of agency is used to describe how teacher agency emerges from intra-acting and entangled human-nonhuman *agencies* (Appadoo-Ramsamy, 2023; Naraian, 2022). Like most of the humanist literature, teacher agency is also described as a relational ontology, where Naraian (2022) argues it is an *enactment*, and Appadoo-Ramsamy (2023) deems it a *hybrid collective*. Spacetime-mattering has also been utilised to emphasise how space and time are imperative phenomena in producing teacher agency (Appadoo-Ramsamy, 2023; Naraian, 2022). Appadoo-Ramsamy (2023) describes teacher agency as *becoming* through entanglement and cuts, since agency is "a product of messy intra-actions between teachers and their material conditions" (Appadoo-Ramsamy, 2023, p. 103). As such, it seems various agential realist concepts have been employed to conceptualise teacher agency; however, the scholarship on it is few and far in-between.

In the proceeding cuts, I explore the literature on the relationship between teacher agency and two temporal phenomena: neoliberalism and the COVID-19 pandemic.

4.6 Cut Four: Teacher Agency and Neoliberalism

I chose to explore the literature on neoliberalism and teacher agency because the current neoliberal climate has shaped dominant education policy discourses (Biesta et al., 2015; Biesta et al., 2017; Campbell, 2012; Cong-Lem, 2021; Connors & Bengston, 2020; Digón-Regueiro, 2021; Robinson, 2012; Teruya, 2021). Thinking with agential realism, tracing this entanglement can help understand how neoliberalism does not sit in a specific period, but instead has been re-configured through its entanglements with the spatial and material aspects of the teaching profession. Furthermore, the becoming of neoliberalism can illuminate the evolving power dynamics of the teaching profession. In this literature cut, I explore the distinction between occupational and organisation professionalism, the evolution of these two concepts within an emerging neoliberal climate, and the relationship between neoliberalism and teacher agency.

4.6.1 Dialectic between occupational and organisational professionalism

There is a consistency among scholars to discern between professionalism as an occupational value and professionalism as an organisational value (Bourke et al, 2015; Evetts, 2006; Evetts, 2013, 2018; Freidson, 2001; Mehta, 2013; Moos, 2020; Sachs, 2001, 2016). The key difference is professionalism as an occupational discourse is created “from within” (Evetts, 2013, p. 786) by the occupational group and professionalism as an organisational discourse is constructed “from above” among policymakers and government officials (Evetts, 2018; Moos, 2020).

Professionalism as an occupational value lies on a bedrock of personal and interpersonal values including agency, trust, collegiality, a specific set of skills and knowledge, ability to self-regulate, and discretion (Connors & Bengsten, 2020; Evetts, 2006, 2013; Ingersoll & Collins, 2018; Mehta, 2013; Mehta and Teles, 2014; Sachs, 2001, 2016). These traits cultivate a sense of professional identity which is shared among the practitioners of that profession (Evetts, 2006). In

contrast, professionalism as an organisational value focuses on impersonal external drivers including managerial dominance, hierarchal structures in decision making, accountability and external forms of performance measures, and standardised procedures (Evetts, 2006, 2013; Mehta, 2013; Sachs, 2001, 2016). The tenets of occupational professionalism lends themselves to the belief that teachers should have decision-making capabilities in their profession (Connors & Bengsten, 2020). On the other hand, the principles of organisational professionalism are believed to limit teacher agency, because organisational structures produce mandates teachers feel compelled to follow (Connors & Bengsten, 2020).

4.6.2 Epochal shift from professional to organisational reverence

To understand the neoliberal evolution of education policy material-discursive practices, it is important to explore the trajectory of the emergence of neoliberalism itself. In recent decades, there has been an epochal shift from professional to organisational or managerial reverence. Talcott Parsons conceptualised professions as an occupation that provided an alternative approach to bureaucratic hierarchy (Evetts, 2018). Undergirded by functionalist principles, professionalism served to maintain the stability of social systems by placing trust in professionals to fulfill their roles and responsibilities (Evetts, 2018). The notion of trust and professionalism has always been interconnected and continues to be a popular topic in the professions discourse (Evetts, 2006, 2013, 2018). The view of professionalism on the basis of trust was especially revered in the 1960s (Leicht et al., 2009). During this era, professionals were placed in a strong position within large hierarchal bureaucracies, and policy was less prescriptive without the pervasive extant accountability measures of the present day (Taylor, 2007).

However, in the past 30 to 40 years, managers in work organisations and policymakers at national and international levels have become interested in using professions as a discursive

point for governance (Evetts, 2018; Moos, 2020). From the 1970s to the 1980s, the perception of professionalism shifted from trust to scepticism, and the occupational definition of professions was critiqued as an ideological construct (Evetts, 2013, 2018). This is when professionalism as an organisational value rose to prominence. This shift operated in tandem with the domination of neoliberalism including market logic (Leicht et al., 2009; Taylor, 2007). The 1970s was a notable era for drastic change in the political climate, as Keynesian economics and a trust in a welfare state, which first arose during the Great Depression, was seemingly inefficient leading to a recession and national governments in the Anglosphere were criticised for not being able to reduce social inequality in a welfare state (Taylor, 2007).

The economic crises, seen as governments' inability to maintain fiscal goals and commitment in the 1970s and 1980s led to general distrust towards public services in the West (Taylor, 2007). Afterwards in the 1980s, there was a revival of neo-classical economics and neo-conservative governments. This revival led to the prominence of new public management (NPM), where the West cultivated a neoliberal view that liberal democracy, advocacy of a free market, reducing red tape, and government oversight were key drivers of economic development (Biesta et al., 2015; Connell, 2019; Evetts, 2006; Leicht et al., 2009).

NPM developed in the 1980s as means to ensure that policies at the state and public administration level were implemented in a top-down manner. NPM significantly followed principles from the private sector including two key concepts: (1) three Es: economy, efficiency, and effectiveness; (2) and value for money (VFM) (Taylor, 2007). Taylor (2007) outlines the general principles of NPM, all of which lie on a bedrock of individual responsabilisation and holding those individuals accountable for those responsibilities through surveillance mechanisms: (1) disaggregating public sector bureaucracies into smaller organisational

hierarchies. (2) competition – separating purchasers and providers to cultivate a competitive environment. (3) incentivization – a shift from awarding service providers for general services (e.g., public service) to producing accountability measures with performance targets and incentives. The overarching goal is to convert public services into marketised regimes (Leicht et al., 2009).

As a result, there is currently a dialectic between sustaining the autonomous characteristics of professionalism while creating accountability measures to validate the professional status of an occupation (Evetts, 2011; Leicht et al., 2009). However, thus far, no causal relationship has been found between an organisational shift in professionalism and the deterioration of professional values (Evetts, 2013, 2018). Factors including resistance of managerial control, media exaggeration, fee and salary increases, and union activism produce nuances that make it challenging to determine a causal relationship (Evetts, 2018). Evetts (2018) outlines a few advantages of combining occupational and organisational logics. First, occupational aspects of professions need to be evaluated and assessed in order to continue legitimising its status as a profession (Evetts, 2018). Second, human resources management from the organisational level has proven to be successful in hiring competent professionals. Standardisation and formalisation of the selection process has increased transparency and subsequently diversity and equity in opportunities (Evetts, 2018).

4.6.3 Neoliberalism dominating education system

Market-oriented education is argued to have become the dominant form of education (Ballet et al., 2006; Anderson et al., 2015). Using the tenets of market logic, the discourse on teacher professionalism in the 1990s evolved into the belief that teachers should take individual responsibility for fulfilling expectations put forth by policymakers (Datnow, 2012). The key

principles of neoliberalism translated into policies in the education sector including: decentralising provision of schools; extending competition such as parental choice; increasing parental involvement; budget cuts; and controlling outputs through metrics such as key performance indicators (Ballet et al., 2006; Foster & Plowden, 1996; Hargreaves, 2000). These shifts go hand-in-hand with the shift from professionalism as an occupational value to an organisational value as discussed previously. As a result, neoliberal or market logic is creating a “new type of individual” including a “new type of teacher” (Ball & Olmedo, 2013, p. 88).

Neoliberal reforms in the US have influenced Canada and Australia (Anderson and Cohen, 2015; Connell, 2009; Leicht et al., 2009). In the 1970s the competent teacher model rose to prominence in the US, which is based on market-oriented values, and occurred in tandem with the rise of marketisation in the 1970s and 1980s. This model proliferated from the US to Australia, as the Labor Party took office. Public funding was being funnelled into private schools, which reflected a shift towards neoliberal economic policies including “deregulation, privatisation, tax cuts, competition, and public sector decline” (Connell, 2009, p. 217). The current national government in Australia has endorsed the neoliberal economic approach with concomitant effects on teaching. For example, teaching has become standardised in Australia, with stringent definitions of a “good teacher” outlined in various Standards documents (Anderson & Cohen, 2015). In Canada, market logic has propelled two major education reform movements: (1) expanding on school choice movements; (2) novel conceptualisations of accountability (Leicht et al., 2009).

4.6.4 Salient tension between neoliberal education policy discourses and teacher agency

It is argued in the literature that the neoliberal dominance in the education systems in Canada, Australia, and the US has impacted teacher agency as in their sense of power in the profession

(Biesta et al., 2015; Biesta et al., 2017; Cong-Lem, 2021; Connors & Bengston, 2020; Digón-Regueiro, 2021; Priestley et al., 2015; Robinson, 2012). Biesta and colleagues (2015) explain “teacher professional discourses are to a large extent as they are because of the teachers’ positioning within their professional environments, and their agency (or lack of) is heavily influenced by factors which are often beyond their immediate control.” (p. 7). A key form of neoliberal dominance in education is teacher accountability practices which determine the “effectiveness” of teachers (Buchanan, 2015; Datnow, 2012; Digón-Regueiro, 2021). These specific accountability practices are outlined in [Subsection 4.8: National and Local Cuts](#).

School choice is also a policy which stems from neoliberal ideals and impacts how teachers enact their agency. School choice are public programs that give parents options for their children’s schooling through vouchers, open enrolment programs, charter schools, home schooling, tax credits, and formation of magnet schools (Leicht et al., 2009). The rationale for school choice stems from criticism of public schools having low standards. Choice advocates proclaim that creating competition in education will make schools become more performance oriented (Leicht et al., 2009). School choice erodes teacher agency and places parents in a position of authority as the consumer, which threatens teachers’ decision making. Choice initiatives shift the power from the teachers to the parents, because they are the consumers, and this dynamic limit teacher agency since parents dictate standards in accordance with their desires (Leicht et al., 2009).

Even though Evetts (2018) claims there is no *causal* relationship between organisational prominence and the erosion of professional values, scholars in education have argued otherwise. Several scholars posit that neoliberal ideals are propagated by the state and is limiting how teachers can enact agency (Ballet et al., 2006; Bascia & Stevenson, 2017; Buchanan, 2015;

Datnow, 2012; Digón-Regueiro, 2021; Hargreaves, 2000). Accountability regimes have changed the “culture of teaching” (Datnow, 2012, p. 195), where teachers feel constrained because they have to follow strict mandates and curricula governed by authoritative bodies (Connors & Bengsten, 2020; Digón-Regueiro, 2021; Priestley et al., 2012). Teachers face a paradox: they are given greater responsibility, but governments prescribe the methods in carrying out those responsibilities (Ballet et al., 2006). An external force oversees and acts as the authority when teaching is framed as a competition (de Saxe et al., 2020). The consequences of this are regressing back to teaching in its primal, deprofessionalised form (Biesta et al., 2015; Hargreaves, 2000). The rise in managerial responsibilities including paperwork, deprofessionalises teaching since teachers’ work is shifting from holistic to a fragmented series of technical responsibilities (Ballet et al., 2006; Biesta et al., 2015).

When teachers are in an educational space that is cultivated by stringent accountability structures, they feel limited in their power to make decisions especially when they are dissonant with public policy discourse (Biesta et al, 2015; Buchanan, 2015). Buchanan (2015) problematises the pervasiveness of teacher accountability practices because it reduces the nuances of the teaching profession and produces standardised practices in education. Even if teachers are seemingly acknowledged as agents of change by state government, their actions indicate otherwise with the implementation of governance structures such as teacher observations and school inspections (Fu & Clarke, 2017; Priestley et al., 2015).

4.6.5 Teachers’ career stage shape sentiments towards neoliberal education practices

Even though most of the literature argue that the neoliberal education practices have decreased teachers’ sense of power in the profession, some scholars assert that teachers’ perception of these practices are not always negative. For example, Ashton (2021) found in their study that novice

multi-level teachers needed and preferred external governance in developing curriculum and pedagogical resources, because the lack of resources made teachers feel unprepared, which in turn impacted their self-efficacy. As such, Ashton (2021) recommended a “prescriptive curriculum” for novice teachers (p. 249). In the US in particular, teachers have been exposed to a culture of teaching to the test and using test scores to determine changes to pedagogy (Buchanan, 2015; Connors & Bengsten, 2020). Due to the dominant testing culture, newer teachers have a more positive view of accountability and prefer the culture of teaching to the test than more experienced teachers do (Buchanan, 2015; Biesta et al., 2017; Connor & Bengsten, 2020). Buchanan (2015) predicts this dominant view will continue to shape how teachers in the US enact their agency in the future.

Biesta and colleagues (2017) refer to the difference in sentiments as the *age-effect* and *generation-effect*. The age effect is when an individual’s perception differs because they have more experience, and the generation effect is when someone has different views because they were exposed to different views in the generational era, they started cultivating their knowledge base. In their particular study, two teachers’ opinion differed on a shift from an emphasis from knowledge to skills in the national curriculum (Biesta et al., 2017). One of the teachers, who has 30 years of experience, did not find the shift was desirable and thought that both knowledge and skills need to be taught. The other teachers had less experience, 6 years, approved of the shift and agreed with it. The teacher with 30 years of experience has been exposed to a wider range of policy shifts which is why she has had more time and opportunities to develop her “discursive resources” (Biesta et al., 2017, p. 44). On the other hand, teachers’ perceptions of the accountability policies relative to career stage are not always clear cut. Connor & Bengsten (2020) found in their study that even though a teacher might not carry solely negative views of

accountability policies and standardised curricula, they might be dissatisfied with certain aspects such as pacing and reconciling curriculum expectations with their own pedagogical approaches. In conclusion, the literature delineates how the neoliberal dominance of education policy practices has significantly impacted teacher agency.

4.7 Cut Five: Teacher Agency and COVID-19

The literature on teacher agency and COVID-19 is very limited since the pandemic is still so recent. Even within the limited literature, there is a recurring recommendation to stop hegemonizing teacher accountability measures and prioritise fostering individual and collective teacher agency instead; one of the reasons is because teachers made their own decisions on how to effectively support students during the pandemic (Crandall, 2021; Ehren et al., 2021; Mansfield et al., 2023; Napitupulu et. al, 2023; Teruya, 2021). In this subsection, I describe each publication separately because each one is distinct in its insights and conceptualisation of teacher agency.

Anand and Lall (2021) explored how teachers' use of technology impacts their agency and practice in India. "Digital agency" is a term to describe the process of using technology that leads to deeper meaning for the user rather than passive usage (Anand & Lall, 2021). Digital agency "consists of digital competence, digital confidence and digital accountability and is the individual's ability to control and adapt to a digital world" (Anand & Lall, 2021, p. 65), which is the holistic capability to engage with technology.

In India, the pivot to online learning proved to be an equity issue for teachers and students because not all of them had access to technology (Anand & Lall, 2021). In addition, online learning served to be an issue for teachers and students because students faced numerous distractions including parental interference and use of cell phones during class. The parental

interferences were especially significant because parents would take videos or just watch the lesson. Teachers felt they enacted less agency, especially digital agency, in online learning environments because of the lack of proximity to the students in terms of not being in a shared space (Anand and Lall, 2021). Anand and Lall (2021) argue that competence and self-efficacy is a building block for agency, and it is especially apparent with respect to teachers' digital agency.

Bailey (2021) explored international teachers from all over the world and their sense of agency during COVID-19, specifically the relationship between agency and precarity, which in this case was caused by COVID-19, includes job insecurity and legal rights. Bailey (2021) found teachers have lost their sense of agency due to precarity as international teachers during the pandemic, because they were unable to travel back and forth from their currently country and home country.

Crandall (2020) explored teacher agency during COVID-19 in the Northern Canadian community. Due to the remote conditions of the Northern community, resources such as food and water are limited. Crandall's (2021) explication of how the unique context of the Northern community created unique conditions for teacher agency further emphasises how it is imperative to explore teacher agency in different contexts to understand it. Crandall (2020) strongly encourages the education system to Indigenize the curricula so that Indigenous teachers can enact their agency in sharing Indigenous knowledge.

Teruya (2021) conducted an autoethnographic study to explore teacher agency and identity and how both have been impacted by the pandemic. The absence of accountability allowed teachers to use their agency to navigate the pandemic by using their beliefs to determine whether they would abide by or deviate from administrative expectations. Teruya (2021) points out that teachers' pedagogy fell in line with state governance expectations, but they amended

them based on their own judgement. For example, teachers used the same concepts put forth by external governance structures but lessened the prescribed workload (Teruya, 2021). Teruya (2021) argues that the uncertainty of the pandemic had produced ambiguity and teachers had been dealing with the ambiguity by making their own decisions to (re)shape the profession.

Mansfield and colleagues (2023) generated focus groups with 50 teachers in Australia and to explore how they navigated online teaching during the COVID-19 lockdowns. This study discovered that teachers were better able to navigate the changes during the pandemic when they were supported by their colleagues and school leadership because it increased teachers' self-efficacy (Mansfield et al., 2023). As such, Mansfield et al. (2023) argue that teacher agency is built on a relational foundation of trust.

Within these sparse studies, it seems COVID-19 is both limiting and providing opportunities for teachers to make decisions in the profession. Interestingly, these studies shared distinct ways of re-conceptualising teacher agency, from emphasising individual characteristics such as self-efficacy to collective features such as school-based support. Thus, the literature on COVID-19 and teacher agency indicates how this temporal rupture provided vast possibilities for re-conceptualising teacher agency.

4.8 Cut Six: National and Local Cuts

In this subsection, I provide a description of the national and local cuts with regards to publicly funded education, public school teaching, and COVID-19 measures, because Canada, the United States, and Australia employ a decentralised education model, where public education is formally governed and funded by individual states or through a hybrid of national and state oversight (Australian Government Department of Foreign Affairs and Trade, 2017; Government of Canada, 2022; U.S. Department of Education, 2008). First, I provide a description of Canada

and Ontario followed by the United States and the State of New York, and lastly, Australia and Victoria.

4.8.1 Canada and Ontario

In Canada, public education is completely decentralised and there is no federal department of education (Government of Canada, 2022). The states, which are referred to as provinces and territories, oversee and allocate funding for the major components of the public education system, including teacher education and credentialing, hiring processes, curriculum, and policy and guidelines. The Ontario government funds three stages of education: early childhood education for students from birth to age 6; elementary education for Kindergarten to Grade 8 students from ages four to around 14; and secondary education for Grade 9 to Grade 12 students around ages 14 to around 18 (Government of Ontario, 2023). Within Ontario, elementary and secondary schools reside in are administered by 72 district school boards who have certain jurisdictional privileges (Government of Ontario, 2023). Public elementary teachers are automatically registered in the Elementary Teachers' Federation of Ontario, which is a union that engages in collective bargaining and advocacy for its members (Elementary Teachers' Federation of Ontario, 2023).

To teach at an elementary public school in Ontario, individuals need to complete a bachelor's degree and an initial teacher education program (Government of Ontario, 2022c). In addition, teachers need to be certified by the Ontario College of Teachers (OCT), which is an independent regulatory body that stipulates professional guidelines and oversees grievances against teachers (Government of Ontario, 2022c). At the time my interviews were generated, individuals were required to pass a standardised math test called the Ontario Mathematics Proficiency Test in order to be certified by OCT; however, in 2022, the Ontario government

rescinded that requirement because the Ontario Court of Justice deemed the test as an infringement on the *Canadian Charter of Rights and Freedoms* (Ontario Teacher Candidates' Council v. The Queen, 2022).

Ontario's teacher performance appraisal system (TPA) consists of two major components that claim to promote teacher growth while providing public accountability (Government of Ontario, 2012). The first component is the New Teacher Induction Program (NTIP) which is for teachers in their first or second year of a permanent teaching position or a similar teaching role (Government of Ontario, 2012). NTIP participants engage in a variety of professional development (PD) activities throughout the year and undergo two performance appraisals by the school principal. The second component of TPA is a formal appraisal process, which occurs every five years of a teacher's career, where experienced teachers undergo a performance appraisal by the principal (Government of Ontario, 2012). If a teacher receives "unsatisfactory" ratings on their TPA appraisals, then they are subject to termination by their respective school board (Government of Ontario, 2012).

The Education Quality and Accountability Office (EQAO), which is a government agency, administers standardised tests on math, reading, and writing for students in Grades 3, 6, 9, and 10 (Education Quality and Accountability Office, 2022a). EQAO publicly shares the test results and provides information at board and school levels (Education Quality and Accountability Office, 2022b). EQAO utilise test results to provide the province and school board with data points on student achievement; the results do not have any direct impact on students or teachers barring the Ontario Secondary School Literacy Test which students need to pass to graduate from secondary school (Education Quality and Accountability Office, 2022a).

During COVID-19, Ontario experienced a chaotic range of public-school closures and shifts between in-person and remote attendance. From March 12th to June 20th, 2020, schools closed, and classes were held remotely (Gallagher-Mackay et al., 2021). From September 2020 to April 11th, 2021, schools reopened, and some boards implemented hybrid approaches with in-person and remote students (Gallagher-Mackay et al., 2021). From April 12th until the end of the school year in June 2021, schools closed, and remote classes were held again (Boothe et al., 2022). From September 2021 to the end beginning of the winter break in December 2021 schools reopened (Government of Ontario, 2022a). From January 5th to January 17th, 2022, classes were held remotely, and schools reopened and have not closed since then (Government of Ontario, 2022b).

4.8.2 United States and the State of New York

In the United States, the states are responsible for educational jurisdiction (U.S. Department of Education, 2008). However, there is a federal department of education, and the education system's legal framework is a potpourri of national, state, and local laws (U.S. Department of Education, 2008). Despite its limited oversight, the federal department of education provides 8% of funding for public schools and occasionally provides additional policy and monetary support (U.S. Department of Education, 2008). The rest of the funding is provided by individual states, municipalities, and private corporations (U.S. Department of Education, 2008). There are three stages of publicly funded schooling: elementary school for Kindergarten to Grade 5 students from around ages five to 10; middle school for Grade 6 to Grade 8 students from around ages 11 to 13; and high school for Grade 9 to Grade 12 students from around ages 14 to 18 (USAHello, 2023).

There are various pathways to become a certified elementary and middle school teacher in the State of New York (New York), including direct enrolment from high school to a teacher preparation program, or enrolling in a graduate degree from a teacher preparation program after completing a bachelor's degree (New York State Education Department, 2023c). After completing the teacher preparation program, individuals can apply for an initial teaching certificate which is valid for the first five years of their teaching career (New York State Education Department, 2023c). In order to obtain the Initial Teaching Certificate, one needs to pass the New York State Teacher Certification Exam – Educating All Students Test, which is a standardised test on general theory and practice, and the Content Specialty Test which is a test on the specific subjects teachers want to teach including multi-subject tests for generalist teachers (New York State Education Department, 2023c). Afterwards, if teachers want to be certified for longer than five years, then they need to apply for a professional teaching certificate by completing one year of mentored teaching, at least three years of fulltime teaching, and a master's degree (New York State Education Department, 2023c). A professional teaching certificate is valid for the rest of a teacher's career (New York State Education Department, 2023c).

The New York State Education Department (NYSED) consists of a wide array of program offices with designated responsibilities including creating learning expectations local school boards use to develop curricula; processing federal and state grants; creating accountability practices for schools, principals, teachers; and developing standardised tests for students (New York State Education Department, 2023d). The NYSED provides curricula documents with comprehensive learning objectives and standards (New York State Education Department, 2023d). The NYSED created an assortment of indicators to classify public schools

as “In Good Standing,” a “Comprehensive Support and Improvement (CSI) school”, or a “Targeted Support and Improvement (TSI) school” (New York State Education Department, 2017). These indicators are determined through annual state assessments in English, math, and science for students from Grades 3 through 12; attendance rates; and high school graduation rates (New York State Education Department, 2017). The school boards are expected to utilise these indicators to create an improvement plan and the NYSED provides additional funding if schools have a low rating and/or awards additional funding to schools that implement the NYSED’s Professional Development Plan (New York State Education Department, 2017).

Individual school boards in New York also use these indicators and ratings to create evaluation plans for teachers (New York State Education Department, 2023b). The evaluation plan consists of two components which teachers partake in every year. The first component is a value-added model, where students’ standardised test scores are used to determine the performance of an individual or group of teachers (New York State Education Department, 2023b). The second component is two mandatory observations by the school principal and an external evaluator (New York State Education Department, 2023b). If teachers receive a low rating on the evaluation, then the school board will implement an improvement plan (New York State Education Department, 2022). Teachers are required to progress through the improvement plan within a set period, such as one or two years. Aggregate data on principals and teachers’ ratings are published publicly on the NYSED website, and the ratings are used to determine teacher promotions and terminations (New York State Education Department, 2022).

The NYSED also has a Charter School Office to oversee the 343 charter schools in New York (New York State Education Department, 2023a). Charter schools in New York are publicly funded but privately administered; each school has a non-for-profit board of trustees, which can

include teachers and members of the community, and the board and workers create policies, curricula, pedagogical approaches, and accountability practices for their respective school. If there are more student applicants than available spots, then the school conducts an admissions lottery (New York State Education Department, 2023a). Charter Schools are relatively independent from the NYSED but run on 5-year contracts where they must provide high school performance data at end of the contact term (New York State Education Department, 2023a). Teachers from both public and charter schools have the option, but are not required, to join the New York State United Teachers, which is a federation that represents around 1325 education unions comprising of educators and education workers from elementary, secondary and tertiary schools, and even healthcare workers as well (New York State United Teachers, 2023).

During COVID-19, schools in New York closed from March 18th, 2020, to the end of the academic year, and classes were held remotely (Ballotopedia, 2022). In September 2020, schools gradually started reopening for in-person learning with most schools opening by June 2021 (Ballotopedia, 2022). Each school district was required to submit a reopening plan with decisions on whether to hold in-person, remote, and/or hybrid classes (Ballotopedia, 2022). After schools reopened, everyone was required to wear a mask until that requirement was rescinded on March 3rd, 2022 (Ballotopedia, 2022).

4.8.3 Australia and Victoria

In Australia, the education system is structured into four sectors: primary school for students from Foundation/kindergarten to Year 6 or 7 around ages four to 12; secondary school for students from Years 7 to 10 around ages 13 to 16; senior secondary schools for students in Years 11 to 12 ages 17 to 18; and tertiary education for students beyond Year 12 (Australian Government Department of Foreign Affairs and Trade, 2017). Students in Year 3, 5, 7, and 9

complete the National Assessment Program – Literacy and Numeracy (NAPLAN), which are nationwide standardised tests on literacy and numeracy (National Assessment Program, 2023). NAPLAN tests scores are publicly shared, and the scores have no direct consequences for schools, staff, or students (National Assessment Program, 2023).

The federal and individual state governments share funding and governing responsibilities (Australian Government Department of Foreign Affairs and Trade, 2017). Both public and private schools, which are referred to as government and non-government schools respectively, receive public funding. The federal government provides some funding for government schools and most of the funding for non-government schools (Australian Government Department of Foreign Affairs and Trade, 2017). In addition, the federal government established the Australian Institute for Teaching and School Leadership (AITSL), which produces research and insights on the “quality of teaching”, and each state utilises this framework when creating and implementing teacher education programs and teacher policies (Australian Government Department of Foreign Affairs and Trade, 2017). The state governments, including the Victoria Department of Education, provide most of the funding for government primary and secondary schools, oversees teacher accreditation and accountability practices, creates curricula, and shares student achievement information (Australian Government Department of Foreign Affairs and Trade, 2017). Public school teachers have the choice to join a union and each state has its own selection of unions, ranging from national branches to state-specific organisations.

There are various pathways to become a certified public-school teacher in Victoria. Individuals can either enrol in a 4-year undergraduate teaching degree or complete a 3-year non-teaching undergraduate degree or vocational certificate and a 2-year postsecondary teaching

course (State Government of Victoria, 2023e). There is an option to pursue a postsecondary teaching course through Teach for Australia, a third-party organisation where teacher candidates are paid to teach in a low socioeconomic area for the entire two years of their study and then receive a Master of Teaching degree (State Government of Victoria, 2023e). After receiving a teaching degree, individuals need to be certified by registering with the Victorian Institute of Teaching, which is an independent regulatory body for teachers (State Government of Victoria, 2023d). Afterwards, teachers hold a provisional registration status and have two years to progress to full teacher registration status by teaching for at least 80 days and proving that they meet the Australian Professional Standards for Teachers (Victorian Institute of Teaching, 2021).

Victoria is divided into 17 Learning Areas, and each Learning Area consists of government schools and a regional office that liaises with the Victoria Department of Education (State Government of Victoria, 2019). Each Individual Learning Area and their schools are responsible for designing a teacher induction program, which teachers are required to participate in during the first two years of a full-time position (State Government of Victoria, 2019). During the teacher induction program, teachers are mentored and informally observed by senior teacher colleagues, are provided with professional development workshops, and receive opportunities to attend professional development conferences (State Government of Victoria, 2019).

The Victoria Department of Education deploys the Victorian Curriculum of Assessment and Authority, a statutory body, to create and amend the F-10 curricula which public teachers are required to follow (Victorian Curriculum of Assessment and Authority, 2023). The curricula are a series of documents and resources detailing the knowledge and achievement standards students should attain (Victorian Curriculum of Assessment and Authority, 2023). The Victoria Department of Education also requires all schools to develop an Annual Implementation Plan

(AIP) by setting goals and targets for staff and students (State Government of Victoria, 2022). The purpose of the AIP is to provide the state with insight on the state of schools with regards to the national and state education goals (State Government of Victoria, 2022). The AIP includes a Performance and Development Plan (PDP) that teachers must partake in (State Government of Victoria, 2023c). The PDP focuses on three aspects of education which is modelled from AITSL's framework: teacher performance and development; students' learning and wellbeing; and building a school community (State Government of Victoria, 2021c). The PDP is created by the school admin and teacher and can include professional development sessions and in-formal appraisals. The outcomes of the PDP determine teachers' salary progression and job mobility (State Government of Victoria, 2023c). There were some changes to the process from 2021 to 2023, where teachers had the option to participate in the standard PDP or could create an alternative process, the foci were reduced from three to two aspects, and no documentation or reporting to the state was required (State Government of Victoria, 2021a; 2023a; 2023b).

School closures in Victoria during COVID-19 were extremely chaotic. All primary and secondary schools in Victoria closed on April 7th, 2020, and shifted to remote learning (Wright, 2021). On May 12th, 2020, Victoria started staggering reopening of schools by region (Wright, 2021). On August 2nd, 2020, all schools shifted back to remote learning and from September 2020 to January 2021, schools gradually returned to in-person learning (Wright, 2021). In 2021, Victoria had a series of state-wide school closures: from February 15th to 17th; May 28th to July 28th; and August 17th to September 28th (State Government of Victoria, 2021b; Wright, 2021).

4.9 Diffracting Through the Literature Cuts

I describe my contribution to the literature as the enactment of diffracting through the literature cuts. A diffractive practice avoids privileging certain forms of knowledge over another (Barad,

2007). As I explain in [Chapter 2: Theoretical Framing](#), Barad effectively created an agential realist framework by diffracting *through* scholars without pitting them against each other. In addition, Barad does not claim superiority for producing new insights. Through this process, Barad embodies an ethical practice that emphasises the relational nature of knowledge-making and is imbued with humility. As such, this thesis aims to value all forms of knowledge and my contribution to knowledge is diffractive. With this perspective at hand, I am endeavouring to be response-able and foster an assets-based, rather than deficit-based, approach on intra-acting with scholarship (Dolphijn and van der Tuin, 2012). This way, the discussion on the scholarship will be constructive, which is one of the goals of those who think with new materialism (Coole & Frost, 2010). In accordance with this approach, I discuss how the literature, or limited literature on certain topics, produces conditions of possibility for further exploration on certain topics, as opposed to phrasing it as a “gap” in the literature which seems more of a critique of scholars. In this subsection I share a working definition of teacher agency that I experiment with in this thesis, and then I delineate six key insights from the literature cuts that provide opportunities to contribute to the literature by thinking with new materialism to re-conceptualise how teacher agency is becoming.

For this thesis, my working definition of teacher agency is that it is an enactment emerging from human-nonhuman intra-activities, where teachers are making decisions in their profession because of the intra-actions between teachers and human-nonhuman phenomena. In that regard, the locus of teacher agency is within human-nonhuman intra-active flows, not within an individual teacher, which is why I refer to teacher agency as *becoming*. I use the verb *enact* to describe what teachers are doing with their agency when making decisions because enact is the verb used in humanist and new materialist scholarship who denote a relational nature of agency

(Ashton, 2021; Barad, 2007; Brodie, 2021; Naraian, 2023; Priestley et al., 2015). I re-assess this working definition when I re-conceptualise teacher agency in [Chapter 8: Discussing](#).

I also adopt the tenet that teacher agency is omnipresent because teachers “always enact agency, even when they choose not to act, or might seem to ‘passively’ accept policies or practices from others” (Brodie, 2021, p. 562). Furthermore, the omnipresent aspect of teacher agency aligns with an agential realist conceptualisation of how teacher agency is becoming (Barad 2007; Datnow, 2012). In addition, I treat agency and autonomy as discrete concepts, and align with the definition used in this study of Priestley and colleagues (2015). In [Chapter 8](#), I discuss the implications for teacher autonomy when thinking with new materialism and agential realism.

There are six key insights from the literature cuts that create opportunities for this thesis to make significant contributions to the literature. First, there is a lack of consensus and ambiguity in the literature on what constitutes a “teacher” and whether teaching is considered a profession. The definition of teacher and teaching profession has been becoming, with teachers being deemed from “pre-professional” to “post-professional” and teaching denoted as a “semi-profession” and a “quasi-profession” (Buchanan, 2015; Collins, 2018; Connell, 2009; Hargreaves, 2000; Hildebrandt & Minhee, 2011; Hoyle, 1982; Ingersoll & Collins, 2018; Mehta & Teles, 2014). Interestingly, the acknowledgement of teaching as a profession is nonlinear since scholars provide a cautionary warning that the status of teaching as a profession is fragile and is regressing into rejecting teaching as profession (Buchanan, 2015; Hargreaves, 2000; Leicht et al., 2009). There is a valuable opportunity to diffract with the literature on the nonlinearity of teaching to contribute to the limited scholarship on using spacetime mattering to understand how the production of “teacher” is enfolded within space-time entanglements (Lambert, 2021; Murriss,

2022). Moreover, the conceptualisation of teachers is relevant to this thesis because it significantly impacts teacher agency, which I explain in the second key insight. Second, the literature illuminates how conceptualisations of teachers causally impact whether teacher agency matters, which in turn re-shapes issues and solutions related to teachers and teaching. For example, teacher agency seems to matter if teachers are conceptualised as competent professionals (Buyruk, 2014; Ingersoll & Collins, 2013; Mehta, 2013). As such, if teachers cannot enact agency, then that becomes an issue because teachers as professionals have the competency and right to make their own decisions (Anderson, 2009; Campbell, 2019; Sachs, 2016). In addition, neoliberal domination of education is framed as an issue because its market logic is creating standardised practices that diminishes opportunities for teachers to make their own decisions (Buchanan, 2015; Datnow, 2012; Digón-Regueiro, 2021; Hargreaves, 2000; Lambert, 2021).

Using neoliberal market logic again as an example, if teachers are perceived as sellers of a product created by external managers such as the state or company, then whether they can enact agency is not framed as an issue. Rather, the focus on appeasing the consumers and that the external producers oversee the quality of the product, which in this case is teaching (Ball & Olmedo, 2013; Datnow, 2012; Leicht et al., 2009). This insight provides an opportunity to think with new materialism and agential realism in exploring how material-discursive practices that produce teachers and frame issues impact how teacher agency is becoming. In addition, since new materialism focuses on cutting through dualities, there is potential to examine the complexity of the relationship between how teachers are defined, whether teacher agency matters, the issues and solutions that are purported. For example, some scholars argue the standardisation of teaching based on neoliberal values is met with positive reception by early-

career teachers (Ashton, 2021; Buchanan, 2015; Connors & Bengsten, 2020). Hence, this thesis will contribute to the literature by thinking with new materialism to further unearth how these complex material-discursive practices emerge and impact the power dynamics in the teaching profession.

Third, the humanist literature highlights how conceptualising the locus of teacher agency causally impacts the locus of teaching responsibilities as well. For example, when the locus of teacher agency is argued to be within the individual, then the individual teacher is responsible for embodying moral standards and values (Campbell, 2003; Molla & Nolan, 2020; Naraian, 2022). Conversely, when the locus of agency is argued to be within relational enactments, then the teachers' relationship with their environment is responsible for enriching teachers' capacity to make decisions (Brodie, 2021; Cong-Lem, 2021; Cooper et al., 2016). As such, collective methods are proposed in fostering teacher agency including creating professional development opportunities and encouraging positive collegial relationships (Brodie, 2021; Buxton et al., 2015; Cooper et al., 2016). The new materialist literature further adds that the locus of agency is distributed among human-nonhuman phenomena (Charteris & Smardon, 2018; Heikkilä & Mankki, 2017). By thinking with agential realism, it is my ethical response-ability to understand and acknowledge how articulating the locus of teacher agency re-shapes the responsibilities related to teaching. In addition, this exploration has the potential to produce significant implications for paradigmatic approaches in understanding how teacher agency is becoming, because the locus of teacher agency is tied to philosophical paradigms of what constitutes a human (Charteris & Smardon, 2018).

Fourth, the literature on teacher agency itself is sparse and nascent which is acknowledged by scholars as well (Biesta & Tedder, 2007; Biesta et al., 2015). Even the

ecological model, which is the dominant humanist framework utilised to understand teacher agency, was conceptualised only a decade ago by Priestley et al. (2013). Moreover, the literature on new materialist and agential realist conceptualisations is even more limited. While Appadoo-Ramsamy (2023) describes teacher agency as becoming, there is room for further elaboration of the nonlinear, evolving, and nonhuman aspects of teacher agency. However, it is imperative to note that even the limited extant literature on teacher agency shares rich insights which is evident from the three key points I shared from the literature cuts. As such, there is a valuable opportunity for me to diffract with the literature cuts by thinking with new materialism and agential realism in producing further insights on re-conceptualising how teacher agency is becoming. Specifically, this thesis can diffract with the humanist literature cuts on teacher agency and provide insights on how the importance of considering nonhuman phenomena as well, especially because there is an emergent interest in considering the vitality of nonhuman phenomena with regards to teacher agency.

Fifth, the literature illuminates how COVID-19 provides a unique opportunity to explore how the significance of space-time phenomena where teacher agency is becoming. There are a diversified range of insights on COVID-19 and teacher agency from how the pandemic provided and limited opportunities for teachers to make their own decisions, to individual and collective approaches to foster teacher agency. These insights highlight how the re-configuration of space and time significantly re-shaped teachers' experiences and brought the topic of teachers' decision-making processes to the limelight. The salience of this topic through the literature cut provides me with the opportunity to think with agential realism in further exploring the significance of spacetime mattering when teacher agency is becoming.

Lastly, the local and national cuts provide an opportunity to explore how state governance as intra-acting phenomena is intra-acting and making marks where teacher agency is becoming. In particular, the similarities and differences between funding models, teacher accountability practices, and COVID-19 measures provides the richest insights in tracing state governance in the entanglement. For example, public schools are mainly governed and funded by state governments in all three countries, and the US and Australia has more overt assistance from their national governments and private organisations (Australian Government Department of Foreign Affairs and Trade, 2017; Government of Canada, 2022; U.S. Department of Education, 2008). Moreover, there is no national department of education in Canada, but there are in Australia and the US (Australian Government Department of Foreign Affairs and Trade, 2017; Government of Canada, 2022; U.S. Department of Education, 2008). These similarities and differences between the involvement of the national governments in public education has the potential to elicit how national governments intra-act in entanglements where teacher agency is becoming.

In addition, Victoria, Australia and Ontario, Canada follow similar teacher accountability practices, where teachers in their first two years of their career have to participate in an induction program. After the induction program, teachers from both states participate in a performance appraisal except teachers in Victoria are appraised every year, and teachers in Ontario are appraised every 5 years (Government of Ontario, 2012; State Government of Victoria, 2023). In the state of New York, teachers also participate in annual appraisals, except in addition to observations or evaluations, a value-added model is also used to determine teacher performance (New York State Education Department, 2023b). All these accountability practices impact teachers' career mobility, and negative outcomes can lead to possible termination (Government

of Ontario, 2012; New York State Education Department, 2022; State Government of Victoria, 2023). The local and national cuts exhibit a range of accountability models, including the stakes involved, which provides an opportunity to think with new materialism and agential realism to explore the significance of teacher accountability in the material-discursive practices where teacher agency is becoming, and implications for power dynamics

It is particularly interesting because in 2020 and 2021 Victoria and Ontario faced a chaotic range of school closures and openings compared to New York did not have as many state-wide school closures. The differences in COVID-19 measures provide a unique opportunity to gauge how state governance and policy intra-act with the space-time re-configurations where teacher agency is becoming. As such, there is significant potential for this thesis to garner even more rich insights especially because this exploration is diffracted through thinking with new materialism and agential realism, and the extant literature cut on COVID-19 and teacher agency.

In summary, there are many opportunities to contribute to the literature by thinking with new materialism to re-conceptualise how teacher agency is becoming. This thesis specifically contributes to the very limited literature on new materialist and agential realist conceptualisations of teachers, teaching, and teacher agency. In addition, this thesis also contributes to the scant literature on the significance of space and time where teacher agency is becoming. Hence, this thesis makes valuable theoretical, methodological, and empirical contributions to knowledge, which I explicitly highlight in [Chapter 8](#).

Chapter 5: Research Process is Becoming

Take chances, make mistakes, and get messy!

Ms. Frizzle, The Magic School Bus

5.1 Chapter Becoming and Overview

The purpose of my thesis is to explore the significance of thinking with new materialism, specifically agential realism, to re-conceptualise how teacher agency is becoming. As such, thinking with new materialism and agential realism entails providing an understanding of how this chapter and the research process has been evolving. In addition, please refer [Chapter 2.5: Table of Key Terms and Concepts for this Thesis](#) for the terminology I utilise in this thesis.

In the past four years, I would be stressed whenever I had to change an aspect of the thesis or research process because I was enforcing this expectation on myself that I should complete everything in a simple, linear matter. As I also describe in [Chapter 3: Tanjin is Becoming](#), I found solace in new materialist thinking because it challenges the dominant perception that doctoral journeys are simple and linear (Gravett, 2021; Ingram, 2021). Ingram (2021) thinks with Barad in particular to explore the discomfort one might feel when writing a traditional doctoral thesis including navigating the binaries such as “question/answer, research/researcher, knowing/not knowing, and failure/success” (p. 254). Ingram (2021) challenges these binaries by asserting that success and failure intra-act in a nonlinear manner in re-configuring each other. Thinking with new materialism and agential realism helped me appreciate how the research process has been becoming for my thesis. Instead of treating failed attempts as a sign of incompetence, I accepted repeated attempts and iterations as conditions of possibility for growing as a researcher. As such, I embraced Warfield’s (2017) arguments that “uncertainty guides the research process” (p. 67) and allowed myself to enjoy the becoming of

every aspect of this thesis including the title, research questions, theoretical framework, literature cutting, methodology, methods, data analysis process, and findings. As a result, one of the most satisfying experiences I have had during my doctoral journey is re-turning to each aspect of my thesis and re-configuring it by thinking with new materialism and agential realism. In addition, instead of excluding the iterations of the research process that were cut, I include them in this chapter by explaining how integral aspects of the research process has been becoming. By enacting this inclusion, I am acknowledging how the cuts are together-apart with the thesis because they impacted the current marks on this thesis.

In [5.2](#), I describe how the qualitative case study approach of this thesis has been becoming from taking a structural traditional case study approach to a new materialist approach where I acknowledge the cases as *case-entanglements*. In [5.3](#), I delineate how the research questions for this thesis changed through multiple iterations and how I refer to them as *becoming-questions*. In [5.4](#), I explain the data and methods of this thesis, including what counts as data and methods when diverging from representationalism, the methods for intra-acting with teacher participants including interviews and photo-elicitation, and the process of generating that data. In [5.5](#), I describe the principal ethics and ethic of care I engage in to be a response-able researcher. Lastly, in [5.6](#), I describe how the data analysis process has been becoming through multiple approaches and iterations, and I emphasise these messy, chaotic processes should be embraced because that is the nature of research.

5.2 Methodology

I had started and continue to employ a qualitative case study approach. The specific case study approach has been becoming through its intra-actions with the theoretical framework. In this subsection I will describe how I changed the case study design from traditional, to a comparative

case study (CCS), and finally to thinking with agential realism in creating what I term *case-entanglements*. There is no consensus among new materialist scholars on the methodologies and methods one can employ (Fox & Alldred, 2021). When thinking with agential realism, especially diffraction, it makes sense to not establish a rigid set of methodologies, approaches, and methods because research approaches do not sit on a hierarchy where one form is privileged over another (Barad, 2007). Rather, it is imperative to acknowledge the marks and cuts being made when employing specific research approaches, and that methodologies themselves are performative in creating knowledge and being (Barad, 2007; Coffey, 2023; Dolphijn & van der Tuin, 2012). Within that line of thinking, my choice to continue utilising a qualitative approach does not imply that I privilege qualitative research over other approaches such as quantitative or mixed-methods research. Rather, qualitative inquiry aligns with the purpose of this thesis because it helps generate rich qualitative data to capture the complexities and nuances of specificities such as teacher agency (Cong-Lem, 2021; Fox & Alldred, 2015).

When I started working on this thesis, I originally employed a qualitative approach through a traditional case study design. Traditional case study research involves the examination of a case of a context or setting. A case is a bounded system characterised as a person, program, policy, regulation, funding or any other phenomenon determined by the researcher (Bartlett & Vavrus, 2017; Creswell, 2013; Merriam, 1998). Cases are examined by generating multiple sources of information such as observations, interviews, and documents (Creswell, 2013). As such, I bounded each case by country including Canada, Australia, and the US. I originally chose Canada, the United States, and Australia as my national points of comparison because Anglophone cultures exhibit a similar trajectory in the evolving role of teachers (Connell, 2009; Hargreaves, 2000). Analyzing the relationship between teachers and education policy discourse

using Australian, Canadian, and American contexts would elicit rich and nuanced data because even though neoliberal reforms in the US have influenced Canada and Australia (Anderson and Cohen, 2015; Connell, 2009; Leicht et al., 2009), accountability policies that manifested from neoliberal policy discourse look different in each country.

For example, let us take teacher performance appraisals as a point of comparison. In Australia, teaching has become standardised with stringent definitions of a “good teacher” outlined in various Standards documents (Anderson et al., 2015). The *Australian Teacher Performance and Development Framework* prescribes fostering ongoing “performance and development culture” through frequent performance appraisal (Australia Institute for Teaching and School Leadership, 2012, p. 4). In New York State, where the American teacher participants are from in my study, public school districts must provide a document outlining their teacher performance appraisal procedure, which teachers undergo annually (New York State Education Department, 2018). Lastly, Canada has a decentralised system where each province or territory constructs their own curriculum, teacher credentialing requirements, and teacher accountability policies. Ontario, where the Canadian teacher participants of my study are from, mandates all public-school teachers must undergo performance appraisals every five years, which is significantly less than for teachers in (Ontario Ministry of Education, 2010). It is apparent from these descriptions of teacher performance appraisals that each country and associated localities have similarities and differences in their approaches which provides scope for rich analysis.

However, when I started generating data with teacher participants, I was realising that the traditional case study approach was incompatible with the becoming of the thesis topic because the bounded nature of cases provided limited scope to explore nonlinearity and nondeterminism. As such, I started pursuing Bartlett and Vavrus’ (2017) CCS approach instead. CCS diverges

from traditional case study approaches because it explores the global, national, and local dimensions of research, and it can take a process-oriented approach, viewing the interplay between people, situation, events, and processes and how they influence each other (Bartlett & Vavrus, 2017). Instead of bounding a case often by geographical location, CCS examines historical and contemporary processes which has produced a “sense of a shared space” (Bartlett & Vavrus, 2017, p. 39). The main advantage of this approach is being able to produce cases beyond spatial boundaries. This seemed fitting for this thesis because I was exploring a topic within the context of COVID-19, which is a global phenomenon with no designated spatial boundaries. In addition, CCS analyses are informed by critical stances on power and consider the social actors' perspectives in the study (Bartlett & Vavrus, 2017), which was fitting when I amended my research topic to focus on the power dynamics of the teaching profession.

Following this principle of CCS, I bounded each teacher participant as a case. Even though I initially recruited participants by country, I did not bound the cases by country but used geographic location as a starting point instead. As I generated interview and photo-elicitation data with the teacher participants, I found the circumstances and context that the pandemic provided, including an opportunity to examine the nexus between global, national, and local policies, warranted that I explore each teacher participant’s experiences individually because they all had unique, idiosyncratic insights despite shared experiences.

However, as I started thinking with new materialism and agential realism, the CCS approach did not seem pertinent to the main purpose of the thesis. In particular, CCS’s structural approach, including sorting human-nonhuman entities onto horizontal, vertical, and transversal axes (Bartlett & Vavrus, 2017) seemed incommensurable with the flat relational ontologies of new materialist thinking. Moreover, CCS’ process-oriented approach endeavors to produce

theoretical generalisations, which sharply contrasts the new materialism's focus on difference (Bartlett & Vavrus, 2017; Murriss, 2021). Thinking diffractively, I am not implying that CCS has any shortcomings, especially because this approach helped me realise that I wanted to explore how teacher agency was becoming beyond spatial boundaries. However, it seemed CCS would elicit rich insight but not on the specific topic and becoming-questions what I was exploring.

It was challenging to think with agential realism in crafting a case study approach because there is limited literature on new materialism and case study research. This is not surprising because new materialism and similar lines of thinking move away from pre-set methodological approaches (St. Pierre, 2011, 2018, 2019). However, I did not wish to do away with case study research altogether. As I explain in [Chapter 8: Discussing](#), as a response-able researcher, I need to navigate extant conditions and conditions of possibility so that I regard the effects that are made on human-nonhuman phenomena. As such, I wanted to continue bounding each teacher as a case because they are currently shaped as individual teachers by human-nonhuman phenomena.

Even though I share the new materialist spirit of diverging from using rigid approaches such as qualitative methodologies, I also think with diffraction by traversing different ontological spaces and finding the affirmative value in thinking with these spaces through each other (Barad, 2007). For me, 'thinking differently' entails innovation, but also acknowledging the marks on bodies made by these innovations. In order to mitigate an in-justices that be inflicted through innovative thinking, this process can involve a 'two steps forward, one step back' approach at times. With this mindset, I continued on my expedition of searching for existing insights on new materialism and case study research.

Eventually, Andersson and colleagues' (2021) insights on thinking with new materialism and Deleuze helped immensely with the process. Andersson et al. (2021) propose the concept of case-assemblage which emerges in a nonlinear manner from circumstances rather than an extant methodology. The case-assemblage consists of multiple entities that are affected and affect each other (Andersson et al., 2021). Moreover, the researcher is also part of the case-assemblage and researchers should normalise changing research approaches and focus because it provides the opportunity to acknowledge that the cases are becoming (Andersson et al., 2021).

In thinking with agential realism, I use a similar approach which I call *case-entanglements*. These case-entanglements emerged primarily through its intra-actions with me, the researcher, thinking with agential realism as apparatus, and the unpredictable nature of the pandemic. In-line with agential realist thinking case-entanglements are phenomena that emerge through human-nonhuman intra-actions (Barad, 2007). As such, I identify the teacher participants as case-entanglements, but there are distinct implications of that when thinking with agential realism. First, the “teacher” is not a predefined entity, but is phenomena that emerged through its intra-actions with human-nonhuman phenomena. Second, the case-entanglements need to be described by identifying the intra-acting agencies which I do in [Chapter 6: Illustrative Case-entanglements Emergings](#), and [Chapter 7: Photo-elicitation Emergings](#)

Third, these case-entanglements are not representational which means they are becoming beyond how they are described in the thesis. Fourth, in accordance with the notion of diffraction (Barad, 2007), case-entanglements are not meant to provide generalisations about teachers and teaching; rather, case-entanglements should accentuate the diffractive nature of teaching. Lastly, it is my response-ability to acknowledge the cuts and marks that arise from these case-entanglements, which I describe in detail in [Chapter 6](#), [Chapter 7](#), and [Chapter 8: Discussing](#).

5.3 Research Becoming-questions

The following questions below are the research questions for this thesis. However, these were not the questions I started with, nor are they the questions I will end with. In this subsection, I will describe how the research questions have been becoming through my doctoral journey.

Main question: What is the significance of thinking with new materialism to reconceptualise how teacher agency is becoming?

Sub-questions:

1. How is teacher agency becoming through human-nonhuman intra-actions?
2. What is the significance of spacetime mattering when teacher agency is becoming?
3. How does power materialise when teacher agency is becoming?

It is imperative to describe how these questions have been becoming because in-line with agential realist's notion of diffraction (Barad, 2007, 2014, 2018), each change produced novel insights for the thesis. It is also important to acknowledge that research questions are always becoming instead of getting stuck in a labyrinth of finding the answer to a rigid set of questions. I encountered this challenge myself while writing this thesis because as I explain in [Chapter 3: Tanjin is Becoming](#), I was always used to creating a priori research questions and embarking on an expedition to find the answer to these questions. However, I felt constrained in this approach because the circumstances around me were changing, especially due to the chaotic nature of COVID-19. I found the questions I started with were not relevant to the becoming circumstances I was observing.

To solve my quagmire, I decided to let my questions live as I traversed my doctoral journey. My research questions became research *becoming-questions* a term coined by Jackson and Mazzei (2022). Becoming-questions are a material-discursive practice in acknowledging

them as an emergence out of entangled intra-activities and are transient and retroactive (Jackson & Mazzei, 2022). Rather than serving as a guiding tool, becoming-questions stimulate thinking and provide novel insights that provoke further questions (Jackson & Mazzei, 2022). Becoming-questions can emerge organically and informally "...in the middle of reading, sensing, writing, thinking, discussing, gardening, walking, and living a life" (Jackson and Mazzei, 2022, p. 8). As such, I witnessed how my becoming-questions changed through diffractive readings which involves iterative rounds of analysis with considerations of becoming subjectivities and objectivities (Jackson & Mazzei, 2012, 2022). As researchers, this involves *repositioning* which can look like analyzing phenomena using a different set of questions to generate different insights (Jackson & Mazzei, 2012, 2022). As I treaded through the doctoral journey, I continued to read copious amounts of literature while being response-able by acknowledging how this diffractive practice was impacting me and how I was impacting the research process. To exhibit this practice and how my research questions have been becoming, I will share my becoming-questions from the three milestones of my doctoral journey, including Confirmation, Mid-Candidature Review, and the Final Year Review. My becoming-questions changed during several other points beyond the milestones, but I wanted to provide a few simple examples to illuminate how becoming-questions are nonlinear and nondeterministic.

The following three questions below were from my Confirmation.

Main question: What is the status of K-12 teaching as a profession and how has it evolved over time?

Sub-questions:

1. What is the relationship between the status of the K-12 teaching profession and external governance?

2. How does the COVID-19 pandemic shed light and impact the status of the K-12 teaching profession?
3. How do public school teachers define, impact, and shape the status of K-12 teaching as a profession?
4. What are the similarities and differences between Canada, the US, and Australia with regards to the status of the teaching profession in each country?

As I also explain in [Chapter 1: Introducing](#), I started my doctoral studies by exploring the status of the teaching profession and the questions above correspond to that topic. These questions were ideal for jumpstarting an exploration of the literature on the teaching profession. However, the “status of the teaching profession” started to feel like a lofty line of inquiry, and I wanted to narrow down the focus to a topic that explicitly addressed the power dynamics of the teaching profession. As such, I started exploring teacher agency and immersed myself in the humanist literature on how teacher agency is conceptualised and found the dominance of neoliberal education discourses was an oft-discussed topic (Biesta et al., 2015; Biesta et al., 2017; Campbell, 2012; Cong-Lem, 2021; Connors & Bengston, 2020; Digón-Regueiro, 2021; Robinson, 2012; Teruya, 2021). For the Mid-Candidature Review, I modelled the research becoming-questions on that line of inquiry, which are below.

Main question: What is the relationship between education policy discourse and how Kindergarten to Grade 8 (K–8) teachers enact agency, especially during uncertain times?

Sub-questions:

1. How does COVID-19, a time of disruption, impact and illuminate the relationship between education policy discourse and how teachers enact agency?

2. What do similarities and differences between local, national, and global education policy discourses elucidate about how teachers enact(ed) agency before and during COVID-19?
3. How does education policy discourse impact teacher agency within different dimensions of a teacher's professional career?

After the Mid-Candidature Review, I started analysing the interview and photo-elicitation data I generated with teacher participants and discovered that the insights that were emerging did not answer the becoming-questions nor were the becoming-questions encapsulating the insights. In addition, I struggled with how the becoming-questions did not provide any possibilities to explore how the interview and photo-elicitation data were intra-acting with the research process itself. I started a deep-dive into the new materialist literature and found the concepts and notions on nonrepresentationalism and the vitality of matter produced novel insights on the interview and photo-elicitation data. Hence, I changed the becoming-questions to the following ones below and utilised new materialist terminology.

Main question: How is primary teacher agency becoming through human-nonhuman intra-actions?

Sub questions:

1. How are human-nonhumans entangled when teacher agency is becoming?
2. How is spacetime-mattering significant to teacher agency becoming?

After the Final Year Review, I worked on refining the purpose and significance of this thesis and changed my becoming-questions accordingly to the ones I introduced in this subsection, which I will include again below.

Main question: What is the significance of thinking with new materialism to re-conceptualise how teacher agency is becoming?

Sub-questions:

1. How is teacher agency becoming through human-nonhuman intra-actions?
2. What is the significance of spacetime mattering when teacher agency is becoming?
3. How does power materialise when teacher agency is becoming?

There are a few key points I want to emphasise. First, as I mentioned previously, these becoming-questions were not the ones I started off with and nor did they serve as a guide to find specific answers. Instead, these questions are marks on bodies from the spacetime mattering of this thesis, and they serve to experiment with while exploring the significance of this thesis. Second, the iterations and cuts of the becoming-questions from the milestones and beyond should not be deemed irrelevant or obsolete. When thinking with agential realism, these iterations and cuts helped repurpose the becoming-questions and provoked new insights and ideas. For example, the iteration from the Mid-Candidature Review produced possibilities for exploring the meaning of discourse through different paradigms. In addition, the becoming-questions did not change in a linear manner, because I rephrased certain questions, repurposed fragments of some questions to create new ones. Lastly, I made the final cut by choosing not to change the research becoming-questions anymore, because from a practical point of view I will have to stop to finish writing this thesis, and because these are fitting becoming-questions to produce possibilities to illuminate the purpose and significance of this thesis. However, even though I will not make any formal changes to the becoming-questions, they will continue to become as they produce other becoming-questions and are informally re-configured by perpetual human-nonhuman intra-actions.

St. Pierre (2011, 2018, 2019) laments how qualitative research is shaping rigid status quos that are almost treated as creed, and it is important to produce possibilities for thinking differently, such as beginning research inquiry by encountering a real circumstance rather than a research question. I found myself entangled within the status quo of the question/answer binary and felt guilty when I deviated from the status quo and let my becoming-questions live. However, thinking with agential realism produced possibilities to challenge the status quos of qualitative research, and I realised that creating, thinking with, and changing becoming-questions is a nonlinear, messy, and chaotic process that one can embrace.

5.4 Data and Methods

In this subsection, I begin with describing what constitutes data and methods when thinking with new materialism and agential realism. Next, I explain the methods I employed to generate data with the teacher participants including semi-structured interview, photo-elicitation, and discourse analysis, and how those methods have been becoming during my doctoral journey. Lastly, I describe the data generation process including the instruments I created, the process of selecting teacher participants, and facilitating the interviews and photo-elicitations with the teacher participants.

5.4.1 What counts as data and methods

When thinking with new materialism and agential realism, it is quite a predicament to describe what constitutes research data and methods because of my deeply entrenched representational assumptions about research. I response-ably tread this predicament by describing the cuts and marks on bodies that were made while intra-acting with the emergent methods and data because acknowledging the performativity of apparatuses “encourages qualitative researchers to address

the ethico-onto-epistemological dynamics producing ‘research’ to ask: what do our methods do?” (Coffey, 2023, p. 850).

I started my thesis research through a representational interpretivist approach where I believed the data that was emerging from the employed methods represented the subjective perspectives of the teachers. However, as I started thinking with new materialism and agential realism, I started appreciating the nonrepresentational nature of data, because “...data are not a reflection of reality. Rather, is becoming “via assembled material-discursive relations” (Ingram, 2021, p. 258). St. Pierre’s (2011) concern with the qualitative view on data is that it is fixed, independent of theory, and “waiting to be analyzed” (p. 621). Au contraire, data is fluid and emerge beyond the researcher’s encapsulations that are translated onto text (Ingram, 2021; St. Pierre, 2011). Hence, the data does not sit in the past but is re-configured by its intra-actions with human-nonhuman phenomena in the research process (Jackson & Mazzei, 2022). In addition to textualised data, there are data that is not as visible which St. Pierre (2011) refers to as “transgressive data” including “emotional data, dream data, sensual data, memory data, response data” (p. 621).

As such, the data for this thesis does not stem solely from the interviews and photo-elicitation enactments with the teacher participants. The transgressive data includes the insights that emerged from my ruminations, dreams, walks, conversations, etc. I found it was important to acknowledge transgressive data because it helped me unlearn that the data generation is not a linear process, and I should engage in activities beyond translating the data on text and analyzing it. In addition, there are other methods aside from interviewing and photo-elicitation that are intra-acting with this thesis such as Tanjin as a phenomenon and the laptop I am writing with, to name a few.

However, for the rest of this chapter, I will only describe the data generation and analysis process from the interview and photo-elicitation enactments. I make this cut because these enactments were pivotal in producing possibilities to re-conceptualise how teacher agency is becoming since it involved direct intra-actions with teacher participants. At the same time, it is important to acknowledge and remember that the interview and photo-elicitation data are not only forms of data in this thesis, and that transgressive data are also intra-acting where this thesis and case-entanglements are becoming.

5.4.2 Methods

In this subsection, I describe the methods I used to generate data while intra-acting with teacher participants. Interestingly, I employed these methods before I started thinking with new materialism and agential realism to re-conceptualise how teacher agency is becoming. This is not an issue because thinking with theory does not require a rigid alignment between theory and methods since plugging in a theory will elicit unique insights (Jackson & Mazzei, 2012; 2022). As such, the apparatus has been becoming where the methods and the theory are intra-acting in producing possibilities to focus on thinking with new materialism to re-conceptualise teacher agency is becoming.

I employed a diverse range of methods including semi-structured interviews, photo-elicitation, and journal entries. From a new materialist point of view, utilising a variety of methods helps identify human and nonhuman phenomena that are intra-acting, especially the unpredictable, chaotic intra-actions where teacher agency is becoming (Appadoo-Ramsamy, 2023; Fox & Alldred, 2015). I found this was true for this thesis, particularly for [Chapter 6: Illustrative Case-entanglements Emergings](#) and [Chapter 7: Photo-elicitation Case-entanglements Emergings](#). I have been keeping a journal since I started my doctoral studies. In my journal, I

have been detailing analytic memos on how I conceptualised my research topic, my experience with the ethics clearance process, finding participants, generating interviews and photos with teacher participants, and reflecting on my role as the interviewer. These journal entries provided rich possibilities to think about how I have been intra-acting with the research process and acknowledging transgressive data such as thoughts and communications with human-nonhumans.

Semi-structured interviews can contain a combination of structured and open-ended questions to provide scope for rich insight from humans without placing constraints and limitations on what actors can share (Creswell, 2013; Merriam, 1998). For this study, semi-structured interviews provided an opportunity to gain insight on teachers' perceptions of their agency, and what they believe is the relationship of their agency with education policy discourses. It is imperative to acknowledge that interviews are "more-than-representational" (Coffey, 2023, p. 859). In addition, even though interviews provide specific human perspectives, we do not need to do away with interviews as a method if we acknowledge that they are material-discursive enactments that are becoming (Ingram, 2019; Jackson & Mazzei, 2013). As such, unlike my previous assumptions where I believed the interview data represented the teachers' beliefs, the interviews are intra-acting with other human-nonhuman phenomena where teacher agency is becoming.

In addition to semi-structured interviews, I employed photo-elicitation as a method. Photo-elicitation is a method of using a photo during a research interview (Harper, 2002). It originates from the 1950's and was first denoted by John Collier who was a photographer and researcher (Harper, 2022). Photo-elicitation has been utilised in multiple disciplines including cultural studies, sociology, history, and education (Harper, 2022; Torre & Murphy, 2015;

Romera Irula, 2023). There are various approaches to photo-elicitation, including the “classic” approach where the researcher inserts a photo as stimuli, or an autodriven or reflexive approach where the interviewees produce or select a photo to reflect on (Lapenta, 2011; Romera Irula, 2023). Researchers have found that the use of photo-based methods, including photo-elicitation, helped human participants with recalling memories, and provided the opportunity to create visual metaphors of their experiences and reflect on their lives (Gravett et al., 2023; Harper, 2002; Wass et al., 2020).

Even though photo-elicitation emerged from a humanist perspective of representing participants’ reality, it provides valuable opportunities to explore the materiality of education. For example, when Warfield (2017) used photo-elicitation to study bodily production through selfies, they found that the cuts participants made, such as deleting photos, rendered insights on material-discursive practices regarding self-perception. In addition, most education researchers who utilised photo-elicitation perceived reality as chaotic and uncertain (Torre & Murphy, 2015). Similarly, in thinking with new materialism, using photo-based approaches can help explore chaotic, indeterministic nature of education (Gravett et al., 2022; Murriss, 2022). Photo-based methods also highlight material-discursive practices because of the salience of the intra-actions between the camera, subjects, objects, meanings, metaphors, etc. (Coffey; Higgins, 2014; Ingram, 2019). In addition, thinking with new materialism and agential realism when employing photo-based methods has significant implications for power dynamics in education. For example, Murriss (2022) describes a study where a child learner captured a photo of the researcher as the researcher takes a photo of the child. This entanglement challenged the binaries between researcher/participant, educator/learner, and adult/child, illuminating these power dynamics in education and research are not static and are becoming through material-discursive practices.

I originally planned on employing photovoice as a method because it was an effective approach during COVID-19 for participants to share their experiences and stories nonverbally (Doyumğaç et al., 2020). Photovoice is a method where participants actively use cameras to capture change in their communities and ignite discussion, and to address concerns and issues to policymakers (Kiling et al., 2023; Romera Irula, 2023; Wang & Burris, 1997). The key difference between photovoice and photo-elicitation is its paradigmatic underpinnings (Romera Irula, 2023). Photovoice is based on a critical paradigm where its participatory and collaborative approach serves to provide a voice to underrepresented platforms. On the other hand, photo-elicitation is from an interpretative paradigm where the focus is on the photographer's interpretations, although social justice can also be part of the foci (albeit secondary to the former goal). In addition, in a photovoice approach the researchers and participants produce the photo together to create a collaborative interpretation, and in a photo-elicitation approach the researcher or participants can produce or select their own photo and the focus is on the participant's interpretation of the photo.

I had originally planned to ask teacher participants to produce a photo for their one-on-one interview. However, it was challenging to ensure participants produced a photo through a remote data generative process because some participants did not have access to cameras or the teaching spaces they wanted to capture. Instead, a few participants selected online photos and discussed their interpretations during their one-on-one interviews. I realised that the enactment of selecting rather than producing a photo did not align with the collaborative component of photovoice. In addition, I had already amended the photovoice approach by disregarding the community discussion component, and realised I was deviating significantly from this approach. As such, my photo-based method transformed from photovoice to reflexive photo-elicitation due

to COVID-19 re-configuring the data generation process. Interestingly, this is a salient example of the apparatus becoming through spacetime mattering.

5.4.3 Data generation

In this subsection, I describe how I generated data through semi-structured interview and photo-elicitation, including a description of the instruments I created, the sites and sample criteria I chose, and the actual process of generating the data. As I explained in [5.4.2](#), the data generation process emerged before I started thinking with new materialism and agential realism, and the thesis was focusing on the relationship between teacher agency and education policy discourses. This is not an issue because thinking with theory does not require a rigid alignment between theory and methods since plugging in a theory will elicit unique insights (Jackson & Mazzei, 2012, 2022).

From March 18th to July 7th, 2021, I generated semi-structured interviews and photo-elicitation data with 10 primary teacher participants from Ontario, Canada; New York State, United States; and Victoria, Australia. I produced three instruments for the interviews and photo. First, I created a letter of consent, containing pertinent information on the study (See [APPENDIX C](#)). Second, I created an interview protocol with open-ended questions (see [APPENDIX E](#)). Lastly, I created an information page on how to submit a photo before the interview so that we could use the photo as a prompt to enrich our discussion (see [APPENDIX E](#)).

The interview questions were modelled after my research questions when the thesis was focusing on the relationship between teacher agency and education policy discourses:

Main question: What is the role of education policy discourse in how teachers enact agency, especially during uncertain times?

Sub-questions:

1. How does COVID-19, a time of disruption, impact and illuminate the role of education policy discourse on teachers enacting agency?
2. How do similarities and differences between local, national, and global education policy discourses impact how teachers enact(ed) agency before and during COVID-19?
3. How is agency shaped and enacted in different dimensions of a teacher's professional career?

The first question focuses on the relationship between education policy discourse and teachers' agency. The sub-questions were meant to provide an in-depth exploration of how teachers' agency is impacted, shaped, and enacted human-nonhuman phenomena. In-line with these research questions, my interview protocol was divided into the following sets below. I did not add a separate section on COVID-19 because I was not examining how teachers' have been solely impacted by COVID-19; rather, a dimension I was exploring was how times of crisis such as COVID-19 impact each domain of a teacher's professional career with regards to their agency. As such, the protocol is divided into common aspects of classroom teaching.

- Set 1: Teachers' general background including credentials, credentialing process, years of teaching experience, subjects taught.
- Set 2: Teachers' agency in pedagogy and curriculum development.
- Set 3: Teachers' agency in professional development activities.
- Set 4: Teachers' experiences with external accountability measures.
- Set 5: Teachers' perspective on their agency and freedom in profession in general.
- Set 6: Teachers' reflection and analysis of the photovoice they submitted.

For each set, there is a question about how COVID-19 has impacted each domain of their professional career (pedagogical and curriculum development, communication and collaboration, professional development, accountability, and agency).

Once I finished creating the instruments, I submitted a research proposal to Deakin University's Human Research Ethics Committee (DUREC) - where I began my PhD studies – for ethical clearance. I explain this process in detail in subsection [5.5: Ethics](#).

5.4.4 Participant recruitment

After my research proposal and instruments were approved by DUREC, I started recruiting teacher participants from any region of Canada, the United States, and Australia. Finding participants was a challenging task especially during a pandemic. I started by circulating a poster through social media networks including education research groups on Facebook and Twitter such as the American Educational Research Association, Comparative International Education Societies, Australian Association for Research in Education, and the Comparative and International Education Society of Canada. These groups allow researchers to post about recruitment without recruiting or advertising on the researcher's behalf. The poster provided a brief description of the study, eligibility criteria to participate, and an email link for interested individuals to contact the researcher (see [APPENDIX A](#)). The prospective participants sent me a direct message on Twitter or Facebook when they found out about my study through social media.

To find more participants, I also used convenience sampling and contacted teachers from my informal networks using a standard message (see [APPENDIX B](#)). Convenience sampling might not yield the most representative sample of the target population, but it can still provide useful information (Creswell, 2012). Even through convenience sampling, I was able to recruit a

diverse range of teachers in terms of gender, type of teaching position, countries, and years of teaching experience, which are denoted in Table 3 below. The second alternative method I used was snowballing where I asked teachers from my informal networks if they knew any other teachers from their networks who would be interested in participating in my study. Interested contacts of contacts were invited to get in initial touch with the researcher. Through these approaches I recruited 10 participants in total. Since I narrowed my scope to primary teachers, all of these participants are generalist teachers as they teach a wide range of subjects. I only provide high-level characteristics of the participants in order to maintain the confidentiality of the teachers' identities.

Table 3: Participant characteristics

<i>Pseudonym</i>	<i>Date of Interview</i>	<i>Country</i>	<i>State</i>	<i>Gender</i>	<i>Teaching position</i>	<i>Current Grade level</i>	<i>Years of Teaching Experience</i>	<i>Teaching situation during interview</i>
Tee	March 18, 2021	Canada	Ontario	Female	Full time teacher	Grade 1	1	Remote
VPS	March 24, 2021	Canada	Ontario	Male	Occasional teacher	Kindergarten –Grade 6	1	In-person
Abdullah	March 25, 2021	Canada	Ontario	Male	Occasional teacher	Kindergarten –Grade 8	1	In-person
Charlotte	March 29, 2023	Canada	Ontario	Female	Full time teacher	Grade 1	7	Remote
Luby	April 1, 2023	Canada	Ontario	Female	Full time teacher	Kindergarten	4	Remote

Morgan	March 31, 2023	United States	New York	Female	Occasional teacher	Kindergarten–Grade 6	1	Remote-in-person
Hai	April 7, 2021	United States	New York	Female	Full time teacher	Grade 2	5	Remote
Neesa	April 14, 2021	United States	New York	Female	Full time teacher	Grade 1	5	Remote
Ocean	July 6, 2021	Australia	Victoria	Female	Full time teacher	Foundation–Grade 6	7	Remote
Daisy	July 7, 2021	Australia	Victoria	Female	Learning Specialist	Foundation–Grade 6	12	In-person and remote

I approached interested teachers with a formal invitation, a strategy recommended by Creswell (2012). The formal invitation was in the form of a Plain Language Statement and Consent Form (see [APPENDIX C](#)). The letter of consent contained information on the study, the duration and contents of the interview, ethical standards regarding participation, and contact information of my thesis supervisor and Deakin University, since I generated my data prior to transferring to Australian Catholic University. Each participant was provided with time to review and sign the letter of consent before participating in the interview. Participants were informed of their right to withdraw on their consent form. They were given the choice to provide verbal or written notice of their intention to withdraw (see [APPENDIX D](#)), in which case none of the data obtained from the participant's contribution were used for the study.

The participants were given written instructions on the guidelines for the photo-elicitation. Scholars have employed photo-based methods in a myriad of ways including researchers or participants taking photos and using them for group discussions, in-depth one-on-

one interviews, and writing prompts (Cho, 2023; Coffey, 2023; Gravett et al., 2022; Horwitz, 2012; Morton et al., 2023; Warfield, 2016). I decided to ask participants to submit a photo which best described their teaching agency during COVID-19 and in their teaching career in general, because it provided flexibility for the participants to engage in this process in their own time given the uncertain nature of the pandemic. Again, this method was enacted when I had representational assumptions but thinking with new materialism and agential realism still produces possibilities to explore how the materiality of photo-elicitation intra-acts in the entanglements where teacher agency is becoming. In addition, as the “facilitator” of these conversations with teacher participants, I remained cognisant of the power imbalance that can emerge between the researcher and participants (Wang & Burris, 1997). As such, I did not impose any restrictions on the teacher participants in what or how they captured their photos, barring the clause to not include any human subjects.

The participants were also provided with a copy of the interview protocol prior to the interview so that they had the opportunity to understand the structure and foci of the interview. Participants sent their photos a couple of days before the interview and then the photo was used as a visual stimulus for the participants to describe what teacher agency meant to them. Participants were asked to submit their photos before the interview so that they had time to reflect on their submission because providing participants with the time to reflect on their experiences can lead to rich data generation (Wass et al., 2020). In order to maintain anonymity, participants were asked not to include any humans in their photos.

The semi-structured interviews were held online through Zoom Video Communications, and not in-person due to the COVID-19 pandemic. I recorded the interviews on Zoom while I simultaneously wrote analytical memos in a notebook. The analytical memos helped with

making pertinent changes to the interview process in live time. For example, after generation the first few interviews, I changed some of the interview questions for subsequent participants. Here is an excerpt from my notebook from March 30, 2021.

Adding new questions has been effective in gaining depth and richer insight — adding question on systemic barriers has elicited insight on how teachers' agency is affected by students' agency and teachers' barriers/privilege. Also having a prompt on workload helps gauge connections between PD engagement, etc., while being able to add clarity [to questions] by adding principals and staff members besides teacher colleagues (e.g., EAs).

As such, the interview questions had also been becoming and are becoming-questions as well. Becoming-questions to not become solely through formalised processes. As such, becoming-questions in research are not just the research questions; rather they can be the questions used in methods, or even questions that arise from thinking, reading, and writing.

In addition to the interview questions, the photo-based method had also been becoming. As I also briefly mention in [5.4.2. Methods](#), the photovoice processes evolved into reflexive photo-elicitation. Here is another excerpt from my notebook where I explain why that method was becoming.

The photovoice is sort of turning into half-photovoice and half photo-elicitation - because not everyone is taking photos but choosing photos from the internet, and in order for it to be photovoice people need to take the photos themselves. I'll need to explain how this process changed because of accessibility and access to taking photos in a COVID context.

After reflecting on this change, I decided to acknowledge that the photovoice process dissipated altogether and evolved into photo-elicitation. The way these aspects of the data generation process became accentuates the fluidity of research and the importance of letting the research process live and evolve.

After the interviews, I decided to transcribe the recordings myself as it seemed most ethically sound in terms of maintaining privacy and confidentiality. In addition, the process of rehearing and transcribing the interviews helped me understand the data in-depth. After transcribing the interviews, I emailed them to the participants so that they had the opportunity to add further information and correct any misinterpretations. The participants had the option to completely withdraw from the project within two weeks of receiving a copy of their transcription. There are two copies of the transcripts and photo data. The first copy is part of the main data set and has the actual name of the participant along with the pseudonym they chose for themselves. The second copy includes only the participant's pseudonym. Only the second copy of the transcripts and photos were sent to each participant to review. This way, the main data set containing the participants' real names were kept separate from the transcripts and photos with the pseudonyms of the participants.

Overall, the data generation process took longer than my experiences with generating data in-person. One reason is because I could only recruit participants through remote means, including social media platforms and emails. However, remote methods do not provide the instantaneous turnaround an in-person encounter does. For example, some people would message me expressing interest in participating, but when I followed up they would stop replying back. Another reason it took longer is because housekeeping tasks, such as participants sending me their consent forms and photos, became more cumbersome online. For example, some of the

participants did not have any tools to sign the consent form electronically. As such, this challenge resulted in prolonged correspondence and delays in starting the interviews. The way the data generation process was impacted emphasises the significance of spacetime mattering because COVID-19 as a space-time rupture impacted the research process where I had to shift from in-person to remote data generation.

5.5 Ethics

I am adhering to the standards put forth by The National Statement on Ethical Conduct in Human Research, The Australian Code for the Responsible Conduct of Research, and The ACU Research Code of Conduct. Since I recruited human participants, my study required ethics clearance from the institutional ethics board. On January 18th, 2021, I submitted a 'Low Risk Research' application to Deakin University's Human Research Ethics Committee (DUREC). I submitted my application to Deakin University because that was the university I was enrolled in at the time. I received approval from the committee on February 12, 2021. Also, I transferred my ethics clearance from Deakin University to Australian Catholic University on March 7th, 2022.

The electronic data, including video recordings, transcripts, and photovoice were stored securely on an external hard drive with a password which is only accessible to the me. During data generation and analysis, I removed identifiable details in the interviews and photos to maintain the confidentiality of the participants. All written notes are in a physical notebook which is being used solely for this project. I will retain the data for five years and then they will be destroyed. I will also permanently delete the electronic transcriptions from my recorder, my external hard drive, and shred the physical interview notes from my notebook. All video recordings, transcripts, photovoice, and handwritten notes will be destroyed 5 years after completion of this thesis.

In addition to the formal ethical clearance process, I have a response-ability as a researcher to acknowledge the ethics of research (Barad, 2018; Bozalek, 2021; Hayes et al., 2020; Murriss, 2021). Bozalek (2021) utilises Barad's notion of diffraction to explicate a framework for an ethic of care in research. The diffractive ethic of care entails reading diligently without pitting texts against each other but rather exploring how the intra-action between texts produces insights (Bozalek, 2021). Drawing on relational ontology, Bozalek (2021) distinguishes between principle ethics and ethics of care. Principle ethics are formal procedures that oversees research proposals and are based on universal rules (Bozalek, 2021). In this case, those are the applications I submitted to Deakin University and Australian Catholic University. On the other hand, an ethic of care emerges from specific intra-actions and entanglements which fosters a sense of responsiveness and forming the capacity to respond (Bozalek, 2021).

I started realising the ethic of care when I received feedback from DUREC on my ethical clearance application. DUREC provided thorough feedback on my application, which I am really grateful for. One comment that resonated with me was to consider the wellbeing of teachers during a pandemic when I generated data with them. This comment made me reflect on the relational aspect of education research, because at the end of the day I was interacting with, working with, and collaborating with teachers who were working during the uncertainties of the pandemic. I realised the ethics approval process was more than an administrative task; rather the process provided an opportunity to reflect on how I am working with other teachers while considering the most relational aspects of my study including teacher wellbeing.

During the data generation process itself, I felt a deep sense of shame when I approached teachers because I was asking them to contribute an additional time to my study, when I knew they were already dealing with the uncertainties of the pandemic ranging from switching

between remote and in-person learning to ensuring students were practicing physical distancing. Maye and Wolfe's (2020) work on shame-interest helped me to response-ably navigate my feelings of shame.

Mayes and Wolfe (2020) use agential realism to analyse the concept of shame and asserts that the locus of shame in research is not within an individual human but is enacted through multiple intra-actions. By thinking and writing with Barad (Mayes & Wolfe, 2020, p. 419, 421), they reconceptualise shame as *shame-interest* to produce research possibilities for exploring how shame creates impacts and to acknowledge its ethical implications. Through shame-interest, the scholars share their personal accounts with feelings of shame in their research through their intra-actions with material apparatuses, students, teachers, classroom objects, conversations, etc. Mayes and Wolfe (2020) point out that shame produces different affects and does not impact the same way every time, hence "shame-interest materialises with and by and is of the researcher/participant" (p. 427).

While engaging in shame-interest, I reflected on my own sense of shame and how I was impacted and impacting the research process. I re-turned to the transcripts and noticed how some of the teachers found the interview and photo-elicitation helpful to them because they had the opportunity to share their frustrations during challenging times. Lampert et al. (2023) also pointed out how teachers seem interested in participating in research because "...teachers in general appear to be looking for ways to tell their stories in a turbulent time in which they feel especially misunderstood or unheard" (p. 5). After re-turning to the data and literature, my sense of shame dissipated, but I acknowledge that I need to continue engaging in the ethic of care to understand and act on how I am being impacted and impacting the research process. In addition, I need to remain cognisant of my intra-actions with nonhuman phenomena as well. For example,

the use of the virtual space for data generation produced unique cuts and marks on bodies for the research process.

5.6 Data Analysis

The data analysis process has been becoming through nonlinear iterations. This process was an integral enactment because it impacts the types of insights that are produced. It is imperative to describe how the data analysis process has been becoming because it was a significant phenomenon in re-configuring the theoretical framework and methodology.

During the first iteration of the data analysis, I attempted to code the interview and photo-elicitation data using tools outlined by Johnny Saldaña (2016). The coding phase took part in two cycles. In the First Cycle Coding, I used Descriptive Codes to analyse each interview, which included the participants' reflections and analyses of their photos. Descriptive Codes are words or terms that summarise excerpts from qualitative data, with the purpose of providing an initial understanding of what the data is about (Saldaña, 2016). I began developing my codebook when I started generating the data by jotting down analytic memos and writing journal entries, because code production should begin before fieldwork is completed so that one does not depend solely on memories of generating the data (Saldaña, 2016). Next, I tried to "theme the data" as termed by Saldaña (2016, p.198) and tried to categorise the interview data into recurring themes based on the codes and affiliated analytical memos.

However, I was unsuccessful in sorting the data into categories and themes because they did not describe the nuanced experiences of each teacher case as agency was becoming. I realised I needed a theoretical framework that emphasised difference rather than generalisation. Thinking with new materialism helped to describe how teacher agency is becoming through a complex material-discursive practice because of the indeterminate nature of knowledge and

existence (Coole & Frost, 2010; Murriss, 2021). As such, I started using a new materialist coding toolkit put forth by Fox and Alldred (2022). This toolkit, which Fox and Alldred (2022) call an *ethological toolkit* is founded in Deleuzian concepts including affect, relation, and capacity. My preliminary analysis consisted of coding by-hand to identify affects, relations, and capabilities. I created Table 4 below to establish the parents and child codes along with a working definition of each code.

Table 4: List of codes

Parent Code	Child Code	Definition
Affect	Human Non-human Material Places and spaces Immaterial	Affects are human and nonhuman constituents that both affect and are affected (Fox & Alldred, 2015; Charteris et al., 2017).
Relation	Not applicable	When human and non-humans intra-act impact capacities (Barad, 2007; Fox & Alldred, 2022).
Capacity	Aggregated capacity Enhanced capacity Reduced capacity Constrained capacity	Capacity is the ability to be affected and to affect. In addition to teacher agency, I explore the capacity of other affects in the teaching assemblage. The degree of capacity also aligns with the tenet that teacher agency is omnipresent because teachers “always enact agency, even when they choose not to act, or might seem to ‘passively’ accept policies or practices from others” (Brodie, 2021, p. 562). Aggregated capacity refers to another process of change within an assemblage, where affects are aggregated based on their convergence (Andersson et al., 2020; Fox & Alldred, 2022).

I coded the interview and photo-elicitation data through three rounds in NVivo. I chose to code on NVivo to keep a record of the relations, affects, and capacities I identified to revisit them during iterations of analysis. Similar to Fox and Gavrilayk’s process (2022), in the first

round I identified the human and nonhuman relations. In the second round, I identified the human-nonhuman phenomena in the transcript. In the third round of coding, I identified the capacities of the affects based on the relations. During these coding rounds, I analysed the data through the literature, and made changes to the analysis process. For example, I noticed Fox and Alldred (2022) suggested creating codes for bilateral relations between matter. Since I wanted to capture the multidirectional, complex relations and capacities between affects, I decided to follow Fox and Gavrilayk's (2022) process instead, so that I could identify the complex relations first, followed by the multiple affects, and then analyse the capacities.

As I was re-reading the literature, I faced significant issues with the coding process. First, I noticed that space and time were significant phenomena where teacher agency was becoming but the codes were not encapsulating that. Second, I realised the codes and concomitant excerpts made the data seem representational because the insights on nonrepresentationalism were not explicitly visible in the interview and photo-elicitation data. Lastly, the codes and excerpts provided ample insight on types of relations between human-nonhuman phenomena but not *how* these phenomena were intra-acting.

I started thinking with agential realism and realised I did not need to analyse the data using a predefined coding process or even coding process itself. St. Pierre (2011) argues to engage in writing rather than coding because "writing itself is analysis" (p. 621). As such, I continued journaling, reflecting, and diffracting to understand the phenomena that were emerging from the interview and photo-elicitation data and how to describe the nonrepresentational aspect of it. I even re-configured the enactment of writing by recording voice notes on my phone and using the auto-transcription feature to transcribe my voice notes into writing. The intra-action between me and my phone produced further modalities for analysis.

Through this process, I decided to use solely agential realist concepts because they share the same onto-epistemological stance as most new materialist lines of thinking but also provided rich insights on the intra-actions between space, time, and matter when teacher agency is becoming.

I began analysing the interview and photo-elicitation while thinking with agential realism by establishing [a table of key agential realist terms and concepts](#). Then, I engaged in multiple iterations of notetaking and analytical memo-ing to describe the case-entanglements that were emerging between human-nonhuman phenomena as teacher agency was becoming. The analytical memos helped me understand how my role as a researcher contributed to the data researcher, because the researcher cannot be separated from the research (Fox & Alldred, 2015, 2017; Ganz, 2023). I also took notes on how the interview and photo-elicitation data and teacher participants were intra-acting with the research process itself, because data analysis is not confined to analysing what human participants say, but how the participants are intra-acting in the research process as well and their intra-actions with materiality (Jackson & Mazzei, 2012, 2022). Similar to what Heikkilä and Mankki (2021) also discovered in thinking with new materialism to analyse data on teacher agency “agency was not elicited by questions to teachers in regard to their possibilities to act, but agency, as assemblages of both human and material elements, was interpreted from the data” (p. 7). In addition to notetaking, the case-entanglements also emerged as I drew node diagrams of the human-nonhuman intra-actions and entanglements. This analytical method was inspired by Nikula et al. (2023) and their rhizoanalysis where they illustrated the multidirectional relations. I included some of those node diagrams in [Chapter 6: Illustrative Case-entanglements Emergings](#), [Chapter 7: Photo-elicitation Emergings](#) and [Chapter 8: Discussing](#).

It is evident from my description of the data analysis process is messy, chaotic, and becoming. I chose to describe how this process was becoming to normalise the nonlinear, nature of research, where multiple iterations, changes, and reversions are encouraged rather than chastised. This nonlinear process challenged me to un-learn about data analysis processes which helped shape the theoretical framework, methodology, and research becoming-questions. Overall, experiencing and observing how the research process has been becoming helped me embrace the uncertain nature of research, which encourages me to continue to take chances, make mistakes, and get messy!

Chapter 6: Illustrative Case-Entanglements Emergings

It is a voice without a subject; there is no individual person or participant in an interview to which a single voice can be linked – everything is entangled – researcher-participant-data-theory-analysis.

Toni Ingram (2019, p. 3)

6.0 Notes About Chapters 6 and 7

[Chapter 6: Illustrative Cases-entanglements Emergings](#) and [Chapter 7: Photo-elicitation](#)

[Emergings](#) focus on articulating the human-nonhuman case-entanglements where teacher agency is becoming. As Barad (2017) says “tracing entanglements is no easy task. It takes work” (p. 71), and part of the work entails re-configuring apparatuses and making agential cuts to explore specificities. For this thesis, one of those cuts is creating distinct chapters to separate the insights from the interview and photo-elicitation data in order to explore how different methods re-configure and are re-configured in producing possibilities and insights (Barad, 2003, 2007). It is important to note that the interview and photo-elicitation processes and data are essentially together-apart, and the agential cut helps to explore the specificities of these methods, but I also explain how these processes, insights, and data intra-act without the cut in [Chapter 8: Discussing](#).

In [Chapter 6](#) and [Chapter 7](#), I use *emergings* instead of “findings” to reaffirm the nonrepresentational nature of data when thinking with new materialism and agential realism (Barad, 2007, Ingram, 2019; Stark, 2019). As I also explain in [Chapter 5: Research Process is Becoming](#), I engaged in data generation with the intention of focusing on the interpretations of the teacher participants. However, after starting to think with new materialism and agential realism, I acknowledge that the interview and photo-elicitation data do not represent the participants’ perspectives on how teacher agency is becoming. Rather, these case-entanglements

are entangled with other human-nonhuman phenomena in producing teacher agency. As such, I share the emergings in a nonrepresentational manner by including some insights on the research and research process in the emergings chapters.

In addition, I use the terms *multicausality* and *multidirectional effects* while describing insights from the emerging case-entanglements. I use multicausality as a term to refer to intra-acting phenomena producing multiple causes for flowing agencies, and I use multidirectional effects to refer to outcomes that simultaneously produce positive and negative marks on bodies, and/or these effects are not linear but can impact phenomena in a multilateral manner.

Multicausality and multidirectional effects are contrary to the concept of a linear relationship where one entity causes an effect on another entity. Barad (2003, 2007) discusses how phenomena do not cause and impact one another in a linear manner and also uses the notion of multicausalities in a recent interview (Barad & Gandorfer, 2021). One of the key points Barad makes is how “causality need not be an on/off proposition: either linear monocausal causality (like billiard balls) or not causal” (Barad and Gandorfer, 2021, p. 59). However, this point is not explored in-depth nor are any concrete examples provided. Moreover, there is no insight on multidirectional effects in the scholarship on agential realism. In [Chapter 8: Discussing](#), I explain how I re-configure thinking with agential realism by asserting that multicausality and multidirectional effects need to be key considerations.

These chapters both inform and are informed by the becoming-questions of this thesis:

Main question: What is the significance of thinking with new materialism to re-conceptualise how teacher agency is becoming?

Sub-questions:

1. How is teacher agency becoming through human-nonhuman intra-actions?

2. What is the significance of spacetime mattering when teacher agency is becoming?
3. How does power materialise when teacher agency is becoming?

As I also explain in [Chapter 5.2: Methodology](#), the teacher case-entanglements do not treat teachers as predefined entities, rather the case-entanglements are phenomena where teachers are intra-acting. Since one of the new proponents of new materialism and agential realism is acknowledging the indeterminacy of existence, I intra-acted with the data generation and data analysis processes without holding any rigid expectations of what would emerge. Sub-question 1 emerged through these enactments because they provide novel insights on human-nonhuman intra-actions where teachers are becoming. Hence, before taking a deep-dive into thinking with new materialism to re-conceptualise how teacher agency is becoming, which I do in [Chapter 8: Discussing](#), it is important to provide examples of how human-nonhuman intra-actions emerge since this is a nascent area of research. As I also explain in [Chapter: 5.3: Becoming-questions](#), Sub-question 2 emerged through my reading on thinking with agential realism and noticing the significance of time and space during the data generation and analysis processes. Lastly, the main question and Sub-question 3 emerged from my intra-actions with the scholarship from [Chapter 4: Literature Cutting](#), and data generation and analysis processes. As such, these questions provided the possibilities to explore and articulate the key purpose and significance of this thesis.

6.1 Chapter Overview

In this chapter, I present five teacher case-entanglements with summaries and examples that illustrate the human-nonhuman intra-actions and entanglements where teacher agency is becoming. Please refer [Chapter 2.5: Table of Key Terms and Concepts for this Thesis](#) for the terminology I utilise in this chapter and thesis. In addition, I examine the case-entanglements in

these two chapters through a “micro-dynamic gaze” (Bascia, 2023, p. ix), to share the complex intra-actions and entanglements where teacher agency is becoming. However, it can be cumbersome to provide a granular account of the multidirectional intra-actions of entanglements and phenomena. That is why I chose five out of the 10 teacher case-entanglements, because the goal of this chapter is not to provide a representative account of the 10 teacher participants of this study, but to detail how multicausal intra-actions and entanglements can emerge which produce multidirectional effects. Jackson & Mazzei (2012, 2022) uses a similar approach by presenting two cases to “consider the enactment of agency and the co-production of these enactments” (p. 118). I chose these five case-entanglements because they showcase a diverse range of locations and career stages, which could help highlight the unique insights that can emerge from an agential realist analysis of how teacher agency is becoming.

Like Nikula and colleagues’ (2023) study, I also included some of the node diagrams I created during the data analysis stage to visually illustrate the case-entanglements. I organised each case-entanglement into emergent themes denoting significant aspects of teachers’ work where teacher agency is becoming. Within each theme, I describe how these aspects of teachers’ work intra-act with spacetime-mattering. Figure 7 below provides an overview of the five case-entanglements and concomitant themes.

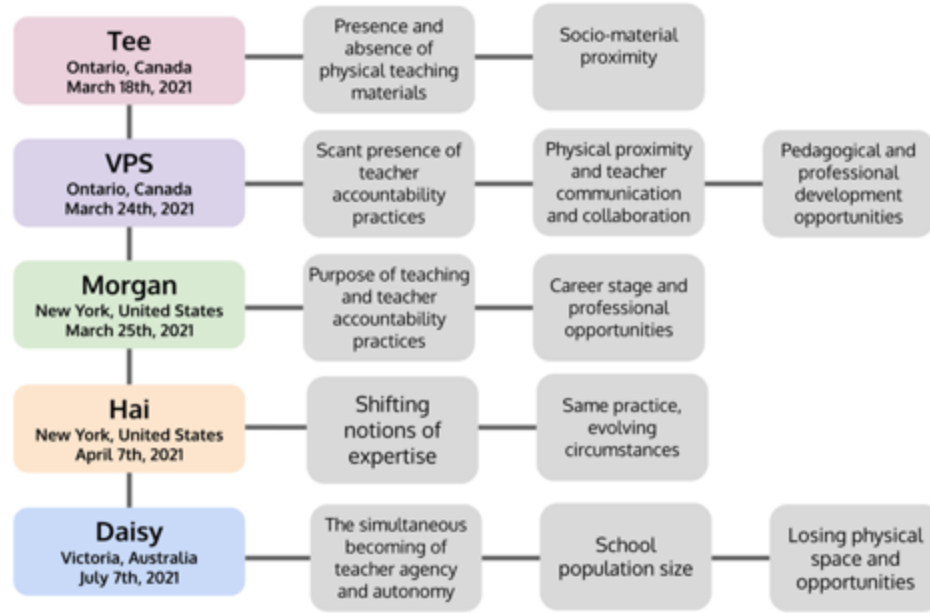


Figure 7: Cases and themes from the semi-structured interviews

After the summary of the five illustrative cases, I provide a diffractive summary by analysing the case-entanglements *through* each other to highlight the opportunities and insights that emerge from using interview as a method to embark on a new materialist exploration of how teacher agency is becoming. I call it diffractive because I do not privilege any particular case-entanglement over another; rather these case-entanglements intra-act in producing unique insights on how teacher agency is becoming.

6.2 Case-entanglement of Tee

Tee was in her first year of teaching in Ontario, Canada which consisted of in-person occasional teaching from September to the end of November of 2020 and teaching remotely as a long-term occasional teacher (LTO) from December 2020 onwards. Tee’s students at the time of the interview were also attending school remotely. Even though Tee was teaching from home, some of her colleagues had to teach in-person at the school. There were two themes that emerged from the interview data: (1) the presence and absence of Tee’s physical teaching materials were

significant when teacher agency was becoming; and (2) some of Tee's decisions were driven by her socio-material proximity to human-nonhuman phenomena.

6.2.1 Presence and absence of physical teaching materials

During Tee's interview, it was apparent that the intra-actions between Tee's teaching materials and her teaching space re-configured each other through multicausality and multidirectional effects. For example, Tee's local school board released a mandate that as a preventative measure for COVID-19, teachers would need to wear goggles while eating at school. When Tee's principal informed her that teachers would have to wear goggles, she expressed bewilderment.

So, we have to wear goggles when we eat. I know! And I got an email today by my principal saying don't worry, goggles are coming and I'm like goggles? Because honestly, I hadn't really been keeping in touch, like on track of that because I'm teaching from home, not in school. And so, I was like, goggles? We have to wear goggles when we eat? And then I read the article and I'm like, oh yeah teachers have to wear goggles at lunchtime when they eat. But there's no one in the room so what do you do with the goggles?

The goggle mandate caused multidirectional effects because it both constrained and increased the types of decisions teachers could make. On one hand, various intra-actions emerged, with the school board responding to COVID-19 by establishing this mandate which propelled the principal to inform the teachers about this mandate, and the goggles becoming protective equipment for teachers at Tee's school. On the other hand, the goggle mandate highlighted how teachers were able to make decisions outside of the physical school space. The space teachers were in, whether at school or at home, determined whether they could decide to wear goggles or not. Moreover, this space-matter phenomena intra-acted with teacher sentiments,

which is evident in Tee’s bewildered reaction to the goggle mandate, because it implied that she would choose not to wear goggles at home during lunchtime, which in turn would diminish the goggle’s purpose for the teacher. The goggle mandate illuminates significance of spacetime mattering and in causing multidirectional effects — which in this case is the entanglement of COVID-19, the human body, goggles, home, and school — when teacher agency is becoming.

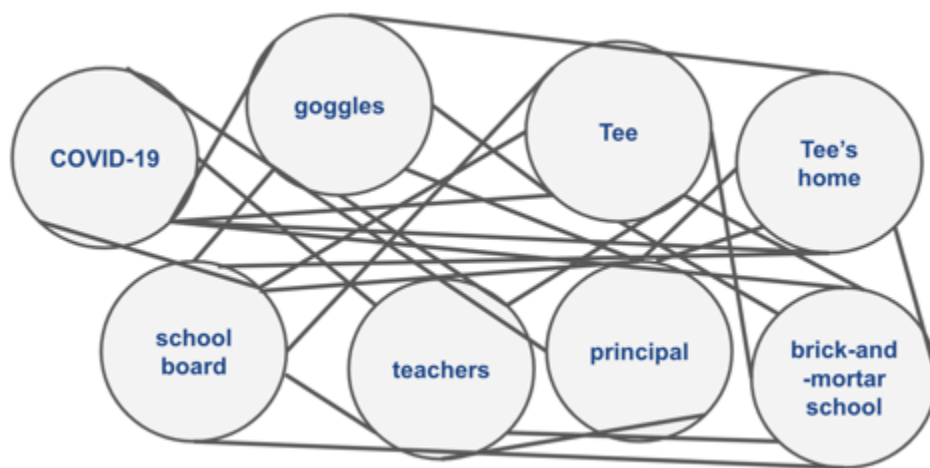


Figure 8: Entanglement of the goggle mandate

The spatial re-configuring of materials also illuminated how teacher agency is becoming outside of the physical school space. For example, Tee described how she tried to decorate her bedroom with tangible decorations to help her students stay engaged during class.

Oh my god, I worked so hard on this. I try to make it [decorations] different every month, so this month is like a St. Patrick's theme. I make it like green and rainbowy and stuff like that.

The transgression of teachers and teaching nonhuman demarcations of school spaces is also emphasised by agential realist scholarship (Lambert, 2021; Murriss, 2022). This

transgression reaffirms how human-nonhuman phenomena do not sit in specific points in space and time, because space, time, and matter intra-act in re-configuring each other (Barad, 2003, 2007).

In addition, Tee explained that a key challenge with remote schooling was using tangible materials for lesson planning because Tee could not check whether the students had access to pertinent materials and how they were using them. However, Tee also pointed out that the students got creative and made alternative arrangements when they did not have the required materials, because Tee made the pedagogical decision to encourage students to do so. Furthering the complexity of this entanglement, Tee cited that a positive aspect of the pandemic was the expansion of virtual resources, and she was more motivated to search for online resources because she was spending most of her teaching time in the virtual teaching space. Hence, even though Tee felt more limited in the ways she could use physical teaching materials, she also encountered opportunities for creativity and using virtual resources.

Within these spacetime-mattering entanglements, it is important to note that it might seem like an agential cut is being made when a teacher is teaching outside of the brick-and-mortar school space. However, the spatial re-configuring does not denote exteriority; rather, it is an entanglement that redefines and *includes* teaching spaces outside of brick-and-mortar schools and in turn, expands on the spaces where teacher agency is becoming. From these examples, it is apparent for this case-entanglement that the temporal and spatial re-configuring, caused by the response to the COVID-19 pandemic, and the pivot to the virtual space, both increased and decreased material possibilities through which teacher agency has been becoming.

6.2.2 Socio-material proximity

A significant theme that emerged in Tee's interview is how teacher agency was becoming in intra-actions where human-nonhuman phenomena were socio-materially proximate. By socio-material proximity I am referring Tee's physical proximity to nonhuman materials and how her social relationships were strengthened through nonhuman phenomena. For example, throughout the interview, Tee discussed how she devoted most of her energy to ensure student wellbeing, and she really cares that the parents/guardians have a positive perception of her because she has strong relationships with the students and their parents/guardians.

We want to stick to our contract hours, but we also want to do and give everything to our students and for the families. Like we just, we don't want to be that teacher that looks they come to work and not do anything else. We have to like act like we're part of their family too, so they trust us right, the parents and the students who trust us.

These relationships are not just social but material as well, because Tee's relationships with the students and parents/guardians were fostered through their intra-actions with their computers and virtual school space. To further sustain positive relationships with parents/guardians, Tee created an online newsletter for them with updates including student birthdays and what the class was learning. As a result of Tee's efforts, the parents found comfort in knowing Tee was committed to her teaching position for the rest of the school year, as opposed to the four teachers before her who resigned within the same school year. Hence, the parents/guardians were able to trust her teaching practices and decisions. Again, the materiality of the newsletter strengthened the social relationships between Tee and the parents/guardians, signifying how social and material produce significant marks on bodies through their intra-acting agencies. However, the socio-material proximity did not compensate for the challenges Tee

faced due to the lack of physical space, because Tee had a difficult time communicating with parents without the option to meet them in-person. As such, teacher agency is becoming through socio-material intra-actions that are producing multidirectional effects which were increasing and decreasing Tee's opportunities to communicate with parents/guardians.

Adding to the complexity of this case-entanglement, space-time re-configurations also increased Tee's opportunities to spend more time with students because of the synchronous and asynchronous hybrid timetable, which was a temporal re-configuration and arrangement the school made because students were exhausted from engaging in a synchronous virtual space. The asynchronous portion of school time provided Tee with more flexibility to decide what to do with that time, and she chose to hold office hours to provide students with one-on-one assistance.

Tee also made certain decisions based on her close relationship with her principal. Throughout the interview, Tee talked about her principal very positively. The principal was always willing to provide direction and access to resources and was very accepting of how Tee decided to communicate with parents/guardians. Tee also mentioned how her students would get excited whenever her principal would visit her class on the virtual platform.

Yeah, they're really chill, they just come in and say hi, and the students get excited because we don't want to get a lot of guests in our classroom, so they get really excited to see something new.

Interestingly, Tee's view on mask mandates in school seemed to be influenced by her reverence of the principal.

And I really like that [mask mandate] because it's really reinforced in school [by the principal], and teachers always walk around like, "put your mask on, you're not going to

do the activity with us". Like we don't like taking stuff away from students, but this is a health thing.

As mentioned previously, Tee disapproved of the goggle mandate, and she associated that mandate with the school board. Tee's unenthusiastic sentiment with the school board was related to the lack of direct communication between the board and teachers. She even cited that she felt the school had to complete teacher evaluations because the "board forces them to do it." Contrarily, Tee approved of the mask mandate and the principal's strict adherence to it. Hence, Tee was not against mandates themselves; rather she chose the ones she approved of and followed them based on the quality of her relationships; hence teacher agency was becoming within this entanglement of socio-material intra-actions. Moreover, the power of the goggles was becoming through Tee's social intra-actions which denotes how human-nonhuman intra-actions produce multidirectional effects rather than just humans impacting nonhumans and vice-versa.

In addition to Tee's social relationships, her intra-action with the materiality of the curriculum emerged as significant phenomena within this case-entanglement where teacher agency was becoming. Tee stated that she was not sure who creates the curriculum implying that she felt distant from the process of curriculum development. However, even though Tee did not seem to make any decisions based on external curriculum makers, she chose to follow curriculum documents themselves because of her physical proximity to the documents and her social relationships, which is illustrated by these two excerpts.

I know the documents I follow are just documents I follow.

But because of the pandemic and because I'm online, it's very different, like I choose what specific topic I want to focus off of math, in regard to the curriculum. And it's different from the other teachers in school. So, when I had to use their progress reports to help me

with my progress reports, it was totally different from theirs. It's like the golden expectations were different from mine. So, I didn't really know if I was doing this right because I've never done this before and so I'm like okay I think this is how I'm doing it. But my principal said it was fine and whatever I wrote was also according to the curriculum and parents can reference it back to the curriculum if they have any questions.

With regards to the materiality of the curriculum documents, it is important to note how Tee claimed to follow the “documents”, but she did not regard the curriculum makers who created these documents, nor does she acknowledge she essentially followed the curriculum makers. This is because she was in closer physical proximity to the documents themselves than the curriculum makers; as a result, the curriculum has been divorced from the curriculum makers, or in other words an agential cut has been made. Tee illustrated the multicausal intra-actions between human-nonhuman phenomena because she is the one who decides on the math foci, but she referred back to the expectations from the Ontario curriculum because the principal and parents/guardians want teachers to follow the curriculum. As such, Tee’s curriculum decision-making process, or teacher agency, was becoming through complex intra-actions as opposed to a unilateral cause or relationship.

Adding to the complexity, Tee reported that COVID-19 provided more opportunities to make curricular decisions, but it also reduced opportunities for collaboration with teacher colleagues because they could not meet in-person; this can explain why her progress reports differed from her colleagues’ which Tee was concerned about. Once again, Tee made curricular and pedagogical decisions based on the opinions of the principal and the parents/guardians, which are phenomena where she shared strong relationships.

Overall, the impact of spacetimemattering on teacher agency and its becoming emerged particularly in instances where Tee used physical materials in her teaching space and in Tee's close socio-material proximity to human-nonhuman phenomena in her work.

6.3 Case-entanglement of VPS

VPS was teaching in-person in Ontario, Canada. Three themes emerged from his interview: (1) the scant presence of teacher accountability practices re-configured VPS' teaching experiences; (2) physical proximity impacted the types of communication and collaboration VPS decided to have with his teacher colleagues; and (3) spacetimemattering impacted pedagogical and professional development opportunities for VPS and the teachers at his school.

6.3.1 Scant presence of teacher accountability practices

COVID-19, serving as a temporal rupture, led to reduced teacher accountability practices which impacted the types of decisions VPS could make. In Ontario, teachers during the first few years of their career must participate in the New Teacher Induction Program (NTIP), which consists of a series of professional development opportunities and two performance evaluations (Government of Ontario, 2012). However, the temporal phenomenon of COVID-19 and concomitant human responses re-configured the presence and significance of NTIP during VPS' first year of classroom teaching. VPS was not required to participate in the NTIP program because the Ontario government wanted to prioritise other aspects in public education during the pandemic. In addition to formal teacher accountability measures such as NTIP, the absence of informal accountability practices also impacted VPS' teaching career. VPS explained how he had a supportive principal who was open to new ideas and provided limited oversight during COVID-19.

When you're at home no one really knows what's going on. Once in a while, the principal will check in and see what we are working on. But all the time you don't have the same kind of level of interaction or anything.

From this excerpt, it is apparent that the spatial re-configuration of the teaching space can impact the “presence” and “appearance” of teaching itself. When teachers are teaching in brick-and-mortar schools, other people in the area can drop-in or pass by and form an impression of the teacher and their teaching. However, this kind of presence and appearance cannot be sustained in a virtual or remote space. In addition, teachers do not need to “perform” to display a certain perception of themselves and their teaching practices.

VPS explained how the scant presence of teacher accountability practices made him less worried about job security and he was able to make more decisions on how to teach. However, he also mentioned how the lack of accountability can *“definitely lead to people getting relaxed and not putting as much effort as they should be into some things”*. Even though VPS was able to make more decisions in the absence of teacher accountability measures, his opinions on them were nuanced in the sense that he was neither completely supportive nor against these practices. He believed that formal practices were not beneficial, but he had no concerns with informal practices, such as check-ins from the principal or his colleagues, as long as his job was not at stake. VPS’ opinions on teacher accountability practices align previous research findings where teachers’ sentiments on these practices are nuanced and diverse (Ashton, 2021; Connor & Bengsten, 2020; Buchanan, 2015). The diverse range of sentiments also aligns with new materialist and agential realist thinking that endeavors to challenge binaries and diverge from concrete demarcations (Coole & Frost, Dolphijn & van der Tuin, 2012; Fox & Alldred, 2017).

6.3.2 Physical proximity and teacher communication and collaboration

VPS detailed the repercussions of social distancing due to COVID-19.

Yeah, I definitely say for sure a lot of the teachers aren't roaming around as much. They're all in their own areas more and at the same time like with a recess you're not mixing around class groups like you're in certain zones, so the teachers are still in certain zones, you're not getting that mixing, collaboration and talking there. So definitely COVID's put limits on collaboration and communication.

Within these re-configured physical boundaries, VPS made decisions on how to communicate and collaborate with colleagues based on his physical proximity to people. He said he chose to share and borrow ideas, such as centring a lesson on comic book characters, or using resources like Canva, from his colleagues who were in the same office as him and the early childhood educators who worked in the classroom with him. VPS' decision to communicate and collaborate with those who were occupying the same physical space as he was emphasises the significance of physical proximity when teacher agency is becoming. Moreover, the temporal and spatial intra-actions, which in this case was between COVID-19 and the available physical spaces for teacher communication and collaboration, changed the choices teachers had in communicating with their colleagues, again highlighting the significance of the intra-actions between space, time, and matter when teacher agency is becoming.

6.3.3 Pedagogical and professional development opportunities

The space-time intra-actions between COVID-19 and the virtual teaching space both decreased and increased pedagogical and professional development opportunities for VPS. For example, VPS discussed how before the pandemic his students would sit around the carpet in the classroom and sing songs, but they could not do that after COVID-19 measures were put into

place. He also wanted to do more experiential activities, but he could not because students had designated spots in the classroom, and they could not move around. Despite the limitations, VPS leveraged the re-configuration of space by placing his Kindergarten students in pods which provided them with the opportunity to play with peers outside of their typical social circles. The re-configuration of the teaching and learning space, with the shift from in-person to virtual schooling, resulted in multidirectional outcomes because VPS faced constraints in his pedagogical practices but also received opportunities to implement creative solutions.

VPS believed pedagogy was based on both the curriculum and teachers' beliefs. As an example, he explained his beliefs on seating arrangements.

...I think it's really important for kids to work with partners and groups, move around, and not just be at desks. COVID has basically made it, so you need to be at your desk, and it's very stationary, a lot of sitting. And I don't like sitting, I know it's not great for the body, keeps them to move and help them process and think. So COVID's definitely impacted my pedagogical beliefs of not just cross-curricular connections, but like, collaboration, working in small groups, even working with other classes. Like, we can't even interact with another class because you're stuck with your cohort. Just put a lot of limits on how I would like to do things.

VPS perceived the lack of inter-class collaboration and stationary arrangements as limitations because these phenomena clashed with his pedagogical beliefs. He also explained how the seating arrangements varied by grade level because older grades had desks and Kindergarten students sat in groups at larger tables. That is why VPS was able to place his Kindergarten classes into pods while other students in older grades sat at individual desks that were six feet apart. Due to these arrangements, older grades did not have the same opportunities

to collaborate and communicate with their peers because they did not sit together. However, COVID-19 was not the sole contributor to this limitation as it also stemmed from previous teacher beliefs on spatial arrangements pertaining to age range. Within this entanglement, teachers' pedagogical beliefs significantly determined whether teachers and students could decide on seating arrangements, which highlights the relational nature of agency because both teacher and student agency was becoming within this entanglement.

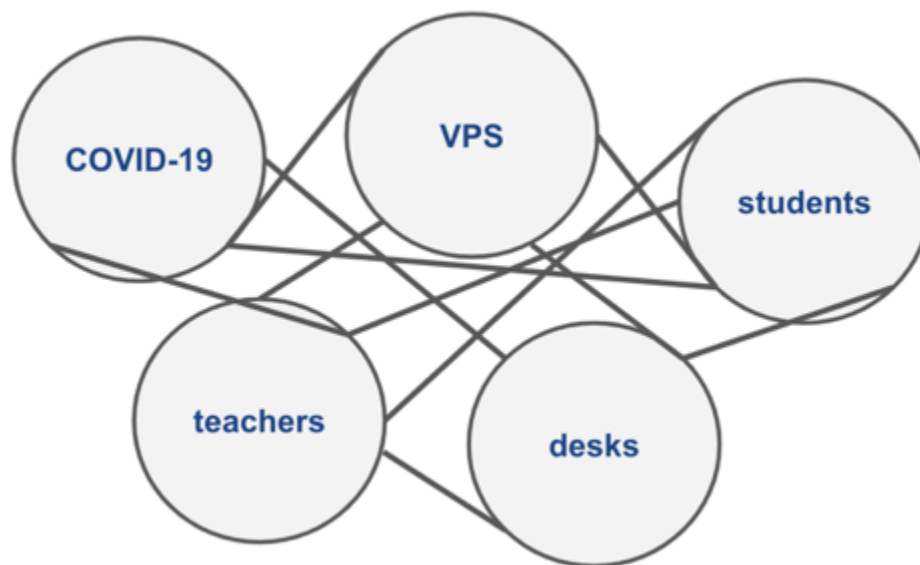


Figure 9: Entanglement of seating plans

The re-configuration of physical and virtual space also provided the school with opportunities to explore new possibilities for whole school meetings. VPS explained how the school was hosting daily meetings on Microsoft Teams where staff members shared announcements and acknowledgments and students took turns sharing jokes. Even though at the time of the interview classes were in being held in-person again, the school continued to host virtual assemblies because there were some students who were still at home. The re-configuration of the whole school meeting space, which in this case was the transition from in-

person to virtual meetings, provided students with an alternative method of remaining involved regardless of whether they were present or absent from the physical school space.

VPS also believed the spatial re-configuration during the pandemic provided more professional development opportunities.

I don't know if opportunities have decreased as much. If anything, they may have opened up more because it's turning everything virtually. So, if you were unable to go into something at a certain time, they record it, and you could just watch it later. You don't necessarily get the same opportunities to ask questions, but oftentimes participants in the audience have really great questions and if not, they'll normally answer your own. But there's been lots of an increase in opportunities in terms of watching them virtually and attending ones that you may not have been able to due to other commitments or you're traveling. I know for me if I were to go somewhere I have an hour from here to get home and then I'd have to go somewhere or whatever the case was. So, the virtual aspect of it has definitely benefited me.

Based on the excerpt above, it is apparent how space-time intra-actions changed VPS' professional development involvement and opportunities. The virtual space re-configured the concept of time as VPS could save time from commuting to a physical space where professional development activities usually took place. This opportunity was also entangled with VPS' own motivation for learning such as how he was teaching himself French and learning different types of pedagogies. It is apparent from these examples that VPS identified both opportunities and limitations that emerged from the intra-actions between COVID-19 and space, again illuminating how spacetime mattering cause multidirectional effects because this entanglement was producing positive, negative, and neutral consequences for VPS' professional development practices.

6.4 Case-entanglement of Morgan

Morgan was a full-time substitute teacher and she covered both virtual and in-person classes in the State of New York, United States. Most of the time she taught Kindergarten to Grade 6 at one school, and occasionally she would teach at other elementary, middle, or high schools. Morgan's circumstance is unique because she completed a teacher preparation program in Ontario, Canada but she is originally from New York, so she moved back and started teaching there. During the interview she often drew comparisons between her learning and teaching experiences in Ontario and New York. There were two themes that emerged from her interview: (1) space-time intra-actions re-configured Morgan's purpose of teaching and teacher accountability practices; and (2) space-time intra-actions impacted Morgan's professional development opportunities.

6.4.1 Purpose of teaching and teacher accountability practices

Space-time intra-actions re-configured Morgan's beliefs on the purpose of teaching and teacher accountability practices. For example, Morgan believed the purpose of teaching varied based on the space she was in. In the following excerpts below, Morgan compared her teaching experiences between Ontario and New York and pointed out that teachers had more flexibility with the state curricula in Ontario than they did in New York.

So, it's unfortunately, compared to the Ontario curriculum, I find that New York State is very scripted.

At least from my experience and my education that I got in Ontario, you are given a checklist in a sense, and you just run with it. You know you can use your professional judgment and your creativity.

Based on her perception of a "checklist" versus "scripted" curriculum, Morgan believed the purpose of teaching in New York revolved more around compliance than it did in Ontario.

Morgan's experiences working with divergent curricula in each respective state emphasise how teacher agency is not a fixed capacity, because she did not "carry over" or "transport" her decision-making capacities. Rather her decision-making processes were becoming based on the space she was in.

Morgan also felt that the resources provided by the New York State Education Department (NYSED), including reading materials, workbooks, manipulatives, and teachers' manuals, were scripted because they outline what teachers should say and how students should reply. These resources were not mandated by the NYSED, but they were mandated by certain school boards. The resources also provided information on "mastering" concepts that are covered on state tests. Morgan had both positive and negative opinions on scripted teaching practices and resources, as she believed the resources were beneficial for teachers because they would save time on prepare teaching materials, but the resources were also detrimental to student engagement due to its monotonized format.

Interestingly, Morgan's opinions on the purposes of teaching and teacher accountability practices oscillated on the pendulum throughout the interview. For example, Morgan explained that her view on the purpose of teaching changed since the pandemic started. The COVID-19 lockdowns impacted her students because they were attending school from home, and they could not escape from any challenges they faced at home that they usually did when they attended school in-person. She believed her teaching priorities shifted from focusing on curriculum content, student tests, and teacher appraisals, to emotionally support students. However, Morgan also believed there was purpose in teacher appraisals. The following juxtaposed excerpts exemplify her contrasting opinions.

I think that COVID honestly taught me to just throw it [curriculum] out the window. I found that education is so much more than just delivering content.

I don't know how necessary it [teacher appraisals] is. I do think that there needs to, and again this is coming from somebody who is raised in the system, I do think there needs to be a standard for how you should perform. There needs to be some sort of indicator of where students are at versus maybe where they should be. That's all part of crunching numbers and, you know, unfortunately that is part of education, I think is just figuring out where the students are and going from there.

On one hand, the space-time re-configuration of the teaching and learning space due to COVID-19 changed Morgan's beliefs on the purpose of teaching. On the other hand, Morgan was bouncing back and forth on the necessity of teacher accountability practices. Her contrasting sentiments could be partially attributed to her teaching experiences in various contexts, and her beliefs ended up mirroring the complexity of the temporal and spatial re-configurations.

Morgan further critiqued the valued added model in New York by recalling how one of her previous high school teachers was impacted by her students' test scores.

There was a teacher in my high school when I was there, and I think either half or more than half of the students failed the New York State examination. But she was the first-year teacher, so they [school administration] instead of firing her, which I think they normally might have done in that situation had she not been a first-year teacher, they relocated her to a different grade, different subjects. So, the teachers get evaluated on how the students do, which I mean, remembering back to when I was a student, it was extremely stress-inducing knowing that your teacher could get fired if you fail.

This excerpt highlights the relational nature of teaching and agency because even though the stakes were low for Morgan when she was student, she was still stressed out for her teachers, because she did not want her test scores to impact her teachers' career outcomes. Morgan exhibited this level of empathy when she was on the other side of the situation as a teacher. For example, Morgan explained how the NYSED instructed teachers to work from school even if students were not there during COVID-19 outbreaks. Morgan preferred to be in the school space because she believed it would provide the students with consistency and comfort in seeing their teacher in their typical learning space. Morgan's empathetic nature as a student and a teacher highlights the causally significant nature of student-teacher intra-actions because they shaped Morgan's beliefs and decision-making processes even during space-time re-configurations.

6.4.2 Career stage and professional opportunities

The intra-actions between COVID-19, the remote school space, and Morgan's early career stage impacted the professional opportunities she received. For example, Morgan said she barely collaborated or even communicated with other teachers in the school she usually taught at, because she was covering for multiple teachers who were absent. As such, she did not get to meet her colleagues, and she only received the occasional opportunity to communicate with teacher colleagues during monthly virtual staff meetings. In this circumstance, teacher agency was becoming where Morgan's decisions to communicate and collaborate with other teacher colleagues was stifled by her limited opportunities due to her early career stage.

In addition to Morgan's substitute teaching status serving as an obstacle for collegiality, the virtual space also impeded the development of collegial trust and opportunities for celebration and commemoration.

I find even just the fact that you don't know what the other half of your colleague's face looks like it's a huge kind of psychological game. And it's just weird that you trust these people with working with you every day. And in case you have to deal with any sort of intense situation, you rely on these people, and you don't know what half their faces look like. It's a really odd environment. And it was kind of sad, one of the faculty members ended up retiring and we couldn't, all get together in the staff room and have a party like I guess they normally would.

Morgan had never met her colleagues in-person because they had to pivot to the virtual space, and the lack of face-to-face interactions diminished collegial trust. She used the materiality of “*half of their faces*” to emphasise the significance of developing trust through physical proximity. In addition, the teachers could not host events such as retirement parties which stifled opportunities for emotional proximity. This entanglement emphasises the significance of the physical presence of human phenomena and how their in-person intra-actions increase the strength of collegial relationships.

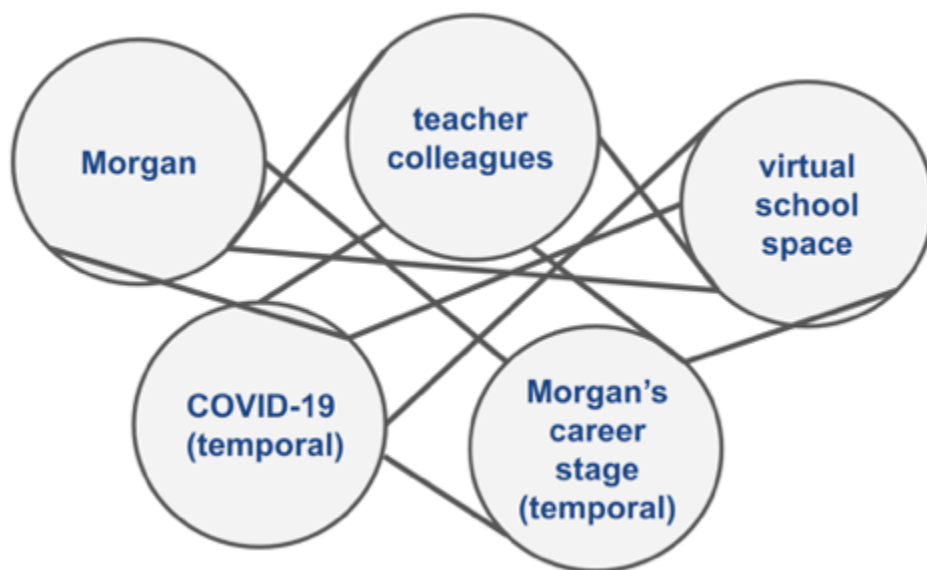


Figure 10: Entanglement of Morgan's collegial relationships

Morgan's early career stage also led to a unique situation where she was teaching a class that consisted of students from two different schools because those schools decided to leverage the virtual space by merging some of their classes. Due to the merge, Morgan was accountable to two principals where she was observed by both principals at different points of the year. Within this entanglement, space-time re-configurations not only impacted the demographic Morgan was teaching but it also impacted teacher accountability practices as well. Morgan's career stage also intra-acted in this entanglement as teacher agency was becoming because she did not have a choice in the classes she taught due to her substitute teaching status. She was observed frequently — for example, three times in the past three months — because this practice was part of the process for a new teacher who has not obtained a professional teaching certificate. Morgan's sentiments on this situation were contradictory, because she had positive and negative opinions on it, as she believed being observed by two principals was stressful, but it also provided scope for professional growth.

Space-time re-configuration also impacted Morgan's professional development opportunities. In her previous longer term teaching position, Morgan had more opportunities to engage in professional development. However, at the time of the interview she was not offered that many opportunities because she was not a permanent teacher at a school. Morgan described that the virtual space also changed professional development processes.

Considering the context of COVID, all the teachers were in their own classrooms doing the professional development virtually. So, it's a lot more disjointed than it would normally have been...

The spatial re-configuration of the professional development space, which in this case was the transition from a physical to a virtual space, made it more challenging to host

professional development activities. As a result, there were less professional development activities that year, and Morgan found they were far less engaging. Hence, teacher agency was becoming within a complex multicausal entanglement that was limiting the possibilities for professional development activities Morgan could choose to engage in.

6.5 Case-entanglement of Hai

Hai and her students were working remotely as a full-time teacher in the State of New York, United States. She was at a different public charter school at the beginning of the school year, and in the middle of the year she pursued a teaching position at the public charter school she was teaching in at the time of the interview. Two themes emerged from Hai's interview: (1) space-time intra-actions shifted notions of expertise; (2) Hai was trying to sustain consistent practices in evolving circumstances.

6.5.1 Shifting notions of expertise

During Hai's interview, it was apparent that space-time intra-actions re-configured her notion of expertise and teacher agency was becoming within this re-configuration. Hai explained how she challenged the hierarchy at her school where the administration was perceived to be the top experts because they seemingly possessed the required knowledge to help and lead everyone in the school. She pointed out that the pivot to the virtual school space was a novel experience for everyone and created an onto-epistemological "uncertainty" because no one had any previous knowledge on how to navigate the pandemic and remote schooling.

So definitely, things don't feel as rigid as they do normally or in the building, because everything is changing so often because things are so uncertain. We can't have the certainty that we're used to where it's like if this happens when then this is going to happen.

As a result of this epistemic shift, Hai and her teacher colleagues had to utilise their flexibility and adaptability skills to navigate this new terrain. Within this phenomenon, teacher agency was becoming as teachers were making more curricular and pedagogical decisions based on their own knowledge and without the help or oversight of the school administration. Hai also described how the principal tried to sustain the pre-pandemic hierarchy by making executive decisions on teacher scheduling. The teachers already knew the new scheduling plans would be ineffective, but the principal was insistent on carrying out their own plans. So, the teachers decided to let him figure out that his plans would not bode well, and he eventually did realise that. The space-time intra-actions propelled by COVID-19 and the virtual space highlight the transient and contextual nature of expertise.

Within this entanglement where expertise and teacher agency were becoming, Hai made her own decisions on the types of spaces she wanted to be in. For example, the school administration was proposing to re-open and offer hybrid classes, but Hai refused to teach in a hybrid format. Also, even though Hai enjoyed leading professional development activities before COVID-19, she did not lead them during the pandemic, because she did not want to increase the amount of time she was sitting in front of a screen. In these instances, Hai was relying on her own knowledge of working virtually and she propagated the shifting notion of expertise where teachers could use their own judgement to make decisions in novel circumstances rather than rely on school admin.

6.5.2 Same practices, evolving circumstances

Amid frequent spacetimemattering, Hai was trying to sustain her pre-pandemic teaching practices. For example, Hai was trying to sustain the dynamics she had with students' parents/guardians in-person within the virtual space as well. She believed it was important to

maintain strong parent/guardian-teacher relationships especially when parents found comfort in sharing the same religious and ethnic identity as her. Hai's intra-actions with parents increased in quality and quantity which was partly due to her previous habits of fostering a frequent line of communication with parents/guardians. However, the outcomes of her communication efforts created multidirectional effects; even though Hai's quality of her relationships increased, the virtual communication was cumbersome for her as it took more time to send emails than having a quick conversation in-person. Hence, the additional time it took indicated a temporal re-configuration in communication.

Hai also created group chats with her teacher colleagues because she was trying to cultivate a culture of visiting each other's classes without any stress, which was an endeavour she had before the pandemic as well. She also tried to replicate her in-person teaching practices in the virtual space; the following excerpt illustrates this effort during one of her math classes.

For example, the unit we just did was on measurement and it's very hard to do measurement over the computer. So instead of doing more things on screen, I just physically got up and showed the kids' stuff, like made it more interactive.

Hai's inclination to sustain pre-pandemic practices can be partially attributed to her steadfast teaching beliefs and values. She kept emphasising how she was confident in her own beliefs and actively chose not to let external factors, such as teacher appraisals, inform her self-efficacy. She even resigned from her previous teaching job in the middle of the year because she felt her appraisal feedback did not reflect the effort she put into her work. However, adding to the complexity, Hai also had a contradictory perception of teacher appraisals, which is indicated in the following excerpt.

I feel that teachers should be allowed to make their own choices within reason. So once there's like a loose structure provided that ensures everyone's safety and it's equitable across classrooms, that teachers should be able to make their own choices and there could be criteria for them to choose from. So, it's not just a free for all, but I feel like a lot of the rules and regulations that schools have in place are there just because they've always been there and don't necessarily make sense.

Even though Hai thought it was important for teachers to make their own decisions, she also believed there should be certain parameters for those decision-making practices. In addition, even though Hai did not see any value in formal teacher appraisals, she believed informal accountability practices, such as peer observations and feedback, were conducive to professional growth. This was one of the reasons why she continued to have group chats with her teacher colleagues and encouraged them to visit each other's classes. Hai's efforts to sustain her teaching beliefs is also an example of the temporal entanglement between her past and present practices within physical and virtual teaching spaces. In this spacetime-mattering phenomenon, teacher agency was becoming where Hai was making decisions based on her teaching beliefs regardless of space-time re-configurations. Figure 11 illustrates the complex entanglement where teacher agency was becoming while Hai made decisions that remained true to her teaching beliefs.

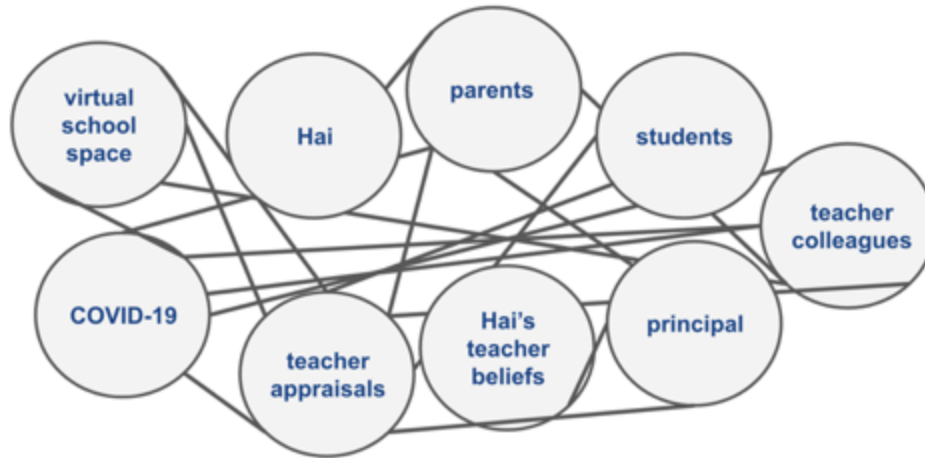


Figure 11: Entanglement with Hai's teacher beliefs

6.6 Case-entanglement of Daisy

Daisy was in Victoria, Australia, and she taught in-person and remotely during that school year. She was also serving a leadership role as a learning specialist where she mentored her teacher colleagues on numeracy. There were two themes that emerged from this interview: (1) teacher agency and autonomy were simultaneously becoming due to external expectations; (2) the school population size was an example of space-matter intra-actions that shaped how teacher agency was becoming; and (3) for Daisy, the loss of physical space led to a loss of opportunities.

6.6.1 The simultaneous becoming of teacher agency and autonomy

Daisy's interview in particular illuminated how teacher agency and autonomy were simultaneously becoming because of external teaching expectations. By *external*, I do not mean outside of the entanglement or an agential cut. Rather, within the context of teaching, I use *external* to refer to human phenomena who are not teacher phenomena. Also, as I also detail in [Chapter 4: Literature Cutting](#), I operationalised agency and autonomy as discrete concepts. In-line with agential realist thinking, agencies are causal performances by intra-acting phenomena (Barad, 2007). In the literature, teacher autonomy often refers to self-regulation without any external governance structures (Priestley et al., 2015; Silva, 2021). Within new materialist lines

of thinking however, phenomena can never be autonomous due to the nature of human-nonhuman intra-actions (Barad, 2007). To diffract the scholarship on teacher autonomy through new materialist and agential realist thinking, I refer to autonomy as phenomena including teachers who are who are not governed by human phenomena besides themselves. Within the context of this thesis, this means that teacher autonomy can be considered an agential cut for the purpose of exploring the significance of human phenomena in teachers' decision-making processes. In other words, teacher agency is the phenomenon where teachers are making decisions that are impacted by other human entities, and teacher autonomy is the phenomenon where teachers are making decisions that are *not* regulated by other human phenomena.

In reference to these definitions, a complex phenomenon emerged where teacher agency and autonomy were simultaneously becoming. Daisy could make decisions in her profession but only if those decisions fell in-line with external expectations, which meant teachers like herself could not make autonomous decisions rid of external human phenomena. During several points of the interview, Daisy described a tension between the types of decisions teachers could make and how those decisions depended on adherence to state-wide expectations. For example, Daisy explained that curricular decision-making was conditional upon following the Victorian curriculum put forth by the Victorian Curriculum and Assessment Authority, an arm of Victoria's Department of Education.

I guess when I think about curriculum, it's that we're very prescribed in what we have to teach, but then there's a level of creativity that we're expected to take on about how to best teach it to our individual grades and individual students.

In this excerpt, Daisy used “prescribed” to denote how teachers are required to follow the state-mandated curriculum, and due to its rigidity, she found it was challenging to follow all the

expectations because *“the curriculum is so crowded.”* At the same time however, Daisy pointed out that teachers can decide on *how* to implement the curriculum. Hence, teachers could make some of their own decisions with regards to the curriculum, but only within the parameters of state expectations. Daisy also pointed out that while she could make her own decisions on how to communicate and collaborate with staff members and school council, the teachers in the school did not contact the teacher union because they did not want the school principal to believe that they shared any grievances against him. In their view, it would be *“kind of rocking the boat per say”*. Again, Daisy was treading a fine line between making her own decisions in her teaching practice while ensuring she did not instigate any conflict with external humans.

Meanwhile, Daisy’s pedagogical decision-making processes and sentiments on teacher accountability practices were contradictory. On one hand, Daisy believed that *“pedagogy is something that’s very personal and subjective to different teachers”* and there was not as much oversight on following pedagogical frameworks as there was to adhere to the curriculum. On the other hand, if teachers did not fulfill state goals, such as achieving certain targets for student standardised tests scores in numeracy and literacy, then there could be external investigations into teacher’s pedagogical practices. In Daisy’s words, this aporia resulted in teachers being, *“agents of making that [fulfilling state goals] happen and I think that that agency is really a farce because it only exists alongside that increased accountability.”*

While Daisy was frustrated that her decision-making processes were significantly dependent on external oversight, she also valued teacher coaching and observations. The teachers at her school were observed once a week or fortnight and Daisy was supportive of this frequent arrangement. One of the reasons Daisy supported this was because as a learning specialist, she

had to coach the teachers, and she believed coaching was based on benevolent intentions and purpose.

My view of coaching is that I'm actually here to help. I'm here to help you risk take, I'm here to just provide you with a sounding board, basically because you're in charge and you're leading this development.

In Daisy's view, teacher agency was becoming where coaching served to provide support and teachers were the ones who decided how to experience this process. Hence, Daisy was approving of teacher accountability practices when teachers made most of the decisions, not external people. Furthering the complexity, Daisy explained how she had a literacy coach when she first started teaching, which really helped improve her teaching practices. Ever since then, she became comfortable with teacher observations because she felt that people were observing her to provide support rather than criticise her. Daisy's complex sentiments are a result of spacetime mattering because her past experiences, a temporal construct, contributed to her positive outlook on coaching. In addition, Daisy wanted to foster trusting relationships with her teacher colleagues so the emotional proximity, a spatial construct, was also intra-acting within this entanglement. Daisy's contradictory sentiments also illuminate how she was not just impacted by the becoming of agency and autonomy, but she was actively re-configuring them as well.

Diffraction through existing notions of teacher agency and autonomy and agential realism produces significant implications for teachers and teaching. First, it calls into question what constitutes teacher as a phenomena, whether there are ways to produce cuts to denote teacher phenomena, and the consequences for making those cuts. Second, it prompts a discussion on

how governance is conceptualised and whether autonomy is possible in a relational ontology.

These provocations are further developed and explored in [Chapter 8: Discussing](#).

6.6.2 School population size and social relationships

Daisy was working at a school with a small population size where they only had four classrooms. The student population was so small that teachers were sometimes teaching three grade levels at the same time. Her unique circumstance provided an opportunity to explore how the spatial entwinement of school population size and emotional proximity can impact the types of decisions teachers made. Daisy enjoyed being within a smaller population because she had emotionally proximate relationships with her colleagues where they would greet each other every day. Her collegial situation was so unique that one of the new teachers was surprised and intimidated by the emotional proximity. There were also more intra-actions between students from different grade levels because they all knew each other.

Another consequence of the small population was that the teachers had to be in frequent communication with the students' parents/guardians. The parents/guardians had Daisy's personal cell phone number and they would call her at any point of the day and night to discuss academic, medical, and even personal matters such as their mental health issues. She found it was difficult for her to draw boundaries with the parents, because she felt the teachers were responsible for addressing the parents/guardians' needs at any point.

We really want to have that communication. We really know that as a small school community, they really rely on us.

In addition, Daisy felt additional pressure to sustain emotional proximity with parents/guardians because “*there is an expectation that we do that from our principal, but it's also what's best for the kids*” and “*communication with parents is so paramount to the*

relationships that we actually have” which meant that Daisy kept a constant line of communication with parents to also sustain positive relationships with the principal and her students. Hence, Daisy was making decisions based on her teaching belief that she had to sustain positive relationships with the parents/guardians especially within a small school population.

Teacher agency was becoming in a complex entanglement where spacetime mattering between the small number of human phenomena within the school space, Daisy’s teaching beliefs, and Daisy’s cell phone re-configured both Daisy’s teaching space and time. Spatially, the teaching space expanded beyond the brick-and-mortar school because parents could contact her while she outside of school. Temporally, Daisy was communicating with the parents beyond the designated teaching time.

It is imperative to highlight how Daisy’s cell phone was significant nonhuman phenomena in re-configuring Daisy’s teaching space and time. The cell phone could be transported anywhere so it transcended any teaching space-time boundaries marked by Daisy, the school, and the education system in general. As a result, agencies were producing multidirectional effects because on one hand, parents/guardians had more temporal opportunities to communicate with Daisy since she could carry her cell phone anywhere, but on the other hand, Daisy had less choice in demarcating her teaching space and time. Hence, Daisy’s cell phone illustrates the material significance in entanglements where teacher agency is becoming.

Figure 12 below illustrates this complex entanglement where teacher agency was becoming in the situation where Daisy was communicating with parents/guardians within the context of a small school population. The figure also shows the multiple intra-actions between the human-nonhuman phenomena and produced multiple effects, illuminating how Daisy’s situation was multicausal.

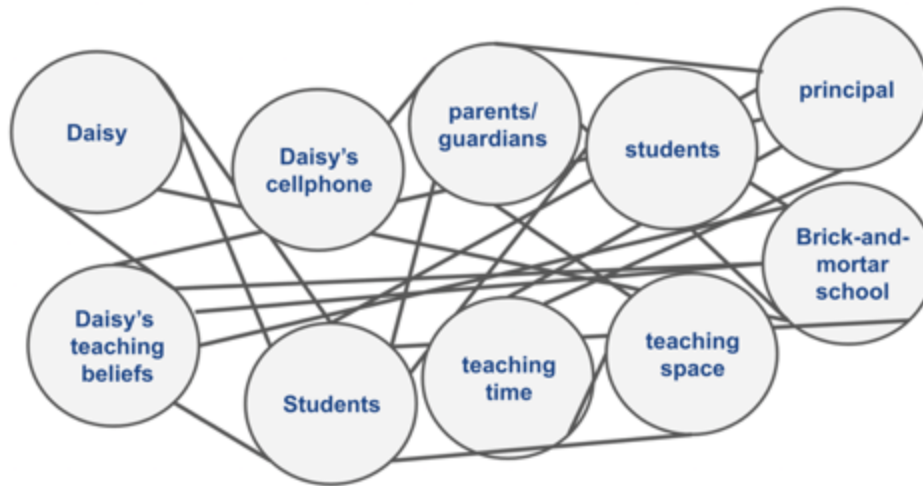


Figure 12: Daisy's communication with parents/guardians

6.6.3 Losing physical space and opportunities

During the interview, Daisy explicitly cited how the loss of physical teaching space, and subsequently in-person intra-actions, led to the loss of several opportunities as well. One of those opportunities was being able to assess students in a way that aligned with Daisy's pedagogical beliefs. Daisy believed that the assessment process should be nonlinear, where the teacher would check-in with the student before, during, and after an activity even if it was a "quick little conversation" and the teacher would iteratively provide feedback based on those checkpoints. However, Daisy could not implement this process when she was teaching remotely. Instead, the process became simplified and linear where students would finish their work at home, parents/guardians would take photos of the work and send it to Daisy, and Daisy could only provide feedback after the work was finished. The excerpt below also highlights the significance of materiality within the physical space for Daisy when she assessed her students.

So, if I'm sort of sitting down, working beside a child and we're doing a maths problem, I can see what physical materials they're using, I can see how they're manipulating, they can explain to me their thinking.

In addition, the physical space provided Daisy with the opportunities to work with students and physical materials, but that was difficult to do in the remote space. Even the material act of, “*sitting down*” with a student was imperative for Daisy because it helped her gauge and understand the mannerisms of her students. Within this entanglement, Daisy’s pedagogical practices were re-configured within the space-time intra-action between COVID-19 and loss of physical space; teacher agency was becoming in that Daisy had less options in deciding how to assess her students.

Daisy also explained how the loss of physical space led to the loss of professional development opportunities. Usually, her school—along with a few others—would collaborate and arrange professional development activities, but this was not possible during the COVID-19 lockdowns because there was no physical space to host the activities. However, the loss of physical space also had positive consequences for professional development. Even though Daisy lost opportunities to attend in-person activities, she was able to attend an online conferences. Usually, she could not attend this conference because it was hosted in another city, but now she was able to because it was hosted online due to the pandemic. This complex case-entanglement again emphasises how the effects that are caused by intra-acting phenomena are not just positive, negative, or neutral, because the intra-actions between human-nonhuman phenomena are complex and produces multiple types of effects through multiple types of causes.

6.7 Diffractive Summary of Illustrative Case-entanglements

In this subsection, I will revisit the research questions through a diffractive reading of the five illustrative cases *through* each other to illustrate the possibilities produced when using interview as a method to embark on a new materialist exploration of how teacher agency is becoming.

First, a microdynamic gaze of the interview data elicited unique themes and details of complex case-entanglements while also illuminating how teacher agency becomes nonhuman demarcations of spaces and places. For example, even though VPS and Tee were both from Ontario, had attended the same teacher preparation program, and were similar in career stages, there were still quite a few differences between their experiences during the pandemic. First, VPS was teaching in-person because of school board mandates while Tee was teaching online. Due to their divergent teaching spaces, VPS' pedagogies were more influenced by his intra-actions with teacher colleagues because they were sharing office space, whereas Tee felt distant from her colleagues. Second, VPS and Tee intra-acted differently with materials where VPS focused on desk arrangement in the classroom space and Tee prioritised decorations in her teaching space. Hence, rather than bounding cases by human-made margins, thinking with new materialism and agential realism in examining teacher phenomena elicits how teacher agency is becoming through unique microdynamic intra-actions. It is important to note that a microdynamic gaze was made possible because the interview data was detailed as the transcripts captured conversations that lasted from 45 minutes to 2 hours. The effects produced by the intra-actions between the interview data and microdynamic gaze emphasise the multicausal nature of intra-acting agencies.

In addition, these illustrative case-entanglements highlight how teacher agency has been becoming through human-nonhuman phenomena that produced multicausal and multidirectional outcomes and sentiments. An example of multidirectional effects is how COVID-19 both increased and stifled possibilities for teachers' professional development. VPS and Daisy were able to attend more PD sessions because they were held online, whereas Tee and Morgan experienced limited opportunities for PD. In addition, these effects were caused by multiple

intra-actions between human-nonhuman phenomena. Thinking with new materialism and agential realism also encourages challenging binaries which helped to identify contradictory sentiments on teacher accountability practices. For example, Hai, Morgan, VPS, and Daisy approved and disapproved of certain aspects. Interestingly, all four of them shared the sentiment that high stakes teacher accountability practices, such as state observations, were detrimental to teachers' careers, but low stakes practices such as peer observations and collegial feedback were conducive to teachers' career growth.

The enactment of identifying these contradictory sentiments helps to think with agential realism in further questioning the multidirectional effects produced by teacher accountability practices and the consequences of these contradictory sentiments on the power dynamics of the teaching profession. In addition, it raises the question of what the significance is of acknowledging multicausality in understanding how teacher agency is becoming and the significance for onto-epistemologies in general. Multicausality and multidirectional effects are significant factors that emerged from the interview data and it is worth exploring the significance of this aspect and elaborating on this notion. These lines of inquiry are further explored in [Chapter 8](#).

These illustrative case-entanglements also provided the richest insight on how spacetime-mattering is significant to teacher agency becoming. COVID-19 as temporal phenomena, and the remote and virtual spaces as spatial phenomena, re-configured teachers' practices and how teacher agency was becoming. As mentioned above, teachers' opportunities and limitations for communication, professional development, and pedagogical practices changed due to the circumstances created by the pandemic and the spaces teachers had to practice in. In addition, there was a temporal entwinement between COVID-19 and teachers'

career stage that impacted how teacher agency was becoming. For example, VPS felt more comfortable making pedagogical decisions because he did not have to participate in NTIP as a new teacher, whereas Morgan had to be observed by two principals because she was teaching a merged class; the absence of NTIP and the merged class arose due to the pandemic and both teachers had to address these phenomena because they were in the early stage of their careers.

Lastly, these case-entanglements illustrate how spacetime-mattering produced possibilities for the intra-actions between multiple teaching spaces such as brick-and-mortar schools; teachers' homes; online platforms such as Zoom, and Google Teams, and Kahoot!. The teaching materials within these spaces were also significant, as seen in Tee's case where she could choose not to wear goggles because she was at home. Physical and social proximity also emerged as imperative phenomena for teacher agency to become. Tee, Hai, and Daisy shared how they had to maintain a consistent and frequent line of communication with students' parents/guardians because they were seen as the primary point of contact before and during the pandemic. All the teacher participants also cited how their principal influenced their teaching decisions compared to other administrative staff such as school board and state government members. The principals' influence can be attributed to the physical and emotional proximity the teachers had with them before and during the pandemic. Interestingly, from these examples, it is apparent that the emotional proximity between human phenomena were not impacted by spatial re-configuration of the teaching space. Parents/guardians were still heavily reliant on these teachers in the remote space and teachers were significantly influenced by their principals. This implies that social relationships can be sustained even within spatial re-configurations.

When thinking with agential realism, it is my response-ability as a researcher to identify how these intra-acting agencies from the interview data and thesis produce specific power

dynamics in the teaching profession (Barad, 2007). It is imperative to remember that the interview data are together-apart with the rest of this thesis, which is why I start this chapter with the quote by Toni Ingram (2019). Connecting it back to the overarching purpose of this thesis, these insights will also illuminate the significance of thinking with new materialism in re-conceptualising how teacher agency is becoming. [Chapter 8](#) will further discuss the impacts of the inclusions and exclusions made for this thesis and chapter to emerge, including the implications for re-conceptualising how teacher agency is becoming.

Chapter 7: Photo-elicitation Emergings

We keep this love in a photograph

We made these memories for ourselves

Where our eyes are never closing

Hearts are never broken

And time's forever frozen still

Ed Sheeran, Photograph

7.0 Notes About Chapters 6 and 7

[Chapter 6: Illustrative Cases-entanglements Emergings](#) and [Chapter 7: Photo-elicitation](#)

[Emergings](#) focus on articulating the human-nonhuman case- entanglements where teacher agency is becoming. As Barad (2017) says “tracing entanglements is no easy task. It takes work” (p. 71), and part of the work entails re-configuring apparatuses and making agential cuts to explore specificities. For this thesis, one of those cuts is creating distinct chapters to separate the insights from the interview and photo-elicitation data in order to explore how different methods re-configure and are re-configured in producing possibilities and insights (Barad, 2003, 2007). It is important to note that the interview and photo-elicitation processes and data are essentially together-apart, and the agential cut helps to explore the specificities of these methods, but I also explain how these processes, insights, and data intra-act without the cut in [Chapter 8: Discussing](#).

In [Chapter 6](#) and [Chapter 7](#), I use *emergings* instead of “findings” to reaffirm the nonrepresentational nature of data when thinking with new materialism and agential realism (Barad, 2007, Ingram, 2019; Stark, 2019). As I also explain in [Chapter 5: Research Process is Becoming](#), I engaged in data generation with the intention of focusing on the interpretations of the teacher participants. However, after starting to think with new materialism and agential

realism, I acknowledge that the interview and photo-elicitation data do not represent the participants' perspectives on how teacher agency is becoming. Rather, these case-entanglements are entangled with other human-nonhuman phenomena in producing teacher agency. As such, I share the emergings in a nonrepresentational manner by including insights on the research and research process in the emergings chapters.

In addition, I use the terms *multicausality* and *multidirectional effects* while describing insights from the emerging case-entanglements. I use multicausality as a term to refer to intra-acting phenomena producing multiple causes for flowing agencies, and I use multidirectional effects to refer to outcomes that simultaneously produce positive and negative marks on bodies, and/or these effects are not linear but can impact phenomena in a multilateral manner.

Multicausality and multidirectional effects are contrary to the concept of a linear relationship where one entity causes an effect on another entity. Barad (2003, 2007) discusses how phenomena do not cause and impact one another in a linear manner and also uses the notion of multicausalities in a recent interview (Barad & Gandorfer, 2021). Moreover, there is no insight on multidirectional effects in the scholarship on agential realism. In [Chapter 8: Discussing](#), I explain how I re-configure thinking with agential realism by asserting that multicausality and multidirectional effects need to be key considerations.

These chapters both inform and are informed by the becoming-questions of this thesis:

Main question: What is the significance of thinking with new materialism to re-conceptualise how teacher agency is becoming?

Sub-questions:

2. How is teacher agency becoming through human-nonhuman intra-actions?
3. What is the significance of spacetime-mattering when teacher agency is becoming?

4. How does power materialise when teacher agency is becoming?

As I also explain in [Chapter 5.2: Methodology](#), the teacher case-entanglements do not treat teachers as predefined entities, rather the case-entanglements are phenomena where teachers are intra-acting. Since one of the new proponents of new materialism and agential realism is acknowledging the indeterminacy of existence, I intra-acted with the data generation and data analysis processes without holding any rigid expectations of what would emerge. Sub-question 1 emerged through these enactments because they provide novel insights on human-nonhuman intra-actions where teachers are becoming. Hence, before taking a deep-dive into thinking with new materialism to re-conceptualise how teacher agency is becoming, which I do in [Chapter 8](#), it is important to provide examples of how human-nonhuman intra-actions emerge since this is a nascent area of research. As I also explain in [Chapter: 5.3: Becoming-questions](#), Sub-question 2 emerged through my reading on thinking with agential realism and noticing the significance of time and space during the data generation and analysis processes. Lastly, the main question and Sub-question 3 emerged from my intra-actions with the scholarship from [Chapter 4: Literature Cutting](#), and data generation and analysis processes. As such, these questions provided the possibilities to explore and articulate the key purpose and significance of this thesis.

7.1 Chapter Overview

In this chapter, I present thematic emergings from the photo-elicitation data that was generated through the 10 case-entanglements. Please refer to [Chapter 2.5: Table of Key Terms and Concepts for this Thesis](#) for the terminology I utilise in this chapter and thesis. As I emphasised in [Chapter 1: Introducing](#), I use the term *becoming* with the new materialist ontological assumption that human-nonhuman phenomena are always evolving and changing (Barad, 2007; Fox & Alldred, 2015a, 2015b; Kuby & Zhao, 2021). After the chapter overview, I think with

agential realism to present the photo-elicitation data through *horizontal renderings*. Horizontal rendering is a phrase I created through a diffractive reading of Warfield's (2017) and Coffey's (2023) insights on analyzing photos through a posthumanist framework. Warfield (2017) argues that posthumanist visual methods involve reading photos *horizontally*, which means decentering human subjects in photos to provide equal weight on nonhuman phenomena as well. Coffey (2023) conceptualises *rendering* as a presentation of the emergings that capture the multidirectional intra-actions and entanglements that are identified through the data and data processes that are generated via new materialist visual methods.

The photo-elicitation data and process were distinct enough to warrant an agential cut and devote a chapter to focus on how photo-elicitation illuminates and impacts how teacher agency was becoming. Photographs, and the process of capturing and using them, are unique because “a photograph enacts an agential cut that brings materialities to the fore: bodies, objects, spatial configurations, the camera and other forces” (Ingram, 2019, p. 3). The hyphen in photo-elicitation emphasises how the process of taking the photo (photo) and talking about it during the interview (elicitation) are together-apart because they can seem like separate enactments and can be discussed in isolation from one another but are actually inseparable from the entanglement where teacher agency is becoming.

As such, this chapter will present the thematic horizontal renderings from the ten case-entanglements. These thematic horizontal renderings will include photos, summaries, and excerpts to describe the intra-actions between the photo content, the conversations about the photos during the semi-structured interview, and any insights the teacher participants provided on their experience with photo-elicitation. Table 3 below shows the demographic details of the teacher participants, and this table is also shared in [Chapter 5: Research Process is Becoming](#). In

addition, the prompt for the teacher participants when inviting them to share a photo is provided in [APPENDIX F: Photovoice Instructions](#).

Table 3: Participant characteristics

<i>Pseudonym</i>	<i>Date of Interview</i>	<i>Country</i>	<i>State</i>	<i>Gender</i>	<i>Teaching position</i>	<i>Current Grade level</i>	<i>Years of Teaching Experience</i>	<i>Teaching situation during interview</i>
Tee	March 18, 2021	Canada	Ontario	Female	Full time teacher	Grade 1	1	Remote
VPS	March 24, 2021	Canada	Ontario	Male	Occasional teacher	Kindergarten–Grade 6	1	In-person
Abdullah	March 25, 2021	Canada	Ontario	Male	Occasional teacher	Kindergarten–Grade 8	1	In-person
Charlotte	March 29, 2023	Canada	Ontario	Female	Full time teacher	Grade 1	7	Remote
Luby	April 1, 2023	Canada	Ontario	Female	Full time teacher	Kindergarten	4	Remote
Morgan	March 31, 2023	United States	New York	Female	Occasional teacher	Kindergarten–Grade 6	1	Remote-in-person
Hai	April 7, 2021	United States	New York	Female	Full time teacher	Grade 2	5	Remote
Neesa	April 14, 2021	United States	New York	Female	Full time teacher	Grade 1	5	Remote
Ocean	July 6, 2021	Australia	Victoria	Female	Full time teacher	Foundation–Grade 6	7	Remote
Daisy	July 7, 2021	Australia	Victoria	Female	Learning Specialist	Foundation–Grade 6	12	In-person and remote

Three themes emerged from the photo-elicitation data. Figure 13 below provides an overview of the three themes that emerged from the photo-elicitation data and process, the cases that highlight each respective theme, and brief descriptions of the photos from each case.

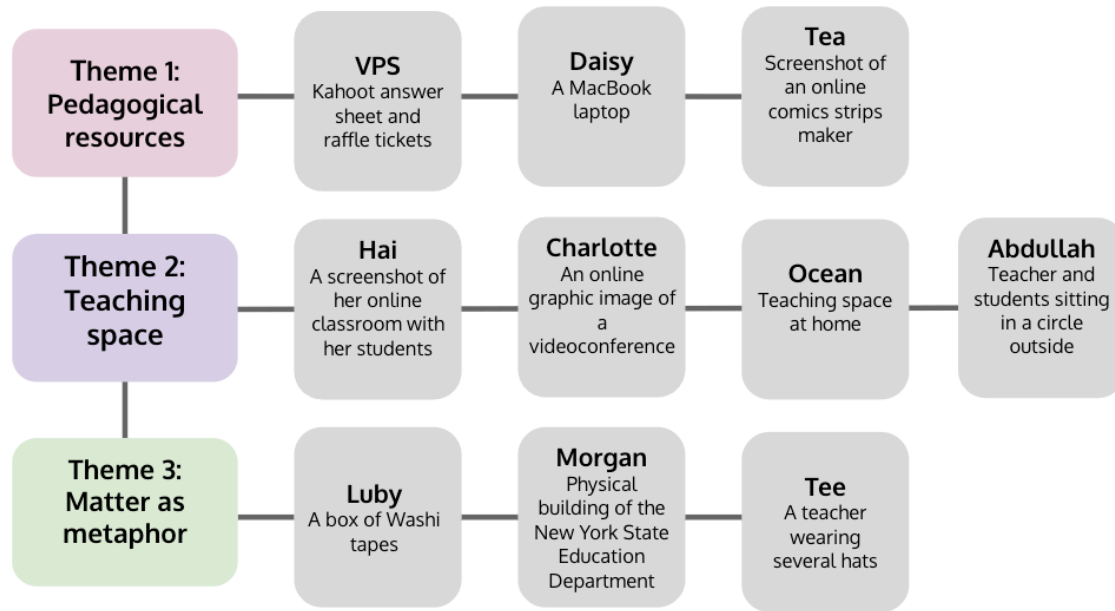


Figure 13: Themes and cases from the photo-elicitation data

After the thematic horizontal renderings, I provide a diffractive summary by analysing the case-entanglements *through* each other to highlight the opportunities and insights that emerge from using photo-elicitation as a method to embark on a new materialist exploration of how teacher agency is becoming. I call the summary diffractive because I do not privilege any particular case-entanglement over another; rather these case-entanglements intra-act in producing unique insights on how teacher agency is becoming.

Material-discursive phenomena are inseparable because matter and meaning work hand-in-hand in producing knowledge and existence (Barad, 2007). With regards to photos, “foregrounding material elements, photographs convey discursive meanings, ideas and imaginings, perhaps even glimpses of an affective atmosphere (mood and feelings)” (Ingram, 2019, p. 3). Hence, the participants’ interpretations and reflections of the photos are beyond representational phenomena, because teacher agency is not becoming solely because of the content of the photos; it is also becoming through the photo-elicitation process itself, which

includes the temporal intertwinement of the teachers' recollection of the past, the material-discursive practice of photo-elicitation by the participants and the researchers before and during the interview, and the researcher's analysis after the interview. I also include insights on the photo-elicitation process for myself and the participants to gauge how this process intra-acted with the teacher participants and the photos they took or selected and reflected on. The methodological, conceptual, and empirical implications of these emergings are detailed in [Chapter 8](#), where I do a diffractive reading of the interview and photo-elicitation emergings, the process of the data generation for myself and the teacher participants, and the literature cuts from [Chapter 4: Literature Cutting](#).

As I also discuss in [Chapter 5: Research Process is Becoming](#), I edited identifiable details in the photos using blurring and/or cropping tools to maintain the confidentiality of the teacher participants. In addition, Charlotte and Morgan's electronic images are not included in this thesis because I needed to avoid copyright infringement; instead, I provided citations of those images at the end of this chapter and in the overall works cited section for viewing purposes. I included Tee's photo because I obtained permission from the artist. The photos I do share in this thesis are labelled with a caption.

7.2 Thematic horizontal rendering 1: Pedagogical resources

VPS, Daisy, and Neesa captured photos of their pedagogical resources to explain how teacher agency was becoming. Interestingly, the materials in the photos reflect their teaching spaces at the time of their interviews; VPS took a photo of a few of his classroom materials and he was teaching in-person, Daisy took a photo of her laptop and she was using it to teach remotely, and Neesa took a photo of an online comic strip generator and she was also teaching remotely.

For VPS' photo, he included a Kahoot! answer paper sheet, another paper sheet denoting the Kahoot! Shapes, and a few strips of raffle tickets (Photo 1).



Photo 1: VPS' photo of Kahoot! and raffle tickets

Kahoot! is an online platform where users can generate quizzes in various formats, and a unique characteristic of Kahoot! is that each answer choice is associated with its own shape. VPS was particularly excited to talk about Kahoot! because he believed it was a valuable resource in increasing student engagement. His class played Kahoot! on paper because they did not have access to technology, so he adapted the game by verbalising the questions instead, and the students were given a set of papers with a shape on it so that they could hold up a paper to share their answer choice. VPS believed Kahoot! was an ideal alternative to the usual worksheets the students completed, especially during the pandemic where students had a difficult time staying focused and engaged.

Within this phenomenon, where VPS and his class were playing Kahoot!, the materiality of paper was significant in the entanglement where teacher agency was becoming; the absence of technology within VPS' teaching space intra-acted with the presence of paper, and this intra-action provided VPS with the possibility to play Kahoot! with his class. VPS' pedagogical beliefs were also intra-acting in this entanglement as he was adamant on adapting Kahoot! because he wanted his class to be engaged in their learning and he believed Kahoot! was the type of activity to increase engagement. VPS' photo also became through his pedagogical beliefs, because he was so enthusiastic about Kahoot! that he wanted to capture it in a photo. In terms of multicausality, not only was the paper impacting pedagogical possibilities for human phenomena, but the human phenomena were also causing paper to change. The function of the paper changed from being used as worksheets to being used for Kahoot! game pieces; within this re-configuration student engagement increased and paper was perceived more positively. Lastly, even though VPS' teaching space did not change due to COVID-19, the nature of the pandemic caused students to become disengaged and fatigued. Hence, COVID-19 was still intra-acting as temporal phenomena where teacher agency was becoming because VPS had to make pedagogical decisions in response to the repercussions of COVID-19 on his students.

VPS included raffle tickets in his photo because he was also using them to incentivise learning. VPS rewarded students with raffle tickets for completing work for French class and they could exchange a certain number of tickets for a prize. To increase the excitement of winning a prize, VPS would set up a time limit of 60 seconds for the students to choose a prize. Within this entanglement, students' engagement was materialising through their intra-actions with raffle tickets and prizes, and VPS believed that extrinsic rewards increased student

engagement. In turn, teacher agency was becoming in this entanglement because VPS believed his decisions were dependent on his students' engagement and his understanding of them.

So, it's my own agency, some sort of reward program for them participating, because I do understand that I myself as a kid did not like French because I didn't understand it, and I know for a lot of these kids they're struggling to work with English, let alone French.

In addition to these causes, VPS chose to implement a reward system because one of his teacher colleagues who sat beside him in the staff room used a similar process. As discussed in [Chapter 6: Illustrative Case-Entanglements Emergings](#), VPS based some of his decisions on colleagues he was working with within spatial proximity; this phenomenon emerged in this case as well, which resulted from the intra-actions between VPS, his teaching space, his teacher colleagues, and the period when they shared the same teaching space together.

While VPS used his photo to highlight using pedagogical resources for incentivisation, Daisy described how her resource, which was a MacBook laptop sitting on a table (Photo 2), served as the crux of her teaching practice.



Photo 2: Daisy's photo of her MacBook Laptop

When Daisy was taking her photo, she said she “*tried to think about it in lots of different ways and probably overthought it, but at the end of the day, my laptop is basically the tool that I use. All the time for teaching.*” This iterative thought process temporally re-configured Daisy’s photo because she was recalling memories while (re)capturing her photo, which illuminates the significance of temporality when photos are becoming.

Daisy explained that her pedagogical resources were becoming from the beginning of her teaching career to the time of the interview.

When I first began teaching, I used to carry a whole bag of stuff around with me. I always had books, I had Black Line masters, I had printouts, I had pencils and everything.

Whereas now my teaching is largely based around my laptop.

Daisy’s pedagogical resources were becoming through spacetimemattering, where her laptop usurped the purposes of the resources she mentioned in the excerpt above, causing a

temporal re-configuration. Daisy even reflected on this temporal re-configuration and remarked “*it's weird to think that I don't think I could actually do my job without a piece of tech, which is just a bizarre way of being now because it just wasn't always like that.*” These temporal re-configurations illuminate the transient nature of space, time, and matter where they are perpetually becoming through their intra-actions and are creating conditions of possibility.

Interestingly, as highlighted in the two excerpts below, Daisy’s pedagogical resources and teacher agency were becoming through the intra-actions between two temporal re-configurations: digitalisation and COVID-19.

In the classroom we've got, cameras, computers, like everything. But when I first commenced teaching, and that was only in 2009, I always had a planner and it had my roll in it, it had my written documents, I'd write notes and everything like that.

And during COVID, that laptop was the only tool that mattered. Without it, we couldn't have actually taught, so I feel like much of my teacher agencies is tied up with this one piece of technology.

Digitalisation was causing Daisy to opt for technological resources, and COVID-19 increased the primacy of technology because it provided a platform for remote schooling. Teacher agency was becoming through this entanglement because Daisy was making her decisions based on changing priorities revolving around digitalisation and access to teaching spaces during COVID-19. Adding to the complexity, teacher agency was also becoming through the digitalisation of accountability practices.

Everything was just in that planning book, and that's what I carried everywhere. It was like my Bible, I guess. Whereas now, because of the need for everything to be digitized

and that accountability means that everything has to be translated online, that becomes that tool then that represents my agency.

Within this entanglement, Daisy was intra-acting with the temporal nature of digitalisation and the teacher accountability practice of sharing her lesson plans. As she pointed out in the excerpt above, teacher agency was becoming because Daisy was making her decisions based on the technological tools she had and the external expectations she had to follow for digitizing teaching practices.

While VPS and Daisy captured tangible materials in their photos, Neesa took a screenshot of Pixton, an online pedagogical resource (*Photo 3*). Again, the difference between their choices to capture (in)tangible resources reflected their teaching spaces.



Photo 3: Neesa's photo of an online pedagogical resource

Neesa's photo became through multiple causes including the intra-actions with one of her professors from her Master of Education program, her student, and Pixton. Neesa and her professor were conversing about possible engaging writing activities when Neesa's professor asked her if she knew of any online resources for writing. This conversation sparked Neesa's curiosity, so she conducted an online search and came across Pixton. Pixton is an online comic strip generator that provides free access to teachers and students. Neesa believed Pixton was a

useful and engaging resource because it provided users with a diversified range of options to create their comic strips, including a wide variety of characters, colours, appearances, and speech bubbles. She also thought Pixton was nifty because students could link their work to their Google Suite accounts.

I do not think that I would have gotten the same outcome had I stuck to what the curriculum said. I think I would have students produce two-line stories. Or no story at all, or a very unengaging story, because they just were over it. They're very over wanting to write. They're over doing the same things over and over again.

The materiality of writing was becoming within this entanglement of third-party platforms where Pixton was intra-acting with Google Suite which increased accessibility for Neesa's students. In addition, Neesa's pedagogical beliefs were intra-acting in this entanglement as she believed repetitive activities were engaging which was why she opted for a novel pedagogical resource. As such, writing evolved from handwritten to online activities.

Within this entanglement, teacher agency was becoming because Neesa chose to use Pixton because of her pedagogical beliefs. Adding to the complexity, teacher agency was becoming in this phenomenon through Neesa's intra-actions with human phenomena as well. Neesa viewed her decision to use Pixton as an act of defiance, because she transcended curriculum expectations to implement a resource without regarding any external pressures or mandates.

And I did this without consenting on it for anyone, didn't ask anyone for permission. So, I went against everybody, and I was just like, you know what? I'm just gonna put it out there and see what happens. See if somebody texts me and says, "Hey, what you're doing is wrong."

In addition, Neesa explained how her teacher colleagues approved of Pixton with some even implementing it in their own classes. Hence, Neesa's subversive decision and the subsequent reception from her colleagues emerged as significant human intra-actions where teacher agency was becoming. This is because Neesa's colleagues validated her decision which propelled her to continue using Pixton with her class.

Lastly, the temporal nature of COVID-19 was also intra-acting in this entanglement through the materiality of the Pixton webpage. During the interview, I pointed out that there was an icon of the emblematic COVID-19 cellular structure in the top right corner of the Pixton webpage and Neesa remarked "*I really haven't pressed it myself because I'm like, I don't know what this is, and I'm not interested in knowing anymore about COVID*". The COVID-19 symbol denoted Pixton's utility during the pandemic and Neesa's response highlighted how her intra-action with this temporal rupture was emotionally provocative.

In summary, VPS, Daisy, and Neesa's respective photos illustrate the complex nature of their intra-actions with pedagogical resources where teacher agency is becoming. The intra-actions between the teachers and their resources were not becoming in a vacuum; other humans such as teacher colleagues, the material characteristics of the resources such as appearance and function, and space-time re-configurations were intra-acting in this entanglement to produce the phenomena of teachers' pedagogical decisions.

7.3 Thematic horizontal rendering 2: Teaching space

Hai, Charlotte, Ocean, and Abdullah captured their teaching spaces through the photo-elicitation process. All four of them highlighted the materiality of the spaces they were teaching in during COVID-19. Hai's photo is a screenshot of her classroom on Zoom Video Communications (Zoom) (Photo 4).

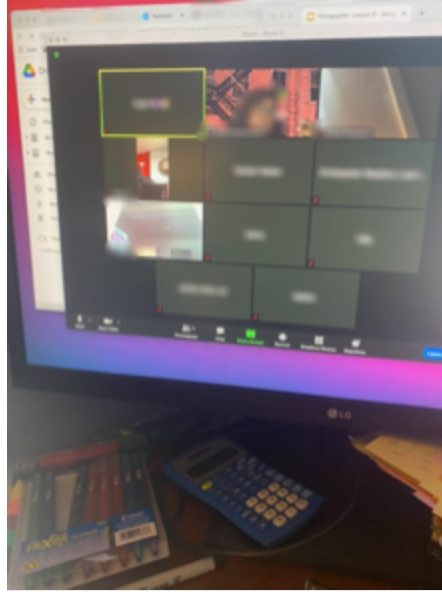


Photo 4: Hai's photo of her class on Zoom

Hai underscored the grey rectangles in her photo by describing how the “grey screen” was becoming throughout the school year.

I like this photo because, basically, a grey screen has become synonymous with a kid not paying attention or a kid not doing the right thing. But right now, it's the opposite, because they've all went to something called Nearpod to answer a question. So, it's interesting because in the beginning of the year, a grey screen was just a grey screen. But because our kids have to be on camera so we can see them, like especially elementary age, we always think that when their cameras off, they're far away. But sometimes their cameras just off.

In the excerpt above, Hai described how the grey screen evolved from being a signal of student disengagement to becoming an indicator of multiple possibilities such as working on an activity outside of the Zoom platform or taking a short break. Through this reflection, Hai highlights the nonlinear nature of the grey screen by acknowledging that it can have multiple purposes. Her analysis also illuminated how a seemingly static phenomena such as an

unchanging grey screen was actually becoming through its intra-actions with Hai, the students, and the spaces they were teaching and learning in.

Within this entanglement, the school admin, such as the principal, also intra-acted with these phenomena and was causing teacher agency to become. The school admin visited Hai's Zoom room once a week as a check-in point. Hai wanted to ensure she could explain what the students were doing no matter what point of the day the admin decided to visit, which was why it was important for her to know what her students were doing behind the grey screen.

I'm confident in my students being able to follow my directions because if someone popped into my room, like from curriculum or leadership were like why is everyone's camera turned off? It's like well, because I asked them to leave Zoom and go on, you know, something else. So therefore, there's camera can't be on right now and like I can explain that I'm confident in that and that's what I prefer in this moment, because I don't want them to be looking at me.

Teacher agency was becoming because Hai's intra-actions with her students established a line of trust where Hai was certain that her students were following her instructions, and in turn, she felt confident enough to explain to the school admin what they were doing.

Charlotte also chose an image of a virtual space. However, instead of taking the photo herself, she selected Contractor's (2020) electronic image of a videoconference screen with multiple participants. Interestingly, Charlotte guided me through the image by highlighting each material aspect of the photo and explaining how they all connect with one another; her method of describing her photo seemed as if she was articulating a multicausal entanglement. In addition, Charlotte described how she had to "*think about this photo because I just I have so many ideas, but I wanted it to be like portrayed.*" The entangled way Charlotte's photo became highlights

how images and photos are beyond representational, because even if one does not capture the photo themselves, the process of selecting it also produces possibilities for teachers to shape their perceptions and profession.

Charlotte used the participant “*in the bottom right corner with the two kids in the background*” to emphasise how her students were in their own *bubble*. The *bubble* denotes the repercussions of space-time intra-actions, which in this case was the spatial configuration of the school space due to the temporal nature of COVID-19, where Charlotte and her students were isolated within their own physical environment and had to deal with certain challenges on their own such as internet disruptions.

And once you're gone all these things [online platform] will disappear. As the connection is lost, everyone disappears, and then you're in your own bubble, you're back to figuring out how to do it on your own.

The “disappearing” phenomenon indicates how space-time intra-actions heightened the transience of the teaching and learning space. In addition, Charlotte and her students’ physical environments were intra-acting in this entanglement and “*everyone in this photo is feeling different*” because they were experiencing disparate situations in their respective environments.

It's hard to focus because they may have very young siblings, there's tantrums going on sometimes and then they get embarrassed, and they have to mute themselves. It's a lot going into their privacy of their own home, which is something that in-person before even virtual, before COVID, their home life was very separate.

The excerpt above accentuates how the spatial re-configuration of schooling blurred the line between the students’ school and home life and merged them together. The students’ parents/guardians were also entangled in this phenomenon because they felt obligated to help

their children with school since they were in the same physical space; whereas if the students were at school, then the parents/guardians would not be helping them. From an agential realist perspective, the blurring and merging is actually an opportunity to realise that the students' school and home lives were never separate; rather an agential cut was made when the students were traversing between their home and school spaces before the pandemic. By acknowledging the inseparability of the students' home and school lives, Charlotte gained a deeper understanding of their behaviours, and was able to empathise with them. As a result, teacher agency was becoming because as Charlotte notes in the excerpt below, this entanglement caused her to change her pedagogical decisions.

Like one is sleeping on the desk, they're not engaged so it's just, even in this COVID time, in-person, online there's always going to be someone you're going to lose. It's hard to keep the engagement virtually or in class when you're changing your way of teaching.

Furthering the complexity of this entanglement, Charlotte used “*the person that's blurry in the bottom*” as a metaphor to describe how it was challenging for the students to navigate the virtual space because it was novel to them. The excerpt below highlights how the intra-actions between Charlotte, her students, and the virtual space was changing her class' communication processes.

It seems like they're there, it seems like it's okay, but really, they have no idea what's going on, and they're not comfortable telling you over screen that they don't understand. Maybe they're really shy in class, and they would normally go up to me like 'is everything okay,' but you lose the sensitive side to those kids that need it, they need those little side chats. If I set up a one-on-one interview with him, he probably still wouldn't tell me. In-

person it's very easy to be like, 'is everything okay,' 'oh no I'm not feeling well today,' 'I just need to rest'. But you miss all of that, you miss the human connection side.

The physical distance that emerged from the re-configuration of the schooling space diminished the students' sense of comfort with reaching out to the teacher for support. Within this phenomenon, teacher agency was becoming where Charlotte was losing the quality of the communication she had with her students in the physical school space.

Lastly, Charlotte used the participant in the centre of the photo to describe how she, as the teacher, was the “*the centre of instruction*” and “*the centre of how things are selected, the content you use*”. The students relied on her to address concerns and uncertainties during a time of crisis. The centre of the photo, as a spatio-material characteristic, provided Charlotte with the opportunity to describe how teacher were becoming because she had to make the decisions on how to navigate the virtual space. As a result, student agency was also becoming because the students depended on Charlotte to call the shots and as a result “*there's not as much student voices as there would have been in the past*”.

Unlike Hai and Charlotte, Ocean captured her teaching space in the physical environment. In Ocean's photo, her technological devices, including a laptop, iPad, and phone, are stacked together on her kitchen table (Photo 5).

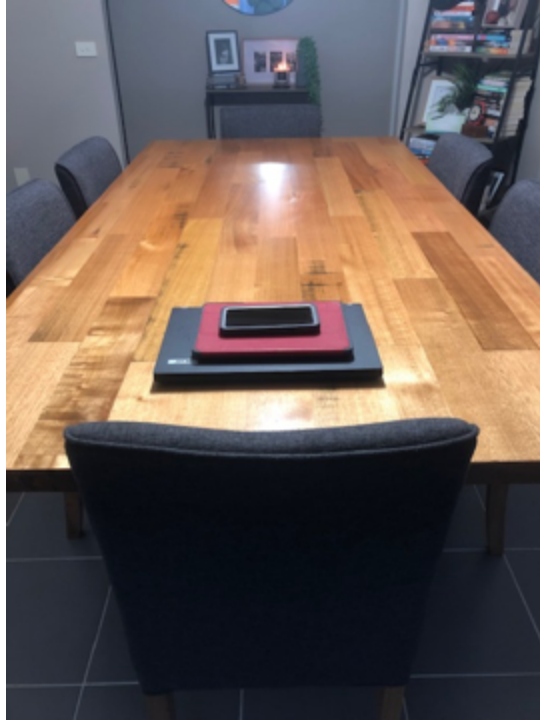


Photo 5: Ocean's photo of her technological devices on her kitchen table

When Ocean was teaching online, she found it was challenging to support her students in the virtual space. She also felt her purpose as a teacher had shifted as well.

Sometimes, the teaching of the content was put on the back burner because the communication needed to be about the children or the parents/guardians' wellbeing. And in order to do that [support student] during COVID, you couldn't sit down with them and give them a hug and say it's gonna be okay. You sort of had to depict that empathy or that sympathy, via a screen. And to do that, I needed all three devices.

Since Ocean was not in the same physical space as the students, Ocean opted to contact the students' parents/guardians to relay any issues or insights she had about the students. Ocean chose to use all three devices to maximise the possibilities of getting in touch with the parents/guardians.

Sometimes we couldn't access the online devices, so I would often email them the plan, or we would FaceTime rather than jumping on Webex, or sometimes the technology might glitch and I'd have to use the other one.

Within this entanglement, Ocean was intra-acting with her students and their parents/guardians to provide emotional support. Ocean's three devices were intra-acting with the human-nonhuman phenomena to render multiple lines of communication. COVID-19 and the virtual space were space-time re-configurations that were also intra-acting with these phenomena to produce the conditions for Ocean to pursue this line of communication. Hence, teacher agency was becoming in this entanglement because Ocean amended her purpose as a teacher, and she had to change her modes of communication with the students and parents/guardians accordingly.

So, I felt like during COVID my biggest asset was my communication skills. And in order to do that, I desperately needed my phone, my laptop, and my iPad to be successful each day.

In addition, Ocean included her kitchen table in the photo because that was where she was teaching and working. What she *"found really difficult during COVID was having that home life balance"* and would sometimes work until late at night. This phenomenon was produced by spacetime-mattering, where COVID-19 intra-acted with Ocean's remote teaching space and changed her teaching time and space. Moreover, the Ocean's devices and her kitchen table were integral material phenomena in this entanglement because their intra-actions provided Ocean with *"access to those communication tools 24/7 and they were at my at my kitchen table 24/7"* further propagating the phenomenon of perpetual teaching time and space.

Abdullah was teaching in-person at the time of the interview, and he also captured his physical teaching space. In his photo, he and his students are sitting in a circle in an outdoor environment (Photo 6).



Photo 6: Abdullah's photo of his class in an outdoor environment

He explained how the crux of his photo was how they were sitting outside.

So, you'll notice that some students are sitting cross legged. Some are kind of slouching; some are not looking directly at the teacher. Some might even be leaning over and talking to a friend. I think for me, one thing people really forget when teaching kids, is that they're kids.

Abdullah believed teacher and student agency were becoming through his relationships with his students, because his students were able to choose how to sit and it aligned with his pedagogical belief that students would still remain engaged in their learning. However, a further exploration illuminates how this phenomenon of the simultaneous becoming of teacher and student agency was produced through multiple causes. First, Abdullah and his class were able to sit outside because COVID-19 was intra-acting as temporal phenomena, and it was deemed safe

for groups of humans to sit together in outdoor environments. Second, Abdullah mentioned that he could take his class outside only if he carried a walkie-talkie with him in case he needed to correspond with admin and staff in the physical school; hence the walkie-talkie, as nonhuman phenomena, and Abdullah's human intra-actions with admin and staff were also significant within this entanglement. Lastly, Abdullah highlighted how the situated nature of the students defied predefined hierarchies between the teacher and students.

They [the students] almost learned better because they say this teacher is not looking at us, like looking down on us but almost like you can see the teacher, both the ones sitting on the right and left, they're sitting with the students and nothing above them

Enactments such as *looking at* versus *looking down on us* do not emerge solely from human intra-actions but are material characteristics of human phenomena themselves. Hence, an analysis of Abdullah's photo elicits the importance of acknowledging how matter and its material characteristics are significant where teacher agency is becoming, which cannot be solely attributed to human intra-actions.

In summary, all four teacher participants highlighted physical attributes of matter, with Hai focusing on the grey colour of her Zoom screen, Charlotte pointing out the blurriness and centered portions of the videoconference image, Daisy juxtaposing her technological devices with her kitchen table to denote spacetime mattering, and Abdullah describing how his students were physically situated in the outdoor environment. The four cases in this theme accentuate the significance of nonhuman phenomena and their materiality, and their intra-actions with teaching spaces where teacher agency is becoming.

7.4 Thematic horizontal rendering 3: Material metaphors

During the photo-elicitation process, Luby, Morgan, and Tee utilised materials to create metaphors to describe how teacher agency became in their relative practices. As Heikkilä and Mankki (2021) note “Material metaphors matter because they seemed to help teachers to make sense of their agency in concrete terms” (p. 8). However, it is also important to emphasise that material metaphors are material-discursive practices, which means that they do not represent reality, but they intra-act with human-nonhuman phenomena in producing reality. As such, teacher agency can become through the use of material metaphors, because it provides teachers with the opportunity to use their material experiences to describe and impact their decision-making processes.

Luby created a metaphor out of a box of washi tapes that she captured in her photo (Photo 7).



Photo 7: Luby's box of washi tapes

Luby detailed the material characteristics of the box of washi tapes to create her metaphor.

You can see that it comes in a lot of different colours. It comes in this set, but you can use any of it from different sets. You can mix and match or you can follow the sets. So

basically, I chose the washi tapes as my agency because my agency allows me to be as creative as I want. I can mix and match, you know?

The beauty of washi tapes is once you put it on, you can always take it off too. And it still stays sticky. So, it's like you can make mistakes, you learn from those mistakes, and you can still make different choices in different directions.

Luby intra-acted with the material characteristics of the washi tapes, including its range of colours, its removable feature, and its stickiness to create a metaphor about how teacher agency was becoming for her because she could be creative and flexible in her teaching practice. In addition, she also used the box and its intra-action with the washi tapes to describe how teacher agency was becoming.

I put it in this box that has removable dividers because I feel like I can divide how I teach things in different ways, and I can always take it out if I don't think it works. But I put it in a box because like I said, there's still some limitation to my agency based on the curriculum or some of the policies that my school board puts on us. Like most of the time I do agree with them, but sometimes you're a bit like what? So that's why it's in a box.

In this excerpt, it is apparent how the intra-action between the box and the washi tapes was synonymous with Luby's intra-action with external expectations such as curriculum or school board policies. Luby's use of the box of washi tapes as a metaphor highlights the nonlinear manner in how teacher agency was becoming, because while Luby felt she could be creative and innovative in her profession, she also believed those decisions were subject to the discretion of external expectations. To further the complexity, Luby's emotional attachment, to the washi tapes was intra-acting in this entanglement.

Washi tapes make me feel really happy too in general. And gives me a lot of motivation to be very creative. So, like, it's sparking my creativity and when I feel creative, I just want to do a lot in terms of my classroom.

Luby's emotional attachment to the photo was a significant intra-action in how her photo became because the box of washi tapes reminded her of the creative decisions she would make in her teaching practice. Her use of the washi tapes as material metaphor spurred another material metaphor where she referred to her capacity for new ideas as "*this ocean, like an empty ocean in how I want to approach teaching.*" This complex entanglement emphasises the importance of acknowledging the significance of human-nonhuman (im)materiality where teacher agency is becoming.

Meanwhile, Morgan selected an electronic image by the New York State Education Department (NYSED) ([n.d.](#)). She described the image as "*a black and white photo of what I'm assuming is the office of the New York State Education Department. It looked like it's been sketched*".

Morgan used the materiality of the image to create a non-dichotomous metaphor by characterizing the NYSED building as both "*archaic*" and "*regal*". On one hand, she explained that the NYSED was archaic because "*the columns and the fact that it was in black and white, just sort of reminds me of that archaic one room schoolhouse structure that they expect you to somehow incorporate UDL&DI [Universal Design for Learning and Differentiation Instruction] with a script.*" This excerpt exhibits how Morgan was intra-acting with the materiality of the NYSED building in the photo and the photo itself — which in this case were the columns of the building and the black and white colour of the photo — to explain how the policies and practices around scripted pedagogies were obsolete and outdated.

On the other hand, Morgan thought the NYSED building was regal as well because New York teaching certification was highly revered in the United States. However, even Morgan's explanation of the regal nature of the NYSED was nonlinear, because despite appreciating the value of New York teaching certification, she also lamented the cumbersome process of obtaining it. The excerpt below captures Morgan's nonlinear sentiments.

You know, this is the New York State Education Department and New York State prides itself on being one of the most pain in the butt states to get a certification in. And from what I've heard from teachers and other states even was that once you get a certification in New York State, you're set for the rest of the country because it's just such a pain in the butt. There's so much bureaucracy and fee paying and hoop jumping and so that was another thing it reminded me of was like "the government" and you know, "the bureaucracy" and the hoop jumping and the money grabbing.

Furthering the complexity, Morgan also elaborated on her personal experience of getting certified in New York, and how it had been a challenging process for her. She had to submit an application, translate her university transcripts into "New York State language" before sending it through, and apply for master's degree programs since teachers in New York needed a master's degree to become fully certified. In addition, Morgan said she might have to complete some undergraduate courses on the subjects she wanted to teach since it was a requirement in New York, but not in Canada where she completed her teacher preparation program. The application process was producing multidirectional effects because even though the process was stressful for Morgan, she was also hopeful it would be fruitful for her in the long run.

So, I'm working on all that, but I'm hoping by the end of it all, I'll have a lot of professional development. I'll have two bachelor's degrees and a master's degree. I'll be able to teach in two different countries.

As such, Morgan's multidirectional sentiments on the New York's certification process emerged from multiple causes, including the intra-actions between her enduring the certification process, her experiences traversing between Canada and the United States, and the national perception of New York certification. Within the intra-actions between Morgan, the photo, the NYSED building, external policies and expectations for teachers, and the certification process, teacher agency was becoming where Morgan felt constrained in the types of decisions she wanted to make in her teaching practice. In the excerpt below, Morgan utilised the columns of the NYSED building to create another material metaphor, but this time she used it as a metaphor for confinement.

It actually kind of looked like those columns of the building were bars of a prison cell because you're just going through the motions, you're doing what you're doing, what you're told to do by your administration, by the state. At the state level, you have your curriculum, and you have your checklist. And then at the administrative level or at the board level, you're given words on these resources. And most of your day it's not anything that you have control over.

Morgan leveraged the materiality of the NYSED building by drawing an analogy between the columns of the building and a prison cell to explain how she felt confined in her profession. This bleak outlook implies that Morgan had strong sentiments about the constraints of her teaching practice, and the photo-elicitation process and use of material metaphor helped her express those intense emotions.

Tee also used material metaphors to articulate the challenges she experienced in her teaching practice. She selected an image of an individual wearing many hats (Photo 8).

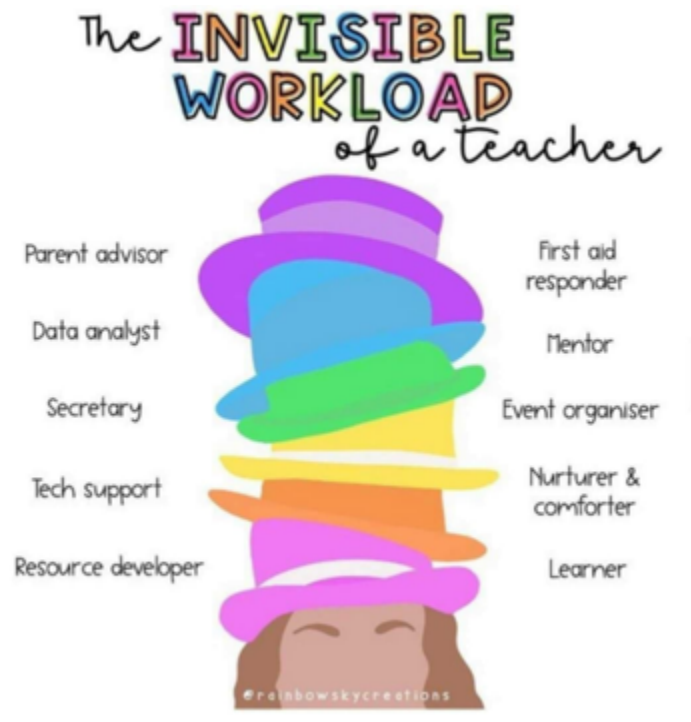


Photo 8: Tee's selected image of a person wearing many hats

Note: From *The invisible workload of a teacher* [Online image], by Alisha Giese, Rainbow Sky Creations (<https://www.instagram.com/p/CrffA0wvtKB>).

Tee analogised the stack of hats to the numerous undesignated roles she had to enact as a teacher and explained how “*you just wear all these hats, and it's like, you don't see it right, you don't see all these hats we're [teachers] wearing it's like that's the invisible workload*”. Tee detailed the roles she was playing especially during the pandemic including: a parent advisor because “*some parents come to you, and you have to give advice on what they could do at home or what their student could do at home*”; data analyst because she had to “*to take on the assessments and then see where students are at in terms of learning*”; tech support because she was helping students navigate the virtual space and address issues such as cyberattacks; mentor

for her teacher colleagues because *“we share our resources and then we help each other out with things that we're not experienced with but others have”*; an event organiser by planning activities to keep the students engaged; nurturer and comforter for students to help them during a time of crisis; and a learner because as a teacher, Tee was always learning something novel such as how to solve technical issues and how to communicate with parents/guardians.

After dissecting each individual role, Tee remarked *“when you break it up [the roles], you're like well, it's part of the job but also, you're doing 10 other jobs that have a name to it”*. However, from an agential realist perspective, the additional roles would not be broken up and regarded separately; rather it is imperative to understand how these roles are entangled together in producing the phenomenon of the invisible workload. The invisible workload emerged through spacetime-mattering between Tee, her students, the students' parents/guardians, and the virtual space. Moreover, COVID-19 as temporal phenomena created a sense of uncertainty and urgency and illuminated how teachers, like Tee, had to take on additional roles as a teacher because as frontline workers, they were the primary point of contact for students and their parents/guardians. COVID-19 also propagated the invisible workload through its intra-action with the virtual space causing teachers like Tee to provide additional technical and emotional support to students and parents/guardians. Within this entanglement, teacher agency was becoming where Tee had to perform additional unexpected responsibilities in her profession. The invisible workload, and teacher agency, also became through the enactment of the photo-elicitation itself. The excerpt below highlights how Tee became aware of her invisible workload through the photo-elicitation process.

I looked at this photo for a good maybe 10 minutes. Like the other day I thought, wow, it's more than just the invisible workload it's like, this is something you're going to be

doing for life if you decide to commit to this job, and not think about like it being like 10 different jobs but as you think about it as just being a teacher. That's your role as a teacher, but then you're also catering to all these different parts of being a teacher, which is like a learner and nurture comforter and all that stuff. Yeah, I just never realised until I saw this picture, like this is so true.

Tee, Morgan, and Luby all mentioned that they spent a significant amount of time reflecting while creating and selecting their photo. Their thorough thinking process not only illuminates the utility of material metaphors in helping teachers explain how agency is becoming, but it also highlights how photo themselves involve beyond representational processes that are intra-acting in the entanglements where teacher agency is becoming.

7.5 Diffractive Summary of Photo-elicitation Emergings

In this subsection, I will revisit the research questions through a diffractive reading of the five illustrative cases *through* each other to illustrate the possibilities produced when using photo-elicitation as a method to embark on a new materialist exploration of how teacher agency is becoming.

First, the photo-elicitation process itself emerged as significant phenomena that intra-acted with human-nonhuman phenomena where teacher agency was becoming. Most of the participants explained how they devoted a significant amount of time to the photo-elicitation process, with Morgan preparing bullet points to describe her photo, and Daisy, Charlotte, Tee, and Luby citing how they were iteratively re-thinking through the process. Compared to the other interview questions and prompts, the discussions about the photos elicited the most insight on the material significance when teacher agency is becoming. A probable reason is participants might have found it easier to recall their intra-actions with materials through visual, rather than

verbal or written, prompts. Collier (1957), who coined photo-elicitation, also found photos helped sharpen memory and alleviated the fatigue of participating in interviews.

Even the teacher participants who selected an electronic image, rather than taking a photo themselves, used the materiality of the image to describe how teacher agency was becoming. Charlotte utilised locus and form to describe the intra-actions between teachers and students, Morgan leveraged the physical attributes of the NYSED building to describe the confinements of teaching, and Tee used the formation of a stack of hats to shed light on her intensified workload. Even though their photo-elicitation process became differently from the participants who captured their own photos, they were still able to provide rich insights on how teacher agency was becoming for them. The photo-elicitation process also provided an opportunity for Luby, Morgan, and Tee to create material metaphors to describe how teacher agency was becoming. Even Charlotte created a material metaphor, though it was not the primary purpose of her photo, citing how the failed internet connection depicted in her image was a metaphor for the disconnection between her and her students. Again, these emergings illuminate how visual phenomena are beyond representational because they do not depict onto-epistemologies, they shape and change them.

In addition, the photo-elicitation process helped the participants identify multicausal human-nonhuman intra-actions in that there were no linear or single casual performances; rather the dynamic intra-actions between human-nonhuman phenomena were impacting and changing each other in multiple ways. For example, Charlotte guided me through each aspect of her image and explained how they all impacted each other in multilateral ways. In addition, it was apparent from the emergings that the teachers and their teaching materials were re-configuring each other, such as VPS' pedagogical choices and the purpose of paper, Neesa's pedagogical choices and

types of writing tools, and Luby's creative pursuits and the purpose of the washi tapes. Morgan also shared nonlinear sentiments when she explained how the NYSED's certification process felt cumbersome yet prestigious. Like [Chapter 6](#), the emergings from this chapter emphasise how teacher agency, and human-nonhuman phenomena in general, are becoming through nonlinear intra-actions. Again, the significance of multicausality is further discussed in [Chapter 8: Discussing](#).

In terms of the significance of spacetime mattering, space emerged as significant phenomena, both in the photos and the photo-elicitation process itself. Hai, Charlotte, Ocean and Abdullah participants captured their teaching spaces in their photos, and they articulated how human-nonhuman matter were situated in space, including what Hai's students were doing beyond the grey screen, how Charlotte's students were constrained in their communication options because of their videoconference windows were all situated on one page, and how Abdullah's students were sitting in the outdoor environment. Even though VPS, Daisy, and Tee's photos did not explicitly focus on space, their teaching spaces impacted the photos they took, with VPS capturing tangible materials because he could use them in-person, and Daisy and Tee capturing the pedagogical tools they were using in their remote spaces.

The photos also illuminated how COVID-19, as temporal phenomena, impacted student engagement causing participants like VPS and Neesa to seek novel pedagogical resources. In addition, Daisy's photo displayed the temporal entwinement between COVID-19 and the epoch of digitalisation in changing the types of teaching resources she was using. As apparent in Daisy, Ocean, and Tee's photos, COVID-19 produced multicausal effects by both accentuating and intensifying teachers' workload. Students and parents were intra-acting in this entanglement where they were demanding more support, signifying how teachers were regarded as the primary

source of contact. Hence, the photo-elicitation emergings explicate the transient nature of space, time, and matter because their intra-actions impact and change each other (Barad, 2003, 2007, 2017, 2018).

Even though I engage in an in-depth exploration of the significance of thinking with new materialism and agential realism in [Chapter 8: Discussing](#), it is worth noting a few key points in this chapter on the significance of thinking with these theories when enacting photo-elicitation as a method. First, the photo-elicitation process and data elicited valuable insight on the power dynamics of the teaching profession. For example, Morgan's material metaphor of her teaching practice being akin to confinement in a prison cell is one of the starkest insights on the sense of powerlessness in the teaching profession. Thinking with new materialism and with agential realism accentuates the significance of materiality, including Morgan's intra-actions with the photo and metaphorical prison cell, in producing possibilities for teacher agency to become. In addition, thinking with these theories highlights the response-ability to acknowledge material-discursive practices that illuminate the extant power imbalances in the teaching profession (Barad, 2007).

In addition, the photo-elicitation process and data also illuminate the causal significance of apparatuses including the researcher, methodologies, and methods. For example, Tee explicitly said she was not aware of her multitude of responsibilities until she enacted the photo-elicitation process. Not only does this enactment impact how teacher agency is becoming but it also highlights the power apparatuses have in making marks on bodies in the teaching profession. [Chapter 8](#) further explores the implications of apparatuses re-configuring and being re-configured by the power dynamics in the teaching profession and re-conceptualisation of how teacher agency is becoming.

7.6 References for electronic images

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Chapter 8: Discussing

Making a difference cannot be traced to our intentions, but differences come to matter and emerge through our research practices.

Hayes and colleagues (2020, p. 367)

8.1 Chapter Overview and Purpose

The purpose of my thesis is to explore the significance of thinking with new materialism, specifically agential realism, to re-conceptualise how teacher agency is becoming. This chapter in particular is a diffractive analysis of the insights from this thesis and how they are intra-acting in re-conceptualising how teacher agency is becoming. Most importantly, in this chapter I re-conceptualise teacher agency as *teacher agencies* and describe what that means. This chapter both informs and is informed by the becoming-questions of this thesis:

Main question: What is the significance of thinking with new materialism to re-conceptualise how teacher agency is becoming?

Sub-questions:

1. How is teacher agency becoming through human-nonhuman intra-actions?
2. What is the significance of spacetime mattering when teacher agency is becoming?
3. How does power materialise when teacher agency is becoming?

I begin by re-turning to Chapters 1–7, and describe how the insights from each chapter produced conditions of possibility for [Chapter 8](#) to become, and this chapter produces conditions of possibility to re-turn to Chapters 1–7 and gauge the insights through re-conceptualising teacher agency. Next, I re-conceptualise teacher agency as *teacher agencies*, and explain how: (1) I am diffracting through the extant scholarship on teacher agency; (2) *teacher agencies* differs from teacher agency; (3) *teacher agencies* is a material-discursive practice that reinforces

key tenets of new materialism and agential realism; and (4) teacher agencies is an apparatus that helps identify the causes and effects of whether the possibilities emerge for teachers to shape their practice. Please refer to [Chapter 2.5: Table of Key Terms and Concepts for this Thesis](#) for the terminology I use in this thesis.

8.2 Re-turning to Chapters 1–7

In this subsection, I re-turn to Chapters 1 through 7 and describe how they are together-apart with [Chapter 8](#) in illuminating the significance of this thesis. I am *re-turning* to the chapters to emphasise how each aspect of this thesis is becoming through space-time re-configurations, and how the insights from each chapter can provide different insights depending on what is being explored and the apparatus that is crafted. As such, Chapters 1–7 produced conditions of possibility for [Chapter 8](#) to become, and this [Chapter 8](#) produces conditions of possibility to re-turn to Chapters 1–7 and gauge the insights through a re-conceptualisation of teacher agency.

In [Chapter 1: Introducing](#), I establish the nonlinear and nonrepresentational nature of this thesis, which produced conditions of possibility to describe the processual dimensions of each chapter. In addition, I describe the purpose of this thesis — which is thinking with new materialism in re-conceptualising how teacher agency is becoming. I explain how this exploration is significant the way teacher agency is re-conceptualised matters because it shapes: (1) how teachers are understood; (2) power dynamics for teachers; and (3) how teaching profession are problematised (Aspbury-Miyaniishi, 2022; Heikkilä & Mankki, 2021; Priestley et al., 2015). In addition, re-conceptualising teacher agency has ethical effects because the power dynamics can impact teacher and student wellbeing, since they are both inextricably entangled. Lastly, new materialist explorations of teacher agency are a nascent area of research, which implies there is significant potential to gauge novel insights.

The entanglement between [Chapter 4: Literature Cutting](#) and [Chapter 1](#) is particularly salient because [Chapter 4](#) elaborates on the purposes and boundaries mentioned in [Chapter 1](#) for case-entanglements to emerge. It was imperative to make the agential cuts and produce boundaries for this research study because entanglements are intricate and complex, and narrow foci make it easier to explore those specificities (Barad, 2007). By narrowing the focus to public school primary teachers in Australia, Canada, and the United States, I garnered the opportunity to explore specific foci in how teacher agency is becoming including how state governance and mainstream primary teaching practices are intra-acting within this entanglement. [Chapter 8](#) specifically highlights the significance of the emergings from this thesis for the bounded foci and implications for transcending these boundaries.

In addition, in [Chapter 8](#), I highlight the thesis' contributions to knowledge by diffracting through the insights of the literature cuts from [Chapter 4](#). By diffracting through the literature cuts, I am acknowledging the relational nature of knowledge-making, where my contributions are only possible *because of* the extant scholarship. Lastly, I re-turn to the working definition of teacher agency that I produced in [Chapter 4](#) — that teacher agency is an enactment emerging from human-nonhuman intra-activities, and where teachers are making decisions in their profession because of the intra-actions between teachers and human-nonhuman phenomena.

In [Chapter 2: Theoretical Framing](#), I described the theoretical foundation of this chapter, including the nonlinear emergence of new materialism and why I chose agential realism as the specific new materialist framework to think with. I explain how Karen Barad (2003, 2007) created a nonrepresentational framework to emphasise the inseparability between human-nonhuman phenomena, material-discourse, subject-object, and research-researcher. The notions of post-humanist performativity, intra-action, and entanglement fortify the agential realist's

relational ontology: that knowledge and being emerge and become within relations. Lastly, I describe diffraction and spacetime-mattering and how these concepts emphasise the indeterminate nature of agential realism and new materialism at large. This chapter is integral because I think with these concepts throughout the thesis. For [Chapter 8](#), in particular, it is crucial to think with Barad's (2007) emphasis on the inseparability between ethics, existence, and knowledge — which they term an ethico-onto-epistemology. It is important because thinking with a relational ontology highlights how human-nonhuman phenomena are inseparable from impacting each other or making marks on bodies. As such, as I discuss the impact of this research, it is important for me to understand who and what I am impacting and endeavour to minimise any harm and injustices.

While I describe how the thesis has been becoming through the chapters, I delve into it in-depth in [Chapter 3: Tanjin is Becoming](#) and [Chapter 5: Research Process is Becoming](#). In [Chapter 3](#), I describe how I have been paradigm shifting from positivism, to interpretivism, and then (finally) to a nonrepresentational paradigm. I explain how paradigm shifting has helped me understand that the circumstances I experienced while writing this thesis impacted the research process itself. In [Chapter 5](#), I describe how thinking with new materialism and agential realism prompted me to re-think what constitutes data and methods, and how the case-entanglements emerged within the boundaries of this thesis. Through these two chapters, I attempt to destigmatise the nonlinear nature of research, where it should be encouraged to make multiple changes and engage in various re-iterations of research components. These chapters are fundamental in understanding the inseparability between researcher-research and the re-conceptualisation that I will describe in [Chapter 8](#) would not be possible without my experiences of becoming and the research process becoming.

In [Chapter 6: Illustrative Case-Entanglements Emergings](#) and [Chapter 7: Photo-elicitation Emergings](#), I share key insights from the interview and photo-elicitation data that I generated with teacher participants. I highlight how data is not representational by describing how the re-configuration of the apparatus, which in this case was traversing between interview and photo-elicitation methods, produced novel insights on how teacher agency is becoming. In addition, I emphasise throughout the chapters that the interview and photo-elicitation data are not the only phenomena from which the case-entanglements emerged. This is why [Chapter 8](#) is pivotal, because in this chapter I think with new materialism in exploring the intra-actions between all the chapters to re-conceptualise how teacher agency is becoming.

In this current chapter, I gradually include insights from other chapters to pinpoint how specific aspects from each chapter impact how teacher agency is becoming and produces marks on bodies. From [8.3: Re-conceptualising Teacher Agency to *Teacher Agencies*](#), I diffract with [Chapter 2: Theoretical Framing](#) and [Chapter 4: Literature Cutting](#) to illustrate my re-conceptualisation from teacher agency to *teacher agencies*. In addition, I explore the intra-actions between the interview and photo-elicitation emergings from Chapters [6](#) and [7](#) to fortify this re-conceptualisation from teacher agency to *teacher agencies*. This way, I am grounding the theory with practice, because as Barad (2007) emphasises, material and discourse are inseparable. In [8.4: Thinking with *Teacher Agencies* for Policy and Practice](#), I explore the aforementioned chapters in-depth to describe the implications for thinking with *teacher agencies* for policy and practice within the boundaries of public school, primary school teachers, and Australia, the United States, and Canada.

Tracing the intra-actions between these chapters was not an easy task. I created a chart using pen and paper to trace the entanglements, because the material-discursive practice of

writing with tangible nonhuman phenomena helps me produce insights differently from I when intra-act with my laptop and keyboard. Figure 14 below is a photo of the chart I created.

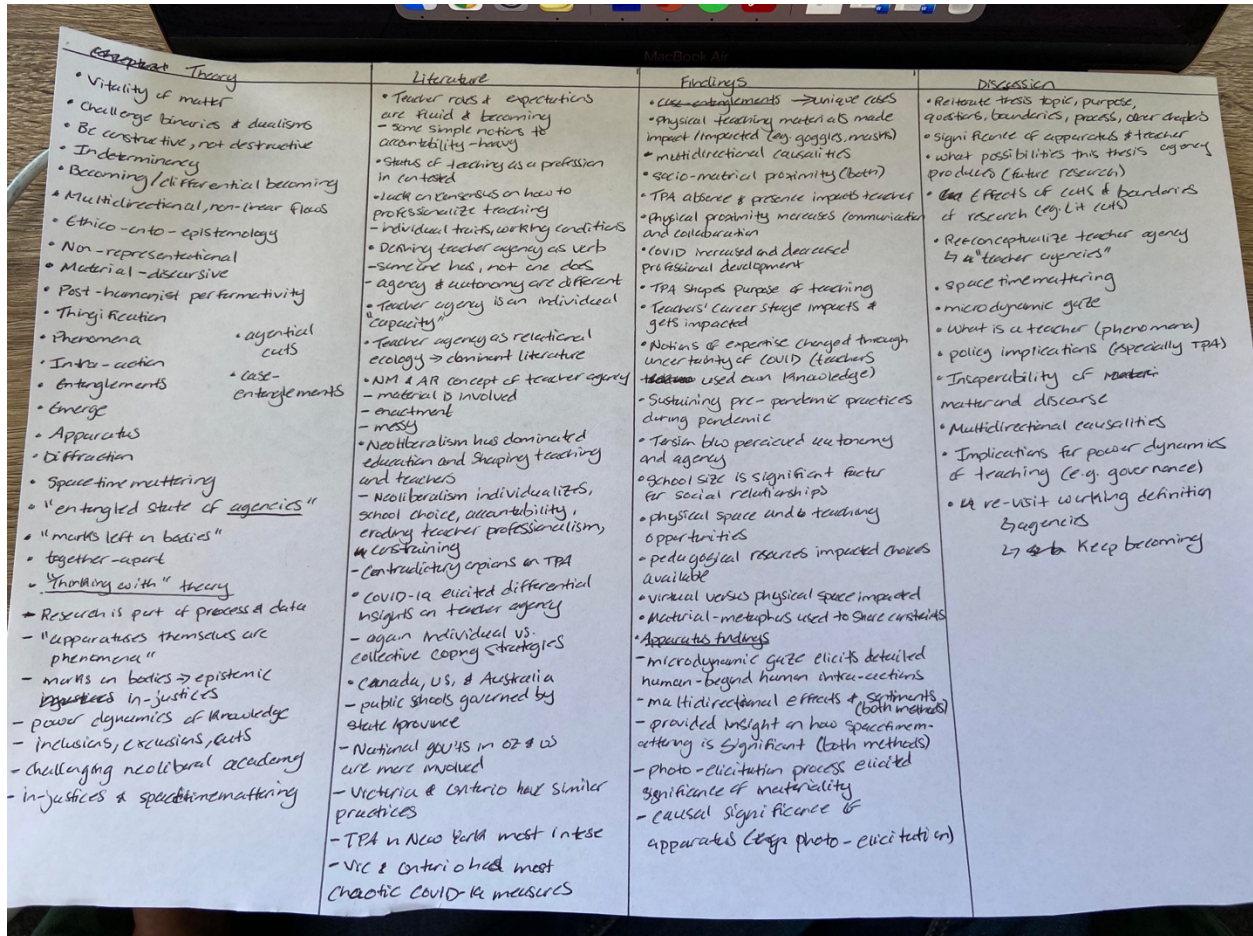


Figure 14: Tracing entanglements with tangible materials

8.3 Re-conceptualising Teacher Agency to Teacher Agencies

In this subsection, I am thinking with new materialism and agential realism to conceptualise how teacher agency is becoming, by re-conceptualising teacher agency as *teacher agencies*. Before I describe how *teacher agencies* are becoming and their implications for the teaching profession, I re-turn to the literature on teacher agency. As Foucault (1982) argues "We have to know the historical conditions which motivate our conceptualisation. We need a historical awareness of our present circumstance" (p. 779). Of course, historical conditions do not sit in the past, since

they are re-configured through its intra-actions with space and matter (Barad, 2007). However, it is imperative to pinpoint the conditions themselves, and the condition in this case is the scholarship on teacher agency.

In addition, I explain in [Chapter 4.9: Diffracting Through the Literature Cuts](#) that I am using a diffractive approach to contribute to scholarship; as such, I need to understand how the current and past scholarships produced conditions of possibility to re-conceptualise how teacher agency is becoming. After re-turning to the scholarship, I define what *teacher agencies* are and how it differs from teacher agency. I also explain how teacher agency is a material-discursive practice in reinforcing new materialist and agential realist concepts, and how it is also an apparatus that explores the causes and effects related to possibilities for teachers to shape their practice. In addition, I describe the ethical response-ability entailed in thinking with teacher agencies and why it is pertinent to re-conceptualise teacher agency into teacher agencies. After explaining what *teacher agencies* means, I use the case-entanglement of Morgan to illuminate how *teacher agencies* are becoming, and to illustrate what a re-conceptualisation from teacher agency to *teacher agencies* looks like.

8.3.1 Re-turning to conceptualisations of teacher agency

As I discuss in [Chapter 4: Literature Cutting](#), most of the literature on teacher agency focuses on the humanist notion of teachers' experience with agency, where teachers make decisions that shape their profession. In the past few decades, scholars have diverged from conceptualising teacher agency as an individual capacity and instead argue that teacher agency is an occurrence that emerges from an ecology of relationships (Ashton, 2021; Biesta et al., 2015; Campbell, 2019; Eteläpelto et al., 2013; Priestley et al., 2013, 2015). The ecological model purported by Priestley and colleagues (2013) has teacher agency being *achieved* through the teachers'

relationships and engagements with their beliefs and actors from macro, meso-, and micro-level structures.

Based on this relational model, teacher agency denotes the “quality” of relationships (Biesta et al., 2015; Priestley et al., 2015). In addition to the relational dimension, the ecological model also asserts that teacher agency is a temporal phenomenon, where teachers' prior beliefs inform how they act in their present circumstances and plan for the future (Priestley et al., 2013). In-line with a relational ontology, most of the humanist literature uses verbs to conceptualise teacher agency, emphasising how agency is an occurrence, not an individual attribute. In addition, agency and autonomy are regarded as discrete concepts, where autonomy refers to the absence of regulation for teachers (Ashton, 2021; Priestley et al., 2015; Lennert da Silva & Mølstad, 2020). In this way, teachers might not achieve agency because they do not have the cognitive capacity or pertinent relationships to shape their profession (Priestley et al., 2015).

In the new materialist literature, conceptualisations of teacher agency are also based on a relational ontology, except there is a significant emphasis on the agency of nonhuman phenomena as well (Appadoo-Ramsamy, 2023; Charteris & Smardon, 2018; Heikkilä & Mankki, 2021; Naraian, 2022). Scholars who use agential realism specifically to understand teacher agency describe how teacher agency emerges from intra-acting and entangled human-nonhuman agencies (Appadoo-Ramsamy, 2023; Naraian, 2022). Spacetime-mattering has also been utilised to emphasise how space and time are imperative phenomena in producing teacher agency (Appadoo-Ramsamy, 2023; Naraian, 2022). Appadoo-Ramsamy (2023) describes teacher agency as *becoming*, which is how I have also been describing teacher agency.

Interestingly, as I have been navigating the humanist and new materialist literature on teacher agency for the past four years, I noticed a sense of reluctance from scholars to explicitly

state what teacher agency is. As I also discuss in [Chapter 1: Introducing](#), teacher agency is not a well-defined concept (Priestley et al., 2015), and I could clearly see that in the literature. For example, some scholars who adopt the ecological model reiterate how teacher agency is achieved through relationships (Connors & Bengston, 2020; Crandall, 2021; Priestley et al., 2015), but what exactly is being achieved? An article by Biesta and colleagues (2015) is among the few that explicitly state what they mean by teacher agency, which is described as teachers' "active contribution to shaping their work and its conditions" (Biesta et al., 2015, p. 624).

A possibility for this hesitance could be the slippery slope in using certain words that produce potentially harmful material consequences. For example, conceptualising teacher agency as a "capacity" or "choice" implies that the locus of agency is within the individual entity (Aspbury-Miyaniishi, 2022; Priestley et al., 2015). Or stating one "has" agency in education implies an individual competency (Murriss, 2022). These scholars caution against using these words to conceptualise agency because it burdens an individual entity with further responsibilities (Aspbury-Miyaniishi, 2022; Murriss, 2022; Priestley et al., 2015). However, it is important to conquer this slippery slope because how teacher agency is conceptualised shapes teachers themselves (Aspbury-Miyaniishi, 2022; Heikkilä & Mankki, 2021; Priestley et al., 2015). I tackle this quagmire emphasised by the extant literature by highlighting throughout this chapter the implications and effects of re-conceptualising teacher agency into *teacher agencies*.

8.3.2 Re-conceptualising into teacher agencies

From Chapters 2 to 7, I have been using a working definition of teacher agency, where agency is a possibility for teachers to shape their practice. This possibility is enacted through human-nonhuman intra-activities. I created this working definition by thinking with agential realism, which asserts that agency emerges from human-nonhuman phenomena material-discursive

practices that cause specific changes or effects (Barad, 2007). In addition, this working definition also diffracts with the limited agential realist scholarship on teacher agency, where teacher agency is described as an enactment and is becoming through indeterminate re-configurations (Naraian, 2022).

However, as the case-entanglements were emerging, I realised if I am thinking with new materialism and agential realism, then the term “teacher agency” itself needs to be re-worked. An agential realist understanding of agency diverges significantly from the notion of agency as an individual capacity, because it is conceptualised as emerging causes and effects that are produced by intra-acting human-nonhuman phenomena (Barad, 2007). These flowing causes and effects are becoming as “entangled state of agencies” (Barad, 2007, p. 23). Naraian (2022) reinforces the notion of entangled agencies by asserting that when thinking with agential realism “human agency in this framing, is not the property of the individual, but one of many entangled agencies that produce the phenomena through intra-action” (p. 18). Even the concept of intra-action is rooted in the notion that entangled agencies emerge *within* human-nonhuman engagements. In contrast, agency in “teacher agency” in its singular form seems to indicate individualised capacity or achievement of a single entity, and the term does not adequately capture the complex re-working of knowledge, existence, and ethics that entails thinking with agential realism. Even though some scholars use the term “teacher agency” when thinking with agential realism, the literature is very limited, so there is a lack of substantive discussion on whether this term is pertinent in capturing the nonrepresentational, relational, and material nature of how agency is becoming. Hence, I would argue that thinking with agential realism and using “teacher agency” is *incommensurable* and a novel approach is required to reconcile this incompatibility.

As such, I argue that teacher agency should be re-conceptualised and referred to as *teacher agencies*. The *agencies* in this term refers to the causes and effects of the outcomes of whether the possibilities emerge for teachers to shape their practice. Hence, agency/ies does not refer to the emergent possibility, but rather the *causes and effects* of whether that possibility emerges. Teacher agencies is a pertinent term to use when thinking with new materialism and agential realism because it aligns with how agency/ies is understood through these lines of thinking. Referring to agencies in the plural rather than singular form aligns with an agential realist understanding that agency does not emerge on its own because it is enacted through other entangled agencies (Barad, 2007). This means the locus of agencies are within intra-actions and entanglements. In addition, it is apposite to use teacher agencies rather than agency because agencies as a plural word denotes that entanglements produce multiple effects that are caused by multiple intra-actions between human-nonhuman phenomena.

The insights from this thesis illuminate the notion of multicausality and multidirectional effects. As I explain in [Chapter 6: Illustrative Case-Entanglements Emergings](#) and [Chapter 7: Photo-elicitation Emergings](#), teachers' opportunities to shape their practice are becoming through multicausal intra-actions between human-nonhuman phenomena, and those intra-actions have been producing multidirectional effects. For example, in [Chapter 6.2: Case-entanglement of Tee](#), I explain how a school board mandate for teachers to wear goggles caused Tee to respond with bewilderment. This response was also caused by Tee's distant relationship with the school board. Another cause for that reaction was Tee's remote teaching space, because she was not keeping in touch with school-wide measures when she was teaching from home. In terms of multiple effects, the school board mandate also affected goggles because the goggles had a new role and materialised power over teachers who were teaching in-person at Tee's school. As such, teacher

agencies were becoming through multiple causes and, in turn, elicited multiple effects. I re-visit more examples from this thesis on emerging multicausality and multidirectional effects in Subsection [8.4](#) of this chapter.

In addition to the locus of agency and causality, re-configuring teacher agency into the plural form of teacher agencies helps propagate other key notions of new materialism and agential realism. First, teacher agencies acknowledges that agentic characteristics of human-nonhuman phenomena. There is no primacy placed on human or nonhuman phenomena; the only way of focusing on either is through agential cuts that produce specific effects. In that sense, teacher agencies also dispel the subject/object binary because specific agential cuts render human-nonhuman phenomena as temporary subjects and objects. Second, teacher agencies also denote the inseparability of space, time, and matter and how knowledge and existence do not sit in specific space-time points (Barad, 2007). As I have been arguing throughout this thesis, thinking with new materialism and agential realism entails re-configuring most dominant concepts such as the object-subject binary, the locus of agency, and the linearity of space and time (Barad, 2007; Coole & Frost, 2010; Murriss & Zhao, 2021). The *agencies* in teacher agency, as a plural word, helps to reinforce these notions because it does not carry the same connotation as its singular counterpart *agency*. Instead, agencies as a plural word provokes a consideration of the multiple phenomena that are involved, as opposed to a single entity. As such, reconceptualising teacher agency to teacher agencies is a salient method in reinforcing the new materialist and agential realist re-configurations I have described above.

Unlike my working definition of how teacher agency is becoming, which focuses on the phenomena and conditions that produce possibilities for teachers to shape their practice, the notion of teacher agencies focuses on how these agencies are multiple effects that human-

nonhuman phenomena produce when those conditions of possibility emerge or do not emerge. Hence, a significant implication of reconceptualising teacher agency into teacher agencies is the opportunity to trace both cause *and* effect. Thus far, the scholarship has been defining teacher agency as an effect emerging from an enactment, and that effect is the opportunity for teachers to shape their practice. On the other hand, teacher agencies are defined as entangled agencies that produce possibilities for teachers to materialise and shape their practice. This means teacher agencies are *always* becoming because intra-acting phenomena are dynamic in perpetually causing effects. As such, the focus is not just on identifying the phenomena involved in producing possibilities for teachers to shape their practice; the focus is also on what *causes* are behind *whether* those possibilities emerge, and what *effects* are produced from those outcomes. In-line with the nondeterministic tenet of new materialism and agential realism, the causes and effects of teacher agencies are not set in stone, but human-nonhuman phenomena can produce conditions for the possibility of the differential becoming of teacher agencies.

In that sense, teacher agencies are also an apparatus because it is an entanglement that illustrates the marks on bodies for human-nonhuman phenomena. Teacher agencies as an apparatus is re-configured by human-nonhuman phenomena, and this notion is illuminated by the insights from this thesis itself. For example, I explain in [Chapter 5: Research Process is Becoming](#) how the interview and photo-elicitation methods have been changing and becoming throughout my doctoral journey because of COVID-19 and its intra-actions with human-nonhuman phenomena. One of those changes was the shift from in-person to remote data generation. These changes impacted the teacher participants because they had to find access to technology and the space to talk to me.

Teacher agencies — with the new materialist and agential realist concepts it is undergirded by — re-configures how teachers and issues in teaching are understood. First, the notion of teacher agencies reinforces the impossibility of teacher autonomy because phenomena do not exist as a single entity; even the minutest forms of existence are becoming through intra-acting human-nonhuman phenomena. Teacher autonomy can only materialise through agential cuts and exclusions. For example, Priestley and colleagues (2015) define teacher autonomy as teaching practice without government regulation; this definition excludes other forms of regulative impacts on teachers such as administrative regulations. As such, when thinking with new materialism and agential realism, teacher phenomena can never be autonomous because no human or nonhuman phenomena are truly autonomous. The power dynamics for teacher phenomena can be understood through teacher agencies instead.

Second, teacher agencies re-configure an epistemic understanding of the teacher, as in what is known about the teacher and how a teacher is a knowledge maker. Since thinking with new materialism and agential realism entails “thinking in terms of relationality rather than relations between entities” (Barad & Gandorfer, 2021, p. 58), teaching should then also be regarded as a collective knowledge making enactment, rather than a transaction between entities. Therefore, the role of teaching is not confined to a single entity. This notion also renders the subject/object binary as obsolete because human-nonhuman phenomena are not external to the knowledge they are producing through their intra-activities. In addition, according to the tenets of spacetime mattering, teaching as a knowledge making practice is not confined to specific spaces or points in time (Barad, 2007). This means teaching transgresses binaries such as school/home and personal/professional, which I discuss further in [Subsection 8.4.3](#). Again, this insight

materialised from the interview and photo-elicitation emergings, such as Daisy explaining how she communicated with parents outside of official school hours.

According to Barad, the conceptualisation of agency has ethical implications because of the effects it produces through the material-discursive practices of that conceptualisation (Juelskjær & Schwennesen, 2012). As such, the ethical ramifications of re-conceptualising teacher agency to teacher agencies include a perpetual response-ability to acknowledge and enact material-discursive practices that prevent injustices for human-nonhuman phenomena. This response-ability involves carefully tracing the multiple causes and effects that are emerging from an entanglement. This type of approach can prevent reducing entanglements into linear relationships, because such a reduction can exclude significant insights on the causes and effects of in-justice on human-nonhuman phenomena. Relatedly, a response-able exploration of how teacher agencies are becoming also entails tracing exclusions as causes and the associated erasures as effects. This response-ability is one of my main priorities as a researcher and becoming-activist to identify and acknowledge in-justices (Taylor et al., 2021). As such, I further explore any in-justices that I can identify based on the insights of this thesis in Subsection [8.4](#).

Barad cites “political agency” as an example to illustrate the significance of collectivity and relationality (Barad & Gandorfer, 2021). They explain how political agency is a material-discursive practice where political movements such as protests create possibilities to improve the conditions of human-nonhuman phenomena. These types of effects emphasise how the sum is greater than its parts, which is why the focus should be on relational enactment, rather than any individual achievement of agency. This notion brings into question the pertinence of *teacher* in teacher agencies, since teacher seems to denote an individual entity. However, I argue that *teacher* is pertinent because there is an ethical response-ability to work within conditions of

possibilities, and the conditions to eradicate *teacher* in a completely harmless manner do not exist. For example, teachers who have been produced within this construct, such as public-school teachers, depend on this constructed profession for their daily survival, and the eradication of this construct would remove their opportunity to make a living. Changes need to emerge within conditions of possibility, even if that means those changes are becoming incrementally.

On the topic of conditions of possibility, another question that arises is why I needed to engage in all the aspects of writing this thesis, including the theoretical framing, literature cutting, data generating, and data analysing, before reconceptualising teacher agency into teacher agencies. I had to intra-act with these processes first because when thinking with new materialism and agential realism, theories or discourses do not exist without materialisation (Barad, 2007). That is why Barad (2003, 2007) created agential realism, diffracting through extant theorisations by Bohr, Butler, Foucault, and Haraway; indeed, the theories of these scholars were rooted in materialisations. Similarly, I am diffracting through the humanist and new materialist literature cuts since they provide a strong foundation on the relational and temporal becoming of teacher agency (Appadoo-Ramsamy, 2023; Ashton, 2021; Biesta et al., 2015; Campbell, 2019; Charteris & Smardon, 2018; Eteläpelto et al., 2013; Heikkilä & Mankki, 2021; Naraian, 2022; Priestley et al., 2013, 2015). However, this scholarship has limited insights on the materialisation of teacher agency, especially when thinking with new materialism and agential realism, and garnering such insights entails tracing detailed human-nonhuman intra-actions to understand how teacher agencies are becoming. The generation of interview and photo-elicitation data produced those conditions to engage in this careful material-discursive practice. These emergings intra-acted with the literature and theory by providing insights that were not yet fleshed out, such as examples of multicausal entanglements where teacher agencies

are becoming. In addition, COVID-19 and its intra-actions with human-nonhuman phenomena, produced the conditions for me to explore the significance of space-time re-configurations, because the changes in my doctoral studies provoked me to reflect on this aspect for teachers as well.

As Barad (2007) argues, materialisation and discourse are inseparable, because discourses cannot guarantee how phenomena will become. Reality is always indeterminate. As such, I needed the theory to materialise to re-conceptualise teacher agency into teacher agencies, to illustrate the theoretical underpinnings and how it materialises. Of course, I am not putting down work that is solely conceptual, but my contribution specifically is not just a theory on the possibilities of teacher agencies. Rather, it is a material-discursive theory on teacher agencies, meaning these possibilities have already materialised and will continue to become.

To summarise, I re-conceptualise teacher agency into *teacher agencies*. The agency/ies are the causes and effects of the outcome from whether possibilities emerge for teachers to shape their practice. Teacher agencies differ from teacher agency because the plural form of the term implies that the opportunity for teachers to shape their practice emerges through relationality. In addition, teacher agencies entail three specific material-discursive practices. *First*, teacher agencies reinforce the key notions of new materialism and agential realism including the dynamism of spacetime-mattering, the indeterminate intra-actions of human-nonhuman phenomena, and how those intra-actions and agencies are multicausal. *Second*, teacher agencies are an apparatus that gauges the causes and effects of possibilities for teachers to shape their practice. *Third*, teacher agencies necessitate the response-ability to understand and act on those effects on bodies by mitigating harm on human-nonhuman phenomena.

To trace the specificities of how teacher agencies are becoming, I need to explore the particular circumstances produced by entanglements. As such, in the proceeding sections, I return to the insights on the theoretical framing, literature cuts, research process, and interview and photo-elicitation data to explore how the intra-actions between these types of insights elicit how teacher agencies are becoming and implications for policy, practice, and research pertaining to the case-entanglements.

8.3.3 Re-turning to case-entanglement

In this subsection, I think with teacher agencies to re-visit the case-entanglement of Morgan that I describe in [Chapter 6: Illustrative Case-Entanglements Emergings](#) and [Chapter 7: Photo-elicitation Emergings](#). I will illustrate the key notions of teacher agencies by using the case-entanglement of Morgan as a method of grounding the theory with materialisations of how teacher agencies are becoming. I also explore the intra-actions between the insights of the interview and photo-elicitation data that I have not yet done, so this exploration will diffractively elicit novel insights. Since teacher agencies are causes and effects, I will identify the causes and effects of that emerge that determine whether there are possibilities for Morgan to shape her profession.

In [Chapter 6](#) and [Chapter 7](#), I explain how Morgan started her first year of teaching as a full-time substitute teacher. In [Chapter 7](#), I shared how Morgan described her teaching experiences were confining as being in a prison cell, which means her opportunities to shape her practice were not emerging. In this case, the teacher agencies are multiple causes for this outcome, including Morgan's intra-actions with the teacher certification process, a rigid curriculum, standardised pedagogical resources, and two school principals that observed her frequently. In addition, teachers agencies are also producing multidirectional effects, as in both

positive and negative effects. The positive effects include Morgan feeling supported by her principals because they were providing feedback and that the standardised pedagogical resources helped her save time on lesson planning. The negative effects were Morgan feeling constrained in how creative she could be in her practice and a lack of control in her teaching practice.

For Morgan as teacher phenomena, these effects are producing epistemic in-justices because Morgan is not being acknowledged as a knowledge-maker and she is robbed of the opportunity to produce knowledge. I will elaborate on the ramifications of this type of epistemic in-justice in the next subsection.

8.4 Thinking with Teacher Agencies for Policy and Practice

In this subsection, I focus on thinking with teacher agencies to explore the implications for policy and practice with regards to the case-entanglements. The case-entanglements are public school primary teachers which correspond to the following three boundaries of this thesis:

- 1.Exploring how teacher agency is becoming in public schools;
- 2.Exploring how primary teacher agency is becoming; and
- 3.Exploring how primary teacher agency is becoming in Canada, Australia, and the United States (US).

As a becoming-activist, one of my main priorities is addressing in-justices for human-nonhuman phenomena that emerge from the entanglements I am exploring. This is why I re-conceptualised teacher agency into teacher agencies in a manner that focuses on addressing in-justices. As such, I think with teacher agencies to highlight implications that can help address epistemic and material in-justices.

First, I re-turn to the key notions of how teacher agencies are becoming and the necessity of this exploration within the boundaries of this thesis. Next, I share two key implications for

policy and practice which entails re-working significant aspects of public-school primary teaching. These implications are:

1. Acknowledging and fostering relationality, not individuality; and
2. Acknowledging the significance of space, time, and nonhuman matter.

I enact an agential cut to share two separate key implications to focus on human phenomena in the first key implication and then address the significance and inseparability of nonhuman phenomena in the second key implication. Lastly, I discuss how these implications re-configure the power dynamics of the teaching profession and the education system.

8.4.1 Re-turning to teacher agencies and teachers

Before I describe the implications for policy and practice, I re-turn to the notion of how teacher agencies are becoming to provide a clear picture of what I am thinking with. As I describe in [Subsection 8.3.2](#), the key concepts of thinking with teacher agencies are as follows:

- The *agencies* in teacher agencies refer to the *causes* and *effects* of the outcome on whether possibilities emerge for teacher phenomena to shape their practice.
- The locus of agencies is within intra-acting human-nonhuman phenomena, hence the use of agency is obsolete.
- Teacher agencies are becoming through multicausal and multidirectional intra-actions.
- Teacher agencies also serves as a material-discursive practice that propagates key characteristics of new materialism and agential realism including the inseparability of human-nonhuman phenomena, and the inseparability of space, time, and matter.
- Teacher agencies is also an apparatus that helps identify the causes and effects of whether the possibilities emerge for teachers to shape their practice.

- In-line with the agential realist understanding of apparatuses, teacher agencies is an apparatus that is re-configured through its intra-actions with human-nonhuman phenomena (Barad, 2007).
- Teacher agencies is an ethical material-discursive practice, because it serves as an apparatus that informs the causes and effects that create in-justices.

In [8.3.2](#), I also explain how thinking with teacher agencies re-configures how teachers onto-epistemologically materialise in terms of how they are known, what they know, and how they exist. Barad (2007) explains how thinking with agential realism re-works the notion of “worker” which is similar to the notion of teacher: “Not only is the notion of position itself a produced, contingent, and contested category that changes through time (not simply whose value changes with time), but “worker” is not a fixed and unitary property of individual human beings, but an actively contested and disunified—but nonetheless objective—category that refers to particular material-discursive phenomena” (p. 243). This means that teachers and teaching are not static identities that are characteristics of individual entities; rather, these concepts are materialising and becoming through human-nonhuman intra-actions.

As such, it is imperative to point out that the boundaries of this thesis are also becoming, which I also emphasise throughout this thesis. However, it is still important to explore how teacher agencies are becoming within the three boundaries I established because teachers and teaching that have emerged within these boundaries are impacted by intra-acting human-nonhuman phenomena. As I also explain in [8.3.2](#), it is important to work within conditions of possibility to mitigate the risk of inflicting harm on human-nonhuman phenomena. Hence, exploring the current conditions of possibility where teachers agencies are becoming within these boundaries provides a significant opportunity to address in-justices that emerge. In addition, this

exploration provides an opportunity to acknowledge that policies and practices emerging from these boundaries are not set in stone because they can change and become. In the next subsection, I describe the first key implication for thinking with teacher agencies for policy and practice with regards to public school primary teachers in Canada, Australia, and the United States.

8.4.2 Key implication 1: Acknowledging and fostering relationality, not individuality

The first key implication of thinking with teacher agencies is acknowledging and fostering relationality, as opposed to individuality, when creating and enacting teacher policies and practice. This implication entails acknowledging that knowledge and being are becoming through relationships, and to continue fostering response-able relationships among human-nonhuman phenomena. I use *response-able relationships* to refer to intra-actions that prevent harmful marks on bodies and increase the wellbeing of phenomena. Thinking with teacher agencies helps to reaffirm this key tenet of new materialism and agential realism (Barad, 2007), because *agencies* in its plural form is a stark reminder of relationality. This notion also diffracts with the literature on teacher agency because the scholarship emphasises a relational lens illuminates nuanced situational factors that impact whether teachers can shape their profession, which the notion of individual capacity will overlook (Ashton, 2021; Biesta et al., 2015; Campbell, 2019; Eteläpelto et al., 2013; Priestley et al., 2013, 2015).

I already describe in [Chapter 6: Illustrative Case-entanglements Emergings](#) and [Chapter 7: Photo-elicitation Emergings](#), how teacher agencies and teacher phenomena themselves have been becoming through relational intra-actions. In addition to those insights, the case-entanglements clearly illuminate how fostering response-able relationships improves the conditions of teacher phenomena. For example, most of the teacher participants described that

their participation with teacher unions provided some form of support such as providing resources about COVID-19 and learning about working rights. In addition, teacher participants including Abdullah, Tee, Luby, and VPS reported having positive experiences with their school administration when they fostered relationality such as supporting activities that focused on student wellbeing, and encouraging innovative practices between teachers and students. Abdullah and Luby also mentioned how social media was a method of connecting to a community of teachers who provided them with useful information about pandemic measures and creative teaching practices.

Fostering relationality such as community and collaboration improves teachers' working conditions because it propagates trust among school staff and strengthens student engagement (Brodie, 2021; Buxton et al., 2015; Cooper et al., 2016). In these entanglements, the causal teacher agencies are the supportive relationships among human phenomena and access to resources. In turn, teacher agencies as effects are positive relationships between teachers, principals, and students, and a culture of trust. These teacher agencies are producing possibilities for teachers to shape their profession. When thinking with teacher agencies, it is important to acknowledge that these causes and effects are becoming and can change roles through their entanglements.

Contrary to these emergings, the policies foregrounded by educational state and federal departments in governments of Australia, Canada, and the United States neglect relationality. Instead, these countries currently focus on individualising teaching because their education systems are pervaded by neoliberal material-discursive practices (Anderson and Cohen, 2015; Connell, 2009; Leicht et al., 2009). These practices include state-wide teacher accountability practices and standardised curricula that teachers are expected to follow (Australian Government

Department of Foreign Affairs and Trade, 2017; Government of Canada, 2022; New York State Education Department, 2023d). Neoliberal reform has individualised teaching through state hyper-oversight in propagating a marketized competitive environment where each teacher is individually responsible for fulfilling the state’s expectations (Datnow, 2012).

The emergings from the case-entanglements demonstrate how emphasising individuality through neoliberal practices can produce harmful effects and in-justices for teacher phenomena. For example, Neesa described how there was a fear in deviating from the standardised curricula. The excerpt below is in reference to her photo from [Chapter 7](#), that she used to she explain how she “defied” expectations by introducing a resource that was not part of the state curriculum.

And so there was that fear that if you try something new and then your data came out a certain way, you were automatically going to be blamed for what was happening. You shouldn't have tried that because that wasn't part of the curriculum. And now this is what's the result of that. So it's very discouraging to want to try things, you know. –Neesa

And I did this without consenting on it for anyone didn't ask anyone for permission.

So, I went against everybody and I was just like, you know what? I'm just gonna put it out there and see what happens. See if somebody texts me and says, “Hey, what you're doing is wrong” –Neesa

In this entanglement, teacher agencies are becoming by limiting opportunities for Neesa to shape her practice and producing fear. In [Chapter 7](#), Hai also explained how she always wanted to be aware of what the students were doing in case her principal decided to visit her online classroom. This was why it was important for her to know what her students were doing behind the grey screen. Interestingly, she explained that she felt she had more freedom if her principal thought she was complying to the state and school standards. The causal teacher

agencies in this case are Hai's intra-action with her principal, both of their intra-actions with state and school standards, the materiality of Hai's Zoom classroom, and the student phenomena. This multicausal entanglement is producing multidirectional effects including Hai's feeling of fear, shaping Hai's intra-actions with students in a way she ensures she knows what they are doing, and Hai's feeling of freedom based on her principal's validation.

Interestingly, Daisy, Morgan, Luby, and Tee pointed out that the opportunities to shape their practice were conditional upon authoritative validation. In [Chapter 7](#), I explained how Luby's photo of the box of washi tapes produced a material metaphor about the tension she felt between her freedom as a teacher and how those freedoms were bounded within authoritative standards and expectations. Daisy explained how "teacher agency" — which is the phrase we were using during the interview to denote freedom to shape teaching practices — was contingent on being able to ensure students were achieving certain targets and tests scores.

So, I still feel like it all just becomes this numbers game. I feel like everything that we do is fine until it's called into question and I think that yeah, as long as those numbers are improving then teachers can exhibit that agency. But the minute those numbers aren't where they should be, then that's when that teacher agency is taken away. So, I feel like it is something that comes and goes depending on teacher performance and that performance is purely linked back to that numerical narrative about how kids are progressing. —Daisy

Teachers agencies, where compliance measures produces opportunities to for teachers to shape their practice, seems to continue propagating feelings of fear. Material-discursive practices rooted in fear can produce inauthentic teaching practices due to the perceived need to comply to external standards (Ball, 2003; Holloway & Brass, 2018). Barad points out how one of the

repercussions of the “fetishization of the individual” (Barad & Gandorfer, 2021, p. 54) is attributing blame and failure to the individual. Hence, compliance can also stem from attempts to avoid failure and being blamed for perceived failures. As such, even if teacher agencies are becoming in producing opportunities for teachers to shape their profession, these agencies are also producing harmful effects such as feelings of fear and inauthentic teaching practices because they are rooted in individualising the teacher. This is why teacher agencies as an apparatus is helpful in addressing harmful marks on bodies, because it explores the multiple causes and effects which produces nuanced insights.

Within these types of entanglements, the fear of failure and blame is further fuelled through high stakes policies and practices, where teachers face serious consequences for not complying to specific standards and expectations (Ball, 2003; Holloway & Brass, 2018). Currently, the state governments of Ontario, Victoria, and New York State administers teacher appraisals practices that determine teachers’ job mobility and can even cause termination (Government of Ontario, 2012; New York State Education Department, 2022; State Government of Victoria, 2023c). Out of these two states and province, New York State has the most intense teacher accountability practices with an additional value-added model that is used to determine teacher performance (New York State Education Department, 2023b). These high stakes measures have been negatively impacting the teacher participants. For example, the excerpts below from Neesa, Daisy, and Luby demonstrate the harmful consequences of these practices including Neesa’s sentiments on diminishing teacher confidence, Daisy’s cynical views on teachers’ freedoms, and Luby’s distrust towards her school administration.

I think that if people in power made their teachers comfortable enough to share their ideas, their thoughts, their pedagogy, I think we would see a lot more teacher autonomy.

I think we would not see a lot of teachers less scared of what they're doing and more confident in what they're doing, which I think is them doing a good job. –Neesa

I don't think that teachers do have the agency that's ultimately sort of like this utopia of agency. I just don't think it exists. Like I've mentioned before, I think that the Department [of Education] has really particular goals that they wish teachers to achieve. We are agents of making that happen and I think that that agency is really a farce because it only exists alongside that increased accountability. –Daisy

I mean, a good admin would be checking to see how you're dealing with the class, not, whether you're teaching, by the book. But we never know what the admin's thinking.

–Luby

It is imperative to note that because neoliberal practices such as teacher accountability mechanisms undermine relationality, they overlook how these practices produce harm to those who are in close relationships with teacher phenomena. For example, Morgan explained in [Chapter 6](#) that when she was a student, she was scared her test marks would impact her teacher's job status. The fear of facing negative consequences proliferated from the teacher to the students because of their close relationship. This effect would have been easier to trace if relationality was acknowledged by human actors and policies that instead propagate neoliberal practices for teachers.

In addition to material injustices, such as invocations of fear, neoliberal education policies and practices produce epistemic in-justices as well. The literature on teacher agency points out how neoliberal reform excludes teachers from knowledge making practices, because they are positioned solely as deliverers of standardised curricula and pedagogies; as such, this epistemic in-justice restricts teachers from sharing their own insights, experiences, and skills

(Connors & Bengsten, 2020; Digón-Regueiro, 2021; Priestley et al., 2012). During the interviews, Morgan, Neesa, and Hai explicitly expressed how they experienced limited opportunities to use their own knowledge when they are teaching. Incidentally, all three of these participants live in New York State which houses the most intense teacher accountability practices in comparison to Victoria and Ontario. Of course, I am not making a generalisation about high-stakes teacher accountability practices; rather, I am suggesting that neoliberal practices can emerge as significant causal agencies in invoking epistemic injustices, depending on specific intra-actions between human-nonhuman phenomena.

There are significant harmful effects when neoliberal practices produce epistemic injustices for teacher phenomena. First, these injustices fallaciously render teacher phenomena as passive subjects. This effect goes hand-in-hand with how the becoming of the teaching profession, where teachers' lack of opportunities to shape their profession and their deprofessionalisation are two sides of the same coin (Ballet et al., 2006; Biesta et al., 2015; Connors & Bengsten, 2020). Morgan's excerpt below highlights how the standardisation of the curriculum deprofessionalises teachers.

On the other hand, the kids know that you're teaching out of a book because they're learning out of a book. And it's not very engaging for them. Turning back to a benefit as a supply teacher and maybe some oh, I don't know if this is true too for Ontario. But in New York State or at least in the boards that I've come across, a supply doesn't have to have a university education. The minimum requirement for supplies is a high school diploma. So somebody with no teaching experience could come in, read from that script in the book and be done a lesson. -Morgan

Morgan's excerpt clearly indicates how teachers' experiences and insights are devalued rendering them epistemically bankrupt. In addition, Morgan points out how standardisation impacts students as well because it limits opportunities for creative and engaging learning. Again, neoliberal and related individualisation practices overlook the harmful impacts on phenomena that intra-act with teachers such as students. The rise in managerial responsibilities, including paperwork, also deprofessionalises teaching since teachers' work is shifting from holistic to a fragmented series of technical responsibilities (Ballet et al., 2006; Biesta et al., 2015). Luby lamented on the loss of valuable planning time due to such paperwork.

We then we lose time on actually being present in the class and doing where the great learning is supposed to be happening. And then we go home and rather than spending, come up with some great ideas for future lessons, we're worried so much about like how are we making sure the lesson plans for typing up is fitting according to the format that the school board wants us to do. –Luby

Thinking with teacher agencies, which acknowledges the vitality of human-nonhuman phenomena, helps to pinpoint that the fallacy of teachers being passive subjects will cause significant harm to teacher phenomena and phenomena that are entangled where teacher agencies are emerging. First, teacher phenomena will resist such epistemic in-justices (Buchanan, 2015; Campbell, 2020). This is apparent from the case-entanglements since Hai, Neesa, Ocean, Tee, Daisy, and Morgan all explicitly expressed that they defied school and state-level expectations when those expectations were dissonant with their own judgement of circumstances. Of course, when thinking with teacher agencies and a relational ontology, the defiance is not solely tied to teachers' beliefs; rather resistance emerged through teachers' relationships with other phenomena. For example, Hai explained how her school administration treated themselves as the

key knowledge producers about curriculum and pedagogy in the school. However, during COVID-19, teachers made their own decisions based on student needs because they were spending the most time with the students. In the excerpt below, she also emphasises the necessity for teachers to have more freedom in order to value their epistemic assets.

I think we have to have more freedom, by necessity. They can't mandate everything every single thing, like they can't micromanage the way that some people might want to, not all leaders you know, because they literally don't know. They don't know how to do the Google Slides. They don't know how we do this, so they might implement some things, but then we're like, well, actually that website literally won't work for that function that you think, so we're just going to use this instead. –Hai

I denote that the teacher agencies of divergence and resistance of neoliberal authority can produce multidirectional effects, because on one hand, divergence and resistance confirms that teachers are not passive subjects; on the other hand, these material-discursive practices emerge within an entanglement where the teachers can face harmful consequences for perceived disobedience. In addition to resistance as a response to constraints within a profession, teachers even consider leaving their jobs or profession (Buchanan, 2015). For example, Hai mentioned that she left her previous school because she felt like she was not valued and was observed too frequently. In addition, Neesa also expressed her desire to leave her current school.

So I'm looking to find a new job and leave the school this year after five years and a lot of it was because of my found awareness of systematically unfit the school is for what I believe it. –Neesa

Teacher attrition is a significant effect because teachers are considered to be the most important actors in education, which has been acknowledged especially in the post-pandemic

period (Béteille et al., 2020; Buyruk, 2014; OECD, 2023). As such, it is safe to infer that a shortage of teachers, especially teacher phenomena who foster response-able relationships, will be detrimental to the public education system.

Hence, thinking with teacher agencies is fundamentally incompatible with neoliberal reform because the former two are based on a relational ontology where is no distinction between object and subject, whereas neoliberal ideals endeavour to produce passive individual subjects (Anderson and Cohen, 2015; Barad, 2003, 2007; Murriss & Zhao, 2021). I argue that the education systems in Australia, Canada, and the United States need to examine the harmful impacts individualisation has on teacher and related phenomena, even if this entails an overhaul of neoliberal policies and practices. There are conditions of possibility for an overhaul of such practices because neoliberal reform itself is a recent emergence, and the literature cuts illustrate how the teaching profession has been becoming through frequent changes (Buchanan, 2015; Collins, 2018; Connell, 2009; Hargreaves, 2000; Hildebrandt & Minhee, 2011; Hoyle, 1982; Ingersoll & Collins, 2018; Mehta & Teles, 2014).

Thinking with teacher agencies for a potential overhaul of neoliberal practices involves re-working the status quos of public education through the lens of relationality. This includes considering what types of effects dominant policies and practices, such as curricula, pedagogical resources, induction programs, teacher appraisals, etc. and whether these policies and practices is acknowledging and fostering relationality. Thinking with teacher agencies also helps to elicit nuanced insights because this practice entails tracing multicausality and multidirectional effects. For example, in Chapters [6](#) and [7](#), I explained how teacher participants had negative and positive sentiments on teacher accountability practices. Using teacher agencies as an apparatus in this chapter can help tease out the multiple causes behind these multidirectional effects. On one hand,

the case-entanglements illuminated how high-stakes teacher accountability practices induce fear among intra-acting human phenomena, hence those types of practices should be eliminated.

On the other hand, teacher participants including VPS, Morgan, Hai, Daisy, and Ocean noted that response-able accountability practices, such as informal check-ins, professional learning communities, and collegial feedback can help increase well-being. As such, if the material-discursive practices undermine relationality and-or produce harmful marks on bodies, then these practices should not be enacted. On the other hand, harmful material-discursive practices could be re-configured into response-able enactments conditions of possibility exist. Again, it was possible for these nuanced conclusions to emerge because I was thinking with teacher agencies. In the next sub-section, I think with teacher agencies to examine the significance of space, time, and nonhuman matter with regards to policy and practice.

8.4.3 Key implication 2: Acknowledging the significance of space, time, and nonhuman matter

In this subsection, I highlight space, time, and nonhuman matter because these phenomena are overlooked in policies related to public school teachers in Canada, United States, and Australia. Moreover, the inseparability of these phenomena also remains unacknowledged. Even though I created a separate subsection to focus on these phenomena, it is imperative to note that this key implication is entangled with Key Implication 1. What I mean is that in order to acknowledge and foster relationality, it is important to also acknowledge that teacher agencies are becoming through the inseparable entangled space, time, and human-nonhuman phenomena. As such, fostering relationality in teaching policies and practices entails the considering of the key the characteristics of spacetimemattering as well. These characteristics include the inseparability of space, time and matter where teaching agencies are becoming, and that matter does not sit in

specific space-time point, because these three phenomena are entangled in re-configuring each other (Barad, 2007).

The case-entanglements illuminate how spacetime-mattering can serve as an apparatus to gauge the quality of relationships where teacher agencies are becoming, and also impact how teacher agencies are becoming. In turn, these insights also emphasise how response-able relationships prevent harm and in-justices. In this sub-section, I share three insights from the case-entanglement emergings that are important for policy and practice. These insights are valuable because they emerged during the COVID-19 pandemic which involved salient re-configurations of space, time, and matter.

First, it is apparent from the case-entanglements that the circumstances during COVID-19 have been blurring the boundary between home and school, since formal learning shifted to a remote format for most teachers and students around the world (Li & Lalani, 2020; The World Bank, 2020; The UNESCO, 2020). The limited scholarship on teacher agency/ies and spacetime-mattering also assert that teaching spaces are not confined to brick-and-mortar classrooms (Lambert, 2021; Murriss, 2022).

All the participants who taught remotely cited that the students' parents were involved in their children's learning since they were at home together during the COVID-19 lockdowns. In addition, teaching spaces are inseparable from teaching time. For example, Daisy and Ocean explained how they gave parents their cell phone numbers so parents would call the teachers while they were home and outside of formal school hours as well. The intra-actions between Daisy and Ocean's cell phone, the parents, and their home spaces are causal teacher agencies that expanded their teaching spaces and extended their teaching times.

An acknowledgement that teaching and learning are not confined to specific space-time points provides possibilities to foster response-able relationships which helps address in-justices. Charlotte explained how acknowledging the inseparability of the students' home and school lives helped her gain a deeper understanding of how some her students' tumultuous home lives impacted their learning and behaviour at school. This realisation cultivated a sense of empathy for her students, which means she was fortifying her relationships with her students through an understanding of the in-justices her students experience.

The second insight is that the type of teaching space impacts how teacher agencies are becoming. For example, even though VPS and Tee were from the same province, their teaching experiences and the teacher agencies that emerged were significantly different, because VPS was teaching in-person due to school board mandates while Tee was teaching online. Due to their divergent teaching spaces, VPS' pedagogies were more influenced by his intra-actions with teacher colleagues because they were sharing office space, whereas Tee felt distant from her colleagues. In addition, VPS and Tee intra-acted differently with materials where VPS focused on desk arrangement in the classroom space and Tee prioritised decorations in her teaching space. In these entanglements, the teacher agencies that were causally significant were school board mandates, the school and home spaces, and the teacher's intra-actions with teaching materials. These teacher agencies provided different opportunities for Tee and VPS to shape their practice.

In addition, teaching space impacted access to resources. Hai and Neesa, who taught remotely, cited that they did not have access to rulers for measurement lessons. Tee explained how she could not check whether students had pertinent materials for a science. In these circumstances, space-time impacted access to resources and also illuminate how nonhuman

materials are causally significant teacher agencies in providing pedagogical possibilities for teacher phenomena. Moreover, spacetime mattering in this case highlights a significant potential for in-justice because students have unequal access to resources due to a range of factors including socioeconomic status. Ocean shared her concerns on this issue.

The socioeconomic status of the families that I teach are so varied. And I was always trying to keep in the back of my mind, what children, do they have access to good Internet? Do they have access to a pencil at home? Do they have access to a book, do they know where their book is? Because then you've also got the other end of the spectrum where you've got children who have all of the resources, have got mum and dad's time. –Ocean

Luby highlighted another issue of student inequity due to the re-configuration of teaching space. She explained how it was challenging for her to support students with special education needs while teaching remotely, because it was easier to communicate with the special education teacher, special education consultant, and early years consultant in-person. As such, spacetime mattering both shed light and propagated in-justices for teacher-student phenomena. The COVID-19 lockdowns shed light on the importance of acknowledging inequities to nonhuman material resources and how these phenomena are causally significant in entanglements where teacher agencies are becoming. In addition, the COVID-19 lockdowns further perpetuated these inequities because student phenomena could not access the school space which would typically provide them with resources they did not have at home.

The third insight is how the materiality of physical proximity was causally significant for the quality of teachers' relationships with other human phenomena. By materiality, I am referring to the physical distance created by human-nonhuman phenomena based on where they

are situated and becoming. The teacher participants who taught remotely all cited that they faced a myriad of challenges for not being within close physical proximity of student phenomena. As I mentioned above, Luby found it challenging to support her students with special education needs because it was easier to reach out to her support team in-person. In addition, Luby explained the in-person element was important because, “*certain kids like I said, who are diagnosed ASD [autism spectrum disorder] who needs that close proximity, hand over hand guidance, me modelling, be in front of them*”.

In addition, some teacher participants cited how the quality of their relationships with their students decreased due to the lack of in-person intra-actions. Charlotte explained how the physical distance that emerged remote schooling diminished the students’ sense of comfort with reaching out to the her for support. Daisy described how even the material act of, “sitting down” with a student was imperative for her because it helped her gauge and understand the mannerisms of her students. Ocean lamented how physical distance diminishes opportunities to provide emotional support.

And it was awful to try and console a little person when you're over a screen for them, like you just it didn't feel like you were there for them to go through such a tricky time. It was awful to watch. –Ocean

As such, these examples highlight how physical distance significantly impacts how teacher agencies are becoming in producing multiple types of harmful effects, including inequities and the erosion of the quality of teacher-student intra-actions. However, physical distance does not always produce harmful marks on bodies. For example, even though most teacher participants remarked that they lost in-person professional development opportunities due to the COVID-19 lockdowns, VPS and Daisy pointed out that they were able to access some

professional development events online that they would not be able to attend in-person. Moreover, as I explain in [Chapter 6](#), VPS said he was able to save more time by not having to commute to attend these events, which means the physical distance was re-producing time which again, reaffirms to the inseparability of space-time. These examples illuminate the importance of identifying multicausality and multidirectional effects as opposed to searching for linear relationships because it helps to produce nuanced insights; in this case the nuance here is that physical distance can produce advantageous opportunities and harmful effects. These examples also emphasise the importance of thinking with teacher agencies, because this practice entails identifying multicausality and multidirectional effects.

In conclusion, these insights emphasise that when policies and practices are being produced and materialised, it is important to acknowledge the significance of space, time, and nonhuman matter and their inseparability in re-configuring each other. In particular, it is important to understand the nonlinear and indeterminate nature of space-time when focusing with the goal of fostering response-able relationships, because this type of understanding helps to identify in-justices that can hinder developing response-able relationships. In addition, human-nonhuman phenomena are becoming through the “postdigital” epoch, which is “a time when digital learning has become ubiquitous” (Gravett et al., 2022, p. 2) that Daisy also highlighted in [Chapter 7](#). As such, the emergence of this postdigital epoch indicates that the insights on spacetime-mattering during COVID-19 are important in the post-pandemic period as well because technologies will continue to impact teacher agencies in re-producing teaching spaces.

8.4.4: Re-configuring power dynamics

Acknowledging and fostering relationality and spacetime-mattering rather than individuality has significant implications for the power dynamics of teacher phenomena because

“such repositioning demands that we rework voice, accounts, and the subject not as a separation of the theoretical from the material, but as an enactment” (Jackson and Mazzei, 2022, p. 100).

When thinking with teacher agencies, one of the most important notions to accept and acknowledge is individual entities cannot sustain power; rather like agencies, power is distributed among intra-acting human-nonhuman phenomena.

Even though one of my most significant assertions in this thesis is that teachers are not passive subjects, I also do not aim to imply that teacher phenomena are superior to any other human-nonhuman phenomena. Thinking with teacher agencies in propagating the notion of distributed power emphasises that the primacy is not placed on public school teachers. This means the emergence of opportunities for teachers to shape their profession is not a means to an end; rather, there is an important additional step of examining the effects of those emerging opportunities to gauge whether they are producing harmful marks on bodies. This aspect is one of the key contributions to the extant scholarship on teacher agency, because most of the literature focuses on the obtainment or achievement of agency, without delving into the effects of it. In addition, thinking with teacher agencies with regards to power also entails acknowledging that autonomy is not possible. The only way autonomy can be enacted is through agential cuts, such as the one Priestley and colleagues (2015) make to conceptualise autonomy as the absence of state regulation. However, the focus on autonomy is contrary to fostering relationality, hence thinking with teacher agencies does not focus on fostering teacher autonomy or any kind of autonomy.

Re-configuring the notion of power means common teaching practices need to be re-configured as well. For example, curriculum development and pedagogical practices could be enacted between multiple human-nonhuman phenomena, as opposed to the neoliberal practice of

enforcing standardised curricula created by state governments. The case-entanglements denoted a few possibilities to incrementally shift current curriculum development practices into more relational approaches. Hai explained how teachers and school staff in the charter school co-create the curriculum as opposed to following state mandates, which is one possibility to shift towards a relational approach. Another approach to re-configure state curricula is regarding it as a guide rather than a mandate. VPS, Hai, Abdullah, Luby, and Charlotte cited that they use the curriculum as a guide so that they could adapt it through their own knowledge and insights. However, the space-time re-configurations that disrupted common teaching practices during COVID-19 indicate that it is possible to enact significant changes to improve the wellbeing of human-nonhuman phenomena. One of those changes could be challenging the binary of teacher/student to foster more co-creative learning environments between teacher and student phenomena, where both are acknowledged as producers of knowledge. In addition, other human-nonhuman phenomena such as parents, school administration, trees, the wind, etc. could be acknowledged as knowledge makers and involved in this co-creative enactment.

In summary, thinking with teacher agencies elicits a plethora of possibilities to re-configure teaching policies and practices with the goal of addressing in-justices. In the next chapter, I detail my contributions to knowledge through this thesis, and some concluding thoughts on not concluding.

Chapter 9: Concluding

Closure can't be secured when the conditions of im/possibilities and lived indeterminacies are integral, not supplementary, to what matter is.

Karen Barad (Juelskjær & Schwennesen, 2012, p. 13)

9.1 Chapter Overview

And here we are, the final few pages! Time flies by when you are intra-acting with a thesis.

In this final chapter, I re-turn to the main research questions and sub-questions and answer them using the insights from Chapters 1–8. Next, I detail my theoretical, methodological, and empirical contributions to knowledge. Lastly, I share a few concluding words. Please refer to [Chapter 2.5: Table of Key Terms and Concepts for this Thesis](#) for the terminology I use in this thesis.

9.2 Re-turning to the Research Becoming-questions

As I explain in [Chapter 5: Research Process is Becoming](#), the research becoming-questions were not the ones I started off with, nor did they serve as a guide to find specific answers. Instead, these questions are marks on bodies from the spacetime-mattering of this thesis, and they serve to be experimented with while exploring the significance of this thesis. As such, these questions both inform and were informed by the insights of this thesis and my doctoral journey. In addition, I want to note the main and sub-becoming-questions are yet again becoming, because I re-conceptualised teacher agency as teacher agencies. As such, I rephrased the questions below and changed agency to agency/ies to refer to both agency and agencies, since I think with both concepts throughout this thesis. However, for the answers to these questions, I only refer to teacher agencies because in [Chapter 8: Discussing](#), I render teacher agency as obsolete.

The main becoming-question is, **what is the significance of thinking with new materialism to re-conceptualise how teacher agency/ies are becoming?** I want to point out that this question does not imply that new materialism, and agential realism by extension, are unique theories that are superior from the rest. Instead, in-line with a diffractive practice, I acknowledge that these theories are becoming through a myriad of human-nonhuman scholarship. As such, the significance of thinking with new materialism and agential realism refers to the significance of thinking with scholarship that acknowledges relationality and emphasises ethical response-abilities.

Thinking with new materialism, and agential realism specifically, produced conditions of possibility to re-conceptualise teacher agency, because the key characteristics of these theories diverge significantly from the humanist literature on teacher agency. This stark divergence provided different insights to diffract with and coin the novel term *teacher agencies*. In addition, thinking with new materialism to explore teacher agency/ies changed my own onto-epistemological beliefs. In research, it is worth considering how the purpose of thinking with theory is not limited to examining a specific research topic, but how thinking with theory as a material-discursive practice changes the researcher phenomena.

In addition, thinking with new materialism and agential realism helped to consider the ethical aspects of research and teacher agency, specifically through the concepts of ethico-ontology-epistemology, diffraction, and becoming-activist. This ethical consideration, meaning taking response-ability for acknowledging the causes and effects of human-nonhuman intra-actions propelled the term *teacher agencies* because I wanted to use the plural form of agency to denote relationality and concomitant ethical commitment between those relations. Through this response-ability as a becoming-activist, I was also able to raise awareness of the material-

discursive in-justices public school teachers face in Canada, Australia, and the United States, and implications for policy and practice in mitigating these in-justices.

These are the research becoming-sub-questions:

- 1. How is teacher agency/ies becoming through human-nonhuman intra-actions?**
- 2. What is the significance of spacetime mattering when teacher agency/ies are becoming?**
- 3. How does power materialize when teacher agency/ies are becoming?**

The answers to these sub-questions are entangled with each another. This is because the insights of this thesis illuminate that teacher agencies are becoming within inseparable intra-actions between human-nonhuman phenomena, space, and time. In addition, these phenomena are producing multidirectional effects through multiple causes. Referring back to the main question, thinking with new materialism provides conditions of possibilities to consider the importance of nonhuman matter, space, time, and their inseparability, because as I point out throughout this thesis, these three phenomena are undermined in scholarly and political discussions on teacher agency. The inseparability of these phenomena provides the answer to the third sub-question, because it implies that power is distributed in these intra-actions where teacher agencies are becoming. This means that no phenomena should be regarded as superior in knowledge-making or producing agencies, because they are all inextricably entangled; instead, the focus should be on enacting material-discursive teaching practices that foster response-able relationships.

9.3 Contributions to Knowledge

In this section, I detail my theoretical, methodological, and empirical contributions to knowledge. I want to note that when thinking with new materialism and agential realism, the

theoretical, methodological, and empirical contributions are understood to be entangled because discourse and materialisation are inseparable (Barad, 2007). However, I am making an agential cut by describing each type of contribution separately to highlight certain aspects of the insights that have emerged from this thesis. Hence, I am not placing primacy any of these types of contributions because none could exist without one another.

In addition, Barad says, “diffraction is a matter of inheritance and indebtedness to the past as well as the future” (Juelskjær & Schwennesen, 2012, p. 13). As a response-able researcher, it is important to acknowledge this in order to emphasise the relational nature of knowledge making. As such, I want to re-iterate that my contributions to knowledge would not be possible without the extant scholarship. Lastly, in each sub-section I cite a few considerations for future research.

9.2.1 Theoretical contributions to knowledge

The most significant theoretical contribution I am making is a re-conceptualisation of teacher agency as *teacher agencies*. Thinking with new materialism and agential realism produced the conditions of possibility for such a re-conceptualisation. Even thinking with these theories is seldom done to explore teacher agency; as such, I embarked on a novel theoretical exploration. This re-conceptualisation is re-working key theoretical notions about teachers and teaching, including teachers’ relationships with human-nonhuman phenomena, causality, the locus of agency and power, and teachers’ relationships with space and time.

My re-conceptualisation of teacher agency as *teacher agencies* diffracts with the literature on teacher agency by reaffirming specific insights from this extant body of knowledge while contributing novel insights to them as well. *Teacher agencies* reaffirms the relational nature of teacher agency in the humanist literature, including the ecological model, while

extending the scholarship by emphasising the inseparability of human-nonhuman phenomena, where nonhuman phenomena impact the possibilities for teachers to shape their practice. In addition, *teacher agencies* as a re-conceptualisation rejects the notion of teacher autonomy, because autonomy is incommensurable with a relational ontology. This is an additional amendment to the ecological model where scholars markedly distinguish teacher agency from teacher autonomy (Ashton, 2021; Priestley et al., 2015; Lennert da Silva & Mølstad, 2020). *Teacher agencies* builds on the very limited agential realist literature by re-conceptualising teacher agency as a new term. In addition, for the first time in the scholarly literature, this thesis grounds key concepts of agential realism with concrete examples of how teacher agency is becoming, including node diagrams serving as visual explanations.

My re-conceptualisation of teacher agency as *teacher agencies* also reaffirms key concepts of new materialism and agential realism, including the inseparability of human-nonhuman phenomena, and the inseparability of space, time, and matter. However, my re-conceptualisation also builds on agential realism, because I emphasise and elaborate on the notions of multicausality and multidirectional effects, and argue how these concepts need to be considered key to an agential realist framework. Agential realist discussions on nonlinear relationships, particularly on multiple causes and effects, is very limited, but this thesis highlights how these foci elicit nuanced insights on intra-actions and entanglements between human-nonhuman phenomena. In addition, perhaps these concepts can be diffracted through other new materialism concepts such as Deleuze and Guattari's (1988) *rhizome* which entails similar concepts about nonlinear relationships. However, this particular diffractive practice was beyond the scope of this thesis, and should be a future consideration for research.

9.2.2 Methodological contributions to knowledge

My key methodological contribution to knowledge is writing this thesis as a performative account. What I mean is that I have been acknowledging and explaining throughout the thesis how my experiences as a researcher are inseparable from the research process, and the insights that were produced in this thesis. For example, my experience with significant space-time re-configurations during the COVID-19 pandemic incited my interest in exploring spacetime mattering where teacher agency/ies are becoming.

Another key methodological contribution I am making is illuminating how the nonrepresentational research process itself is a form of teacher agencies, because the process produces opportunities for teachers to shape their profession. For example, in [Chapter 7](#), I explained how participants said they realised the photo-elicitation process invoked certain insights about their teaching freedoms, which informed how they wanted to shape their practice.

In addition, my re-conceptualisation of *teacher agencies* contributes significant implications about research apparatuses that endeavour to explore this topic. Through a qualitative methodology, I provided detailed descriptions and illustrations of how teacher agencies are becoming. For example, in [Chapter 6](#), [Chapter 7](#), and [Chapter 8](#), I demonstrated how the opportunities for teachers to shape their practice are emerging through entangled multicausality and multidirectional effects. As such, the microdynamic nature of these relationships imply that researchers need to craft apparatuses that can capture these complexities and nuances. For example, pursuing a quantitative method that explores linear regressions would not be a pertinent research practice in exploring the complexities of how teacher agencies are becoming. A potential focus for future research is exploring how the entanglement of multiple apparatuses or methods diffractively produce insights on how teacher agencies are becoming.

Lastly, another key methodology contribution I make is sharing my vulnerability. Rather than pretend that this thesis is becoming in a seamless process, I explain how the research process was messy with multiple disruptions and changes especially during the stark uncertainties of the pandemic. I asked my primary supervisor what she wishes she had done differently during her doctoral studies, and she said she wished she was more open to sharing her vulnerability. Even though she felt she was not as open about being vulnerable, I realised that she encouraged me to be vulnerable during my doctoral studies, and I will always be grateful for that. I think back on Ingram's (2021) musings on the false binary between failure/success and hope the academic community will stop stigmatising failures, and instead normalise vulnerability and the becoming nature of research.

9.2.3 Empirical contributions to knowledge

One of the key empirical contributions knowledge I am making to knowledge is providing concrete, materialised cases of how teacher agencies are becoming through human-nonhuman phenomena and spacetime-mattering. A critique of agential realism is the challenge of applying the tenets to empirical data (Leonardi, 2013; Mutch, 2013). However, I found thinking with agential realism significantly helped me understand how teacher agencies are becoming and how I am becoming. Perhaps, the issue here is the lack of accessible, resonating examples. The emergings from this thesis could help solve that issue because teachers and teaching are of ubiquitous interest.

Another empirical contribution is the unique insights on how opportunities emerge for public school primary teachers to shape their profession in Canada, United States, and Australia, and specifically in the states/province of Ontario, New York State, and Victoria. These insights are unique because there are no previous studies on thinking with agential realism to explore

how teacher agencies are becoming in these specific geographic locations. Moreover, thinking with agential realism produced unique insights with regards to public school primary teachers and their intra-actions with space-time. This is because I generated the data while the teacher participants were working during COVID-19, which produced distinct space-time re-configurations and in turn, caused unique teaching experiences.

In addition, there is a lack of discussion on what teachers should be doing in practice with regards to a conceptualisation of teacher agency/ies (Aspbury-Miyanishi, 2022). I address that dearth in [Chapter 8](#), by thinking with teacher agencies to analyse the empirical data to gauge implications for policy, practice, and power dynamics. Moreover, teacher agencies as an apparatus provides conceptual tools to understand what the teaching profession should entail, and what constitutes teacher phenomena. As I emphasise throughout this thesis, these insights are not meant to provide generalisations for policy and practice in the respective countries and states/province. Instead, these insights allude to possible harmful effects that can materialise if specific intra-actions emerge. In [Chapter 8](#), I also point out how the harmful marks on bodies can cause further negative repercussions such as teacher attrition. Future research should delve into how teacher agencies are becoming in impacting teacher retention and attrition.

As a becoming-activist, one of my main goals in this thesis was to re-conceptualise teacher agency in a manner that could help address epistemic and material in-justices. In the process of fulfilling this goal, I had to make some exclusions to trace specific entanglements with regards to the research purpose and foci. The most significant cut I made was excluding insights on and participation with student phenomena. As I frequently stress in this thesis, student phenomena are imperative to understanding how teacher agencies are becoming, because teacher and students have the closest relationship in education (Béteille et al., 2020; Buyruk, 2014;

OECD, 2023). In addition, it is important to explore how student agencies are becoming to gauge possible in-justices for student phenomena.

9.4 Un-concluding

And here we are. I have never been good with closure. However, I am realising that this is not the end. The insights of my thesis are not confined to these pages. They will continue to evolve beyond my graduation date through space-time re-turnings in the forms of seeing, hearing, thinking, conversing, discussing, writing, reading, dreaming, intra-acting, entangling. The insights will also continue to foster my becoming in helping me understand the type of becoming-researcher and becoming-activist I wish to be.

Incidentally, Karen Murriss, who is one of the scholars I frequently diffract with in this thesis, shared an editorial today about a significant form of in-justice that is currently happening. When I read her passionate message about the importance of political response-ability, or ethico-politics as she calls it, I realised this thesis helped me find the academic niche I am currently happy to be in. I am surrounded by scholars who are helping me understand what my future goals are in becoming Tanjin.

At the end of the day, this thesis is deeply personal. I include a quote from a Coldplay song in my [dedication](#), which I will include again here.

Questions of science, science and progress,

Do not speak as loud as my heart.

The Scientist, Coldplay

My sister and I inferred that this quote is an allusion to the inseparability of the scientist and research, because research interests are rooted in personal interests. As such, this thesis will continue to become as I explore what personally matters to me. Because the personal matters. I

formally un-conclude with a quote that encapsulates how I am feeling. Thank you for interacting in this nonlinear journey.

Kitna kuch kehna hai, phir bhi dil mein sawal kahi

(I have so much to say, but my heart still has so many questions)

Krishnakumar Kunnath, Ajab Si

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Appendices

APPENDIX A: Outreach Poster

Flyer/Advertisement – Invitation to Take Part in the Project

Check out this poster on a study I am conducting for my doctoral study (IRB approved). If you are interested in participating then please send me (Tanjin Ashraf) a direct message on [name of contact space] or email me at ashraft@deakin.edu.au.



ARE YOU A PRIMARY SCHOOL TEACHER IN AUSTRALIA, CANADA OR THE US?

IS SO, PLEASE CONSIDER PARTICIPATING IN THIS STUDY ON TEACHER AGENCY!

I am a doctoral student exploring the significance of agency in the primary teaching profession. I am examining this topic within the COVID-19 context.

Interested participants will be partaking in an interview that will run for about an hour or less, and they will submit a photo depicting teacher agency (photo should include any people including the participant).

If you are interested in participating then please contact me (Tanjin Ashraf) at ashraft@deakin.edu.au

The poster features a dark blue background with white and yellow text. A red rounded rectangle contains the study description. At the bottom right, there is a white apple, a blue alarm clock, and a stack of books.

APPENDIX B: Standard Invitation

Participant Email/Contact Space Invitation

Dear [name of participant],

I am contacting you in regards to a research project I am conducting as a part of my Doctor of Philosophy thesis, *Power is Power: Exploring the Significance of Teacher Agency in the Primary Teaching Profession*.

This research project will explore the significance of agency for classroom teachers in: Victoria Australia; New York State, United States; and Ontario, Canada. An important aim of the project is to understand how teachers define and exercise agency in their profession and specifically, how teacher agency has been impacted by the COVID-19 pandemic. Your participation in this study is highly valuable as the unprecedented circumstances of the pandemic provides scope to potentially reimagine the teacher profession with regards to how teachers exercise their agency, particularly in times of crisis.

Participation in the research is entirely voluntary. If you decide to participate in the research your involvement extends to taking part in an interview of approximately one hour or less. The interview will be conducted by me. In addition, you will submit a photo that best depicts your teaching agency (cannot be a photo of yourself or include any humans for confidentiality purposes). You are expected to submit a photo 1-2 days before the interview. A Plain Language Statement (PLS) providing the relevant details is attached to this [email/name of contact space]. If you decide to take part in the interview I will require you to sign the PLS Consent Form and return it to me.

With warm regards,

Tanjin Ashraf (ashraft@deakin.edu.au) – Student Investigator

APPENDIX C: Letter of Invitation and Consent Form

PLAIN LANGUAGE STATEMENT AND CONSENT FORM



TO: [Teacher participant]

Plain Language Statement

Date:

Full Project Title: Power is Power: Exploring the Significance of Teacher Agency in the Primary Teaching Profession

Principal Researcher: Tanjin Ashraf

Student Researcher: N/A

Associate Researcher(s): N/A

You are invited to take part in this research project. Participation in the research project is entirely voluntary. If you decide not to participate then this in no way will affect your relationship to the researcher or to Deakin University. Please read this form and if you agree to participate in the research, your signature is then required in the attached consent form.

What is the research about?

This study aims to explore the significance of agency for [Kindergarten to junior (Kindergarten to Grade 6)/Foundation to primary (Foundation – Grade 7)/Kindergarten to primary (Kindergarten to Grade 6)] public school teachers in: Victoria Australia; New York State, United States; and Ontario, Canada. The project is guided by the major research question, What is the significance of teacher agency in the teaching profession? An important aim of the project is to explore and understand how teachers define and exercise agency in their profession, especially within the context of external governance. Specifically, this study will be exploring teachers' agency during the COVID-19 pandemic, as the unprecedented circumstances of the pandemic provides scope to potentially reimagine the teacher profession with regards to how teachers exercise their agency.

What does my participation involve?

You will be asked to take part in an online zoom interview. The interview will be recorded. The interview will go for about one hour or less and will be conducted by Tanjin Ashraf, Doctor of Philosophy Student at Deakin University. A convenient time will be arranged for the interview if you decide to participate in the research. In addition, you will submit a 'photovoice' which is ONE photo of your choice which best depicts describing your teaching agency during COVID-19. You must submit your photovoice 1-2 days before the interview. We will discuss your photovoice during the interview, to understand why you chose it and to provide you with an

opportunity to reflect on it. You will be provided with a copy of the interview questions and instructions on submitting the photovoice beforehand.

Will anyone else know the results of the project?

Participation is on a voluntary basis and strict anonymity will be maintained at all times as pseudonyms will be used. Any identifiers such as school, places and other names that may be mentioned will also be removed and replaced with pseudonyms. Within two weeks after the interview a transcript will be sent to you via email for your review before analysis. You will have the option of removing any statements you wish to be off record. Findings will also be returned to you in the form of a summary of results without any identifiable data. You may also ask up to the time of publication that any information collected at your interview be destroyed or not used for this research.

All data will be stored securely for a period of 5 years after final publication. It will then be destroyed.

What are the benefits of the project?

You will have the opportunity to reflect on your professional life, teaching, and philosophy. In addition, this study will potentially add to the scholarship on primary teacher's agency, the relationship between external governance and [Kindergarten to junior \(Kindergarten to Grade 6\)/Foundation to primary \(Foundation – Grade 7\)/ Kindergarten to primary \(Kindergarten to Grade 6\)](#) teacher agency, and how times of crises such as COVID-19 sheds light and impacts these foci. A comparison between Canada, the US, and Australia will contribute to the knowledge on the nexus between local, national, and global trends around the professionalisation of teachers, how teacher agency is similar and different between these three countries, and whether these insights carry meaningful implications for the effectiveness of teaching policies and practices in each respective country. The findings will have significant policy implications for teachers, policymakers, and scholars as it will provide insight into the significance of teacher agency in times of crisis which will inform future teaching policies that can subsequently potentially shape and re-shape the teaching profession.

Are there any potential risks of this project?

While it is not expected that participating in the study will cause you to feel any distress or potential risks, we recognise the challenging circumstances the COVID-19 pandemic has caused for many community members and as such we would like to highlight that if anyone is feeling distressed, or in need of additional support, you are invited to contact [[Lifeline: 13 11 14 or lifeline.org.au](#), or [Beyond Blue: 1300 22 46 36 or beyondblue.org.au](#)/NY Project Hope 1-844-863-9314 or visit [nyprojecthope.org/ConnexOntario https://www.connexontario.ca/en-ca](https://www.connexontario.ca/en-ca)].

In consideration of your wellbeing and to minimise risk, you have the option to withdraw from the study at any point before time of publication.

What if I have a complaints or any concerns?

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact The Human Research Ethics Office, Deakin University, 221 Burwood Highway, Burwood Victoria 3125, Telephone: 9251 7129, research-ethics@deakin.edu.au

Please quote project number [201X-XXX].

Who do I contact if I have questions about the project?

If you have any queries regarding this project, please contact the researcher:

Tanjin Ashraf – Doctor of Philosophy student
School of Education, Deakin University
221 Burwood Highway, Burwood VIC 3125

Email: ashraft@deakin.edu.au

Or alternatively, you may contact my co-supervisors:

Dr. Jessica Holloway (jessica.holloway@deakin.edu.au)

-

Associate Professor Andrew Skourdoumbis (andrew.skourdoumbis@deakin.edu.au)

PLAIN LANGUAGE STATEMENT AND CONSENT FORM



TO: *[Teacher participant]*

Consent Form

Date:

Full Project Title: Power is Power: Exploring the Significance of Teacher Agency in the Primary Teaching Profession

Reference Number:

I have read and I understand the attached Plain Language Statement.

I freely agree to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of the Plain Language Statement and Consent Form to keep.

I consent to the interview being recorded.

I consent to the interview being audio/videotaped.

The researcher has agreed not to reveal my identity and personal details, including where information about this project is published, or presented in any public form.

Participant's Name (printed)

Signature Date

.....

Send to:

Tanjin Ashraf (ashraft@deakin.edu.au) – Student Investigator

APPENDIX D: Withdrawal of Consent Form

STATEMENT AND CONSENT FORM



TO: *[Teacher participant]*

Withdrawal of Consent Form

(To be used for participants who wish to withdraw from the project)

Date:

Full Project Title: Power is Power: Exploring the Significance of Teacher Agency in the Primary Teaching Profession

Reference Number:

I hereby wish to WITHDRAW my consent to participate in the above research project and understand that such withdrawal WILL NOT jeopardise my relationship with Deakin.

Participant's Name (printed)

APPENDIX E: Interview Protocol

List of Interview Questions

Teaching background

- Where and how did you obtain your teaching credentials?
- How many years have you been teaching?
- What subjects have you taught in the past?

Pedagogy and curriculum development

- Who develops the curriculum and what governs the curriculum that you teach?
 - What role do you see teachers having in curriculum development and innovation?
 - Describe how the curriculum is implemented in the classroom.
- Who develops and what governs the pedagogical practices that you use?
- Who develops unit and lessons plans and how is this process governed?
 - Who chooses and how are classroom resources selected?
- Has COVID-19 impacted your pedagogical practices and how curriculum is developed and implemented? Explain how or why not.

Communication and collaboration

- Describe your interactions with parents.
 - Do you choose how to communicate or collaborate with parents? Explain.
- How do you communicate or collaborate with other teacher colleagues?
- Do you communicate or collaborate with school board members or state members? Explain how or why not.
- Have COVID-19 impacted your communication or collaboration with any of these people? Explain how or why not.

Professional development

- Do you engage in professional development activities?
 - What kind of activities and how often?
 - What is your role in these activities? Do you participate, lead, or have any other roles?
 - Who chooses the professional activities you participate in?
- Has COVID-19 impacted how you engage in professional development? Explain how.

Teacher accountability

- Are there any accountability measures you have to follow/exist in your school?
 - Such as teacher tests, observations, appraisals.
- If so, how do you feel these measures impact your teaching and career?
 - What role/impact do accountability measures have for a teacher's profession?
- Has COVID-19 impacted your involvement in teacher accountability measures? How?

Teacher agency

- How would you define teacher agency?
- Do you believe you have agency in your profession? Explain why or why not.

- Do you think COVID-19 impacted your agency or teachers' agency in general? Explain why or why not.

Photovoice

- Describe your photo. Why did you include these settings/objects/symbols in your photo? What do they represent?
- How does this photo depict your teaching agency? How does this photo depict your teaching agency during COVID-19?
- How does this photo make you feel? How does this photo capture your feelings and sentiments?

APPENDIX F: Photovoice Instructions

Photovoice Instructions

The purpose of providing an option to submit ONE photovoice is to give you an opportunity to visually share your experiences.

Please submit ONE original photo which you believe describes your **teaching agency** either in general or during the COVID-19 pandemic. You can capture your photo using any device you have access to. To maintain confidentiality, please do not include any humans (including yourself) in the photo or any identifiable information (e.g., names, addresses, etc.).

You will get a chance to reflect on and describe your photo during the interview. Here are a few prompts below to help you prepare for the discussion:

- How does this photo depict your teaching agency?
- How does this photo depict your teaching agency during COVID-19?
- What are a few words you would use to describe your photo?
- How does this photo make you feel?
- How does this photo capture your feelings and sentiments?

Please submit your photovoice 1-2 days before the interview.

APPENDIX G: Deakin University's Human Research Ethics Committee Approval

Human Ethics Advisory Group



Faculty of Arts and Education
Geelong Waurn Ponds Campus
Postal: Locked Bag 20000,
Geelong 3220, Victoria, Australia
Telephone: 03 5227 2226
Email: aeethics@deakin.edu.au

Memorandum

To: Dr Jessica Holloway
Research for Educational Impact
B
cc: Ms Tanjin Ashraf

From: Faculty of Arts & Education Human Ethics Advisory Group (HEAG)

Date: 12 February, 2021

Subject: HAE-21-011
Power is Power: Exploring the Significance of Teacher Agency in the Primary Teaching Profession
Please quote this project number in all future communications

The application for this project has been considered by the Faculty HEAG under the terms of Deakin University's Human Research Ethics Committee (DUHREC).

Approval has been given for Ms Tanjin Ashraf, under the supervision of Dr Jessica Holloway, Research for Educational Impact, to undertake this project from 12/02/2021 to 12/02/2025.

The approval given by the Faculty HEAG is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Faculty HEAG immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time.
- Any events which might affect the continuing ethical acceptability of the project.
- The project is discontinued before the expected date of completion.
- Modifications are requested by other HRECs.

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

The Faculty HEAG and/or DUHREC may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research 2007 (updated 2018).

Jo Ryan
HEAG Secretariat
Faculty of Arts and Education

APPENDIX H: Australian Catholic University Ethics Approval

Dear Applicant,

Chief Investigator: Dr Jessica Holloway

Student Researcher: Tanjin Ashraf

Ethics Register Number: 2022-2546R

Project Title: Power is Power: Exploring the Significance of Teacher Agency in the Primary Teaching Profession

Date Approved: 07/03/2022

End Date: 12/02/2025

This is to certify that the above human ethics has been reviewed by the Australian Catholic University Human Research Ethics Committee (ACU HREC). The application has been approved for the period given above.

*** Approval beyond this date is subject to the submission of annual progress reports to the governing HREC. A copy of annual reports and evidence of acceptance by the governing HREC should be provided to res.ethics@acu.edu.au.**

The Australian Catholic University Human Research Ethics Committee has considered your registration of an externally approved human ethics [application](#) and notes that this application has been reviewed by Deakin University, External HREC Reference: HAE-21-011

The ACU HREC accepts the approval with no additional requirements, save that the ACU HREC is informed of any modifications to the research proposal and that copies of all progress reports, final reports and any other documents be forwarded to it. Any reportable matters, complaints or incidents must also be notified to the ACU HREC (National Statement 5.3.3). Please note that regardless of the jurisdiction the research project will take place in, you must comply with Australian standards as per the NHMRC National Statement.

Any queries relating to this application should be directed to the Ethics Secretariat (res.ethics@acu.edu.au). Please quote your ethics approval number in all communications with us.

We wish you every success with your research.

Kind regards,

Leanne Stirling

on behalf of ACU HREC Chair, Assoc Prof. Michael Baker

Senior Research Ethics Officer | Research Services | Office of the Deputy Vice-Chancellor
(Research)

Australian Catholic University
T: +61 2 9739 2646 E: res.ethics@acu.edu.au

THIS IS AN AUTOMATICALLY GENERATED RESEARCHMASTER EMAIL