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Biliteracy Education in Cross-border Spaces: Case Studies of Curriculum between Canada and China

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A thesis submitted in partial fulfillment of the requirements for the Doctor of Philosophy degree in Education
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Abstract

This dissertation concerns cross-border biliteracy education. It aims to understand how biliteracy education curricula can disrupt binaries between first and second languages, print-based literacy and multimodal literacies, and formal and informal literacy experiences in the service of equitable, diverse, inclusive, and ethical education. This dissertation consists of three papers that draw on data from two research projects. The first paper, "*Literacies and Identities in Transnational Education: A Case Study of Literacy Curricula in a Canadian Transnational Education Programme in China*", and the second paper, "*Literacy Teacher Agency and Transnational Education: A Case Study of Curriculum Implementation in a Sino-Canadian Secondary School Program in China*" report on findings from a project titled "*A multiple case study of literacy curricula in Canadian transnational education programs in China*". These papers concern the literacy and identity options provided to the students and teachers' roles in the enactment of the school's curriculum. Findings from the study of the first two papers reveal factors that mediate students' literacy experiences and identity options and teachers' curriculum implementation. Main mediators included the school's governing structure on local/expatriate teachers and local/global curricula, standardized testing systems, the school's policy on the use of digital resources, and students' facility with the English language. The factors combined to create and exacerbate binaries of first and second languages, local and global curricula, and formal schooling and out-of-school experiences which may further constrain students' identity options. The third paper, "*Enacted Agency in a Cross-Border, Online Biliteracy Curriculum Making: Creativity and Bilingual Digital Storytelling*" responded to the need identified in the first two studies for curricula to promote expansive literacy and identity options to students. This study experimented with how cross-border biliteracy curriculum could create opportunities for students to make meaning across languages, modes, and spaces. It took the form of a netnography of an online emergent biliteracy curriculum, culminating with students' multimodal

digital stories. This study provides a counterpoint to the standardized curriculum of secondary school. Findings related that the intra-actions among non-humans (e.g., materials, time, and physical and virtual spaces) and humans (e.g., researchers, teachers, and students) shaped participants' creative acts. (348 words)

Keywords

Curriculum, literacy, identity, cross-border education, posthumanism, students' experiences, lived curriculum, teachers' roles, implemented curriculum, emergent curriculum, multiliteracies, biliteracy, teacher agency, digital storytelling, translanguaging.

Summary for Lay Audience

This dissertation focuses on literacy curricula in cross-border education contexts. Cross-border education has gained increased attention, due to the progress of globalization. This dissertation reports on two studies that concern two different types of cross-border education programs. The dissertation consists of three papers. The first two papers report on an ethnographic study that examines a Sino-Canadian transnational education program at the secondary school level in China. These two papers respectively concern students' experiences and teachers' roles in actualising Canadian and Chinese curricula. Findings reported in these two papers show various factors that have collectively influenced students' experiences and teachers' practices in this program (e.g., the school's administrative structures and instructional management systems, students' differences in language proficiency, tests' expectations, and the school's provision and use of resources, digital resources in particular). The third paper reports on an online biliteracy education program for students located in Canada and China, aged between 11 and 15. Responding to the limitations reported in the first study to expand diverse learners' meaning making in different languages and modes, the online biliteracy program explored how cross-border biliteracy curricula could provide biliteracy learners with more literacy and identity options. Students in this study had the opportunities to create digital stories in their preferred language(s), to include content of their interests, and to make digital stories in ways to convey and exchange meanings. These digital stories take various forms including LEGO stop-motion movie, shadow puppet show, animation, and Minecraft movie. Combining interconnected findings across these three papers, this dissertation hopes to contribute to knowledge in the promotion of equitable, diverse, and inclusive (bi)literacy education. (266 words)

Co-Authorship Statement

Dr. Zheng Zhang is the principal investigator and Dr. Rachel Heydon is the co-applicant of the project (*A multiple case study of literacy curricula in Canadian transnational education programs in China*) reported in the first two papers.

The authors of the first paper (*Literacies and Identities in Transnational Education: A Case Study of Literacy Curricula in a Canadian Transnational Education Programme in China*) included in this dissertation include Dr. Zheng Zhang, Dr. Rachel Heydon, Wanjing Li (me), and another research assistant. I have been one of the research assistants in this project. My contributions to this project and the two papers include: recruiting participants, collecting data onsite, managing and analyzing data, translating materials for publication purposes, and drafting and copyediting various sections of the paper.

The authors of the second paper (*Literacy Teacher Agency and Transnational Education: A Case Study of Curriculum Implementation in a Sino-Canadian Secondary School Program in China*) included in this dissertation include Wanjing Li (me), Dr. Zheng Zhang, and Dr. Rachel Heydon. Besides my contribution to the project as listed above, I took the lead in conceptualizing and drafting the paper. Drs. Zheng Zhang and Rachel Heydon helped revise the paper.

The authors of the third paper (*Enacted Agency in a Cross-Border, Online Biliteracy Curriculum Making: Creativity and Bilingual Digital Storytelling*) included Dr. Zheng Zhang and Wanjing Li (me). Dr. Zheng Zhang is also the principal investigator of this project (*Building on assets: a netnography of a cross-border, online biliteracy curriculum*). I have been one of the research assistants in this project. My contributions to this project and this paper include field-testing research materials and providing demonstrations for participants, managing the research team, organizing data, collecting and analyzing data, translating materials for publication purposes, and drafting and copyediting various sections of the paper.

Acknowledgments

I am very grateful to my supervisors, Dr. Zheng Zhang and Dr. Rachel Heydon, for making it possible for me to do research projects with them. Both have inspired my writing with exciting questions and helpful suggestions. Zheng and Rachel are rigorous and meticulous hard workers, which has been one of my motivations to work as a scholar. Zheng has been my supervisor since 2015 in my master's program at Western. Working with her has become and will still be the core memory of my academic life and becoming an ethical and powerful scholar and educator. Besides her guidance on my thesis writing and examination preparation, Rachel has given me more than enough care like a mother. Her profession and empathy have made my PhD journey productive and warm. My sincere thanks go to Western University, particularly the entire Faculty of Education, who contributed in one way or another to making this dissertation possible.

I want to thank my dearest parents, my mother, Ping, and my father, Guangfu, for their support throughout my journey to this destination. I am grateful that they are both wonderful educators and have helped me understand every decision I made. Video calls every weekend with them have been a weekly highlight these years. Their homemade food and care energized me during my last visit before completing this dissertation. I am very proud of them. I also want to sincerely thank my partner, Munib, who has supported me along my PhD journey. Watching movies while having junk food at home and taking walks in downtown Toronto in the summertime were my two favourite things to do with you during dissertation writing. This stressful, surprising, and fruitful journey has witnessed our knowing of each other and becoming together. Special thanks go to my lovely cousin, Ash, who has been visiting me from the UK to support my studies and work.

I also want to thank all my colleagues and friends who made this dissertation and my PhD journey delightful and memorable together. Thank you, Michelle, for crossing over 250km to care for me and my cats when I was sick. Thank you, Pam, for being with me at data collection. Thank you, Carla, Samia, and everybody from the Writing Group, for working with me and keeping my writing momentum. Thank you, Cecilia, for supporting my writing and presentation.

Special thanks go to my beloved cat family members, Dian Dian (9-year-old), Lao Shu (9-year-old), Xiang Xiang (8-year-old), Turbo (3-year-old), Doremi (10-year-old), Caramel (16-year-

Table of Contents

List of Tables

List of Figures

List of Appendices

Chapter 1

1 Introduction

The inspirations for this dissertation are my experiences as a student in public elementary and secondary schools in a middle-sized city in Wuhu, China, as well as those as an English literacy teacher in a Sino-Canadian secondary school. I define my childhood self as a child who was articulate and enjoyed communicating. My childhood self also enjoyed sharing sketching, piano-playing, and sports experiences with others. However, I struggled, in my elementary and secondary schools when my favourite art and physical education classes were replaced by Maths, English, and Chinese classes. This is when I doubted my competence in the face of standardized accountability systems, and when my rich extra-curricular experiences and my "other" gifts found no place in my schools. The private Sino-Canadian school I worked in was different from those in public schooling systems, in the sense that this school and its similar kind did not privilege "Gaokao", the Nationwide Unified Examination for Admissions to General Universities and Colleges. With the hope of understanding how opportunities could be created to extricate students from the standardizations and pathologization that my childhood self had experienced, I started my teaching at the school. However, complexities and unexpected challenges in the school handed me a reality check. This reality check constrained my ambitions to value the diversity of my students' knowledges and compelled me to wonder, what it is that educators, teachers, and students expect from education. My old self would say, it is that every student could be seen as capable/talented and given equitable treatment. Remaining true to my original childhood self, this dissertation is predicated in three studies of cross-border education between China and Canada whose findings I use to explore curricula that promotes equity, diversity, inclusion, and ethicality and highlights the possibilities for every student.

1.1 Introduction

The focus of this dissertation is cross-border biliteracy education. Situated in transnational programs involving Canada and China, this dissertation examines who and what are involved in

cross-border literacy curricula and what these curricula produce, including in terms of literacy learning opportunities and identities. The two studies in this dissertation related biliteracy to individuals' meaning-making practices pertaining to their bilingual resources. Following posthumanist orientations that disrupt binary thinking of L1/L2 (e.g., Canagarajah, 2018; Pennycook, 2017), this dissertation conceptualizes biliteracy learning as engaging multiple human and nonhuman entities (e.g., languages, objects, space, and time [e.g. Canagarajah, 2018; Pennycook, 2017]) in the cross-national spaces (Zhang, 2023). Later, this dissertation will draw on translanguaging perspectives to extend the meaning of biliteracy. The work hopes to challenge binaries of first and second languages and print-based literacy and multimodal literacies. It aims to promote a version of biliteracy education that is inclusive of all teachers' and students' languages and modalities. The biliteracy education that this dissertation promotes is also an ethical one, with its focus on enabling relationships.

This dissertation is structured as an integrated article thesis. It includes three papers that draw on data from two studies, each of which focuses on the central concerns outlined above. The first paper, "*Literacies and Identities in Transnational Education: A Case Study of Literacy Curricula in a Canadian Transnational Education Programme in China*" and the second paper, "*Literacy Teacher Agency and Transnational Education: A Case Study of Curriculum Implementation in a Sino-Canadian Secondary School Program in China*" report on the same study of a Sino-Canadian transnational curriculum at the secondary school level. "*Enacted Agency in a Cross-Border, Online Biliteracy Curriculum Making: Creativity and Bilingual Digital Storytelling*", the third paper reports on a study of an online emergent biliteracy curriculum that involved participants between the ages of 11 and 15. This study was conceptualized by members of the research team based on findings from the first study. To provide the background for making sense of the three papers, below, I present the research backgrounds of the studies upon which this dissertation is built, including their theoretical orientations, designs, and my role as a research assistant within them. I also elaborate on the structure of the dissertation.

1.1.1 Research Background

The studies relay two different forms of cross-border education, one onsite Sino-Canadian cooperative program that accredited dual-diploma upon graduation (Lee & Gough, 2020) and one online bilingual digital storytelling program that included students in Canada and China. Paper One and Paper Two focus on *transnational education*. These two papers conceptualize transnational education as the mobility of education programs and providers between countries (Knight, 2016). In terms of its structure and operations, Knight (2016) categorized transnational education into *collaborative* and *independent* types. Knight explained the collaborative form of transnational education as being one where foreign education institutions had local partners with whom to cooperate, such as the setup of twinning programs, internationally co-developed institutions, and joint degree programs. The second is independent transnational activities, where local institutions or providers are normally excluded from the design or delivery of academic programs, such as international branch campuses, franchise schools, or distance education programs. However, transnational education curriculum can appear in more varieties and provide more possibilities (Lee & Gough, 2020). For example, the internet has rendered opportunities for distance education (Stewart, 2019), such as those in the forms of cross-border online programs. The COVID-19 pandemic has tremendously changed the overall global education landscape (Alejo et al., 2023). The landscape of literacy education and research has experienced a profound shift towards online spaces, particularly accelerated by the global COVID-19 pandemic. In the education field, COVID lockdowns and campus closures propelled the provision of teaching and learning to move from onsite venues to online digital platforms. As Colpitts et al. (2020) point out, the COVID-19 pandemic caused "unprecedented disruption to the global order, impacting both the public and private sectors across a host of disparate industries" (pp. 158-159), including "education". This COVID-induced shift from onsite education to online is here to stay. Acknowledging the great potential of conducting research on online or virtual communities (e.g., Kozinets, 2010b), especially in this digital-intensified education era, Paper Three adopted a netnography methodology in response to the complexities of literacy education in the post-COVID digitalized era.

1.1.2 The Two Studies

This section provides an overview of the two studies and their connections to each other. The studies investigated from different dimensions of the curricula of two cross-border educational programs. Of note is that the study of formal transnational programs in Papers One and Two, led to the study team's creation of the curriculum documented in Paper Three.

Paper One focuses on the literacy and identity options provided within a formal Sino-Canadian transnational program. The study underlying this paper and Paper Two, understands literacy and identity options as the possibilities for students to make meaning and form notions of self in and through these literacies (Cummins, 2001). The purpose of the study was to identify the affordances and constraints of the transnational literacy curriculum. Key findings included enablers of expanding students' literacy and identity options, such as the program's commitments in expanding students' cultural and linguistic knowledge and capacities in English and Chinese. The constraints included the compartmentalization of local/global curricula, standardized testing requirements, and the school's agenda on the usage of technological resources that limited teachers' incorporation into the curriculum of new media literacy and critical literacy and students' opportunities to make meanings multimodally. Paper One provides an overview of the cross-border curriculum and sheds light on students' lived experiences in the curriculum, while Paper Two relays a study of this same curriculum with a focus on the role of teacher agency in curriculum actualization.

Paper Two reports on the mediators that the study identified as shaping the literacy teachers' agency, such as the school's standardized curriculum and its governing structures, standardized tests, students' facility with English, and the school's limited provision of technological resources. For example, the school's separate administrative structures constrained literacy teachers' opportunities in exercising their agency in integrating Chinese-Canadian curricula such as to incorporate connections between Mandarin and English languages and related literacy curricula. In addition, the teaching materials provided by the school's standardized curriculum and the school's prioritization of standardized tests were incompatible with students' language abilities and constrained teachers' ability to respond to students' diverse needs. Furthermore, limited accessibility to digital resources at the school affected the teachers' ability to have

optimum choices of media and technologies to support transnational education students' meaning making across modalities. In response, the teachers in the study sought to enact curriculum in ways they saw as helpful to students, such as by including materials in teaching that augmented prescribed textbooks and generating individualized teaching plans for students or groups of students. The impacts of the mediators found in the first study exacerbated the bifurcations between first and second languages, local and global curricula, and formal schooling and out-of-school experiences and constrained students' identity options. Findings and data from this study pushed the curriculum design reported on in Paper Three towards one that considered students' literacy practices from a variety of dimensions (e.g., linguistic, modal, and spatial) and aimed to legitimate students' own resources.

Paper Three provides a counterpoint to the study reported on in the first two papers. Rather than attending to the onsite, formal, and structured transnational curriculum, this study focused on an online cross-border emergent curriculum, the research team designed to create opportunities for students' digital storytelling. Paper Three reports on the creative literacy practices produced through the curriculum and how they were the effects of intra-actions among humans (e.g., researchers, teachers, and students), matter (e.g., computers), geo-political spaces (e.g., Canada and China) and virtual spaces (e.g., virtual spaces of Seesaw and Skype). Although engaged with literature on multiliteracies and its pedagogies as in the study of Paper One and Paper Two, Paper Three challenges multiliteracies' conception of agency. Rather than overemphasizing human agency in literacies and seeing humans as users of multilingual and multimodal materials as background resources, this study identified the agency produced through the "intra-actions" (Barad, 2007) among human and nonhuman entities in creative literacy acts (e.g., Leander & Boldt, 2013).

In the next section, I introduce the studies' theoretical orientations.

1.2 Theoretical Orientations and Underpinnings

The papers draw variously on conceptions of curriculum, literacy, and teacher agency.

1.2.1 Curriculum

The three papers focus on different dimensions of curriculum, which together provide a view of the multidimensional nature of curriculum (Eisner, 2002), that is actualized "in different ways and exist[s] at different levels" (Morris & Adamson, 2010, p. 4). Paper One focuses on the lived curriculum (Aoki, 1993), which refers to the curriculum as the one lived out by students, rather than the one set out as a plan. Paper Two takes up the implemented curriculum and focuses on "instructional events" (Deng, 2009, p. 589). The implemented curriculum captures teachers' interpretation of programmatic curriculum and regards the results and effects of dynamic interactions among the four curriculum commonplaces, namely, the subject matter, the learner, the teacher, and the milieu (Schwab, 1973). Both of these papers deal in some way with levels of curriculum which include the institutional curriculum which manifests social expectations and values (Doyle, 1992) and the programmatic curriculum which materializes institutional curriculum into documents for school use (Deng, 2009).

Paper Three explores and illustrates the model of *emergent curriculum*. Emergent curriculum describes a paradigm that envisions learners as important sources of the curriculum and fosters a culture of empowerment, collaboration, and harmonious and ethical relationships among children, schools, and communities (Heydon & Wang, 2006). Emergent curriculum positions students at the starting point not the end point in pedagogies (Tal, 2014). It "focus[es] on the process but essence, focus[es] on relation but substance, focus[es] on the creativity but predisposition, focus[es] on the individuality and difference but uniformity, and focus[es] on the concrete but abstract" (Li, 2002, p. 152). The program development component of the study adopted an emergent curriculum approach for its program development, where all students are re-centered in curriculum-making (Yu-le, 2004), such as to make decisions on their creative digital story-making. For example, in the study, the curriculum invited students to inform many aspects of the content and form of what was to be learned, including modes and languages). The emergent curriculum model also connects to the posthumanist orientation of Study Two where, unlike in the conception of curriculum in Study One which sees curriculum as somewhat hierarchical (i.e., in levels), curriculum is intentionally built through collaboration and where knowledge is shared and reproduced among researchers, teachers, and students. Adopting this posthuman orientation, the research team saw curriculum making and enactment as network

effects. Such a model of curriculum highlights the "relationality" and the "interconnectiveness of all living things" (p. 7). I discuss the theoretical orientation of Study Two in relation to posthmanism in detail in the section of 1.2.4.

1.2.2 Multiliteracies

Literacy curriculum and pedagogies are at the heart of this dissertation. Both studies engaged multiliteracies to capture the diversity of media, languages, and discourse patterns (e.g., Cope & Kalantzis, 2009; The New London Group [NLG], 1996) in the curricula of the studies. Paper Three, however, diverts from multiliteracies in some important ways.

The study reported in Paper One and Paper Two is informed by literature on multiliteracies that advocates for expanded opportunities for students to engage with literacy learning in ways that reflect a digitalized and globalized era (e.g., NLG, 1996). This literature further advocates for literacy education that affirms students' identities (e.g., Cope & Kalantzis, 2009; Kalantzis & Cope, 2012; NLG, 1996). Paper One engages multiliteracies to account for the diversity and multiplicities of the bi/multilingual transnational students' languages, literacies, and literacies practices with a focus on literacy pedagogies that are multilingual, multimodal, use a variety of media, and multi-discursive across domains (i.e., engaging the discourses of pertinent domains such as home, school, or disciplines) (e.g. Barton & Hamilton, 2000). This study conceptualized literacy and identity options as the possibilities for learners to acquire receptive and expressive literacy skills and form notions of self in and through these literacies (Cummins, 2001). The inextricable connections between literacy and identity can be illustrated by Kalantzis and Cope's (2012) accentuation of two major aspects of meaning-making that are intertwined with identity options, that is social diversity and multimodality. Social diversity describes the social contexts that impact the ways individuals encounter literacy, such as "life experience", "area of employment" or "gender identity" (p. 1). Multimodality in the study also entailed how learners' identities are related to modal choices and representations (Zhang et al., 2020). Moje and Luke's (2009) conceptualizations of identity (i.e., identity-as-difference, identity-as-self/subjectivity, identity as mind/consciousness, identity-as-narrative, and identity-as-position) and Gee's (2008) Big D discourses also informed the examination on how this curriculum influenced students' lived literacy experiences in relation to the literacy and identity options provided by it.

The study reported in Paper Three also engaged multiliteracies, in particular in its attempts to engage with asset-oriented pedagogies that leverage bilingual learners' assets of meaning-making in different languages, modes, and technologies (e.g., Cummins et al., 2015). Assets can also include students' *funds of knowledge,* which refers to the "historically accumulated and culturally developed bodies of knowledge" that students bring to class, such as the knowledge they bring from contexts other than schooling (e.g., home and community) (Moll et al., 1992, p. 133). I discuss Paper Three in relation to multiliteracies and posthumanism in the section of 1.2.4.

1.2.3 Teacher Agency

Papers Two and Three are reliant on conceptualizations of agency in particular aspects of literacy education. Paper Two focuses on teachers' agency through an ecological approach (e.g., Priestley et al., 2015) whereas Paper Three conceptualizes agency as the effect of intra-actions which may include human and nonhuman entities.

Paper Two is concerned with how literacy teachers exercise agency in the actualization of classroom curriculum. To do so, it draws on the ecological approach to teacher agency where "agency is positioned as a relational effect" (Priestley et al., 2012, p. 11). This paper reports on elements of the study concerned with how teachers' agential practices are impacted by the relational effects asserted by the school's Chinese and Canadian curricula, curriculum and examination standardization, and the school's policies on the use of digital resources. For example, the expatriate literacy teachers in the study exercised agency by critically resisting (Fenwick, 2006) the standardized programmatic curriculum prescribed by the school and the school's prioritization of standardized examinations. Still, the prescribed, standardized curriculum the teachers were meant to follow, reduced their ability to respond to students' different needs, connect local and global curricula, and nurture students' practical and critical capacities. The ecological approach to teacher agency foregrounds contextual factors that mediate literacy teachers' practices, and is a contrast to the conceptualization of agency in Paper Three which more greatly considers material resources in literacy curriculum and the distribution of agency.

Paper Two further identified how the prescribed curriculum and standardized tests coerced literacy teachers to teach to the test and categorized students based on standards articulated in the prescribed curriculum and examinations. The curriculum was poised towards bringing students to a standard "norm" (Heydon & Bainbridge, 2015, p. 335) through multiple approaches, such as to teach discrete linguistic features and to fulfill the requirements of high-stake tests. As such, teachers could not fully engage within the implemented curriculum, students' funds of knowledge across linguistic, cultural, semiotic, and contextual dimensions, further limiting students' identity options. These findings are in contrast with multiliteracies' privileging of "the many ways that people write, speak, or read themselves into the world" (Moje & Luke, 2009, p. 434) and intonement to include students' "culture, context, and purpose-specific patterns and conventions of meaning making" (Cope & Kalantzis, 2009, p. 176). In response, the study team designed the curriculum in Study Two and reported in Paper Three to be in keeping with pedagogies based in students' funds of knowledge, with an intention to cultivate students' creativity through engagement with multiple languages and modalities across various literacy learning contexts.

1.2.4 Multiliteracies and Posthumanism

The study of Paper Three is a departure from the study of Papers One and Two. It is orientated by aspects of multiliteracies while challenging multiliteracies on its overemphasis on human agency.

1.2.4.1 Multiliteracies

Multiliteracies and its notion of pedagogies that account for diversity and multiplicity (e.g., Kalantzis & Cope, 2009) in support of creative literacy enactment are all part of the study in Paper Three. For multiliteracies, "pedagogy is a teaching and learning relationship that creates the potential for building learning conditions leading to full and equitable social participation" (NLG, 1996, p. 60). This pedagogy acknowledges that every learner brings their own experiences, linguistic knowledge, and sociocultural resources into semiotic encounters. Accordingly, it supports multimodal approaches to teaching and learning literacy where learners choose among linguistic, visual, auditory, gestural, and spatial modes to express and make meanings (Kalantzis & Cope, 2005). In keeping with the dissertation's promotion of equitable,

diverse, inclusive, and ethical (bi)literacy education, multiliteracies holds potential in promoting these aims. Recently, multiliteracies scholars proposed an expanded meaning of the "multi" in multiliteracies (e.g., Kalantzis & Cope, 2021) to include lifeworlds diversity and multiple forms of meanings (i.e., combinations of meanings and signs). This expansion is explained by the inseparability of the relationships among people's everyday literacy experiences, images, sounds, bodies, spaces, and objects (i.e., the expanded multimodality), especially when various forms of meaning are profoundly intertwined in this digitalized era. Multiliteracies has also proposed a "transpositional grammar" (Kalantzis & Cope, 2022) to account for the transformative and ongoing activities of how individuals reconstitute meanings in various forms based on and across different positionalities/social contexts/needs. This expanded meaning of doing literacies echoes the intention in the design of the study of Paper Three, that is to include students' multiple ways of doing literacies (e.g., multilinguistic, multimodal, and multidiscursive) and to leverage their funds of knowledge (e.g., Gonzalez et al., 2005; Moll et al., 1992). Kalantzis and Cope's (2021) emphasis on lifeworlds diversity particularly highlights the blurring boundaries between students' informal learning through immersion (e.g., everyday lived experiences) and formal learning (e.g., in schools). Keeping with multiliteracies' promotion of students' funds of knowledge, this study sought to promote students' engagement with creative meaning making, relying on many resources, including linguistic (i.e., Chinese and English), cultural (e.g., cultures associated with the students), semiotic (e.g., facility with composing, sketching, filming, narrating, and using various digital devices and applications), and spatial (e.g., incorporating resources from informal learning contexts).

1.2.4.2 Posthumanism

Different from the study of Paper One and Paper Two that centers humans, the study of Paper Three takes a posthumanist orientation to foreground the potential role of nonhuman entities in literacy teaching and learning. Posthumanism orients Paper Three, in particular new materialist accounts of linguistics (e.g., Pennycook, 2017). Such an orientation shows up in the study through the indexing of literature that explores the interconnectedness of humans and non-humans in producing literacies (Pennycook, 2017), with an intention to include new materialist accounts in pedagogies (Zhang & Li, 2020; Zhang, 2023). Posthumanist theories attend to the decentralization of humans and urge for an ontological adjustment from understanding humans

as individual and separate entities from the world, towards understanding the world through complex intra-actions among humans and non-humans (Barad, 2003). In his challenge to the dominant anthropocentric accounts of privileging human entities over nonhuman ones in educational research, Howlett (2018) pointed out that "posthumanist studies have pushed back on humancentric narratives … to challenge the assumption of humanization as inherently liberatory, and the human as a stable category for grounding educational and pedagogical aims" (p. 107). In a similar vein, MacLure (2013) challenged human/nonhuman hierarchies and calls for flat ontologies that foreground the non-representational aspects of literacy practices. Such aspects are those that can be captured beyond conventional representation channels such as writing and speaking. For educational research, MacLure (2013) cautioned against representationalism, that is, the belief "in the ontological distinction between representations and that which they purport to represent" (Barad, 2007, p. 46). MacLure (2013) claimed such a research approach had "rendered material realities inaccessible behind the linguistic or discourse systems that purportedly construct or 'represent' them" (p. 659). In contrast, a flat ontology rejects language/material binary and sees that "discourse and matter are mutually implicated in the unfolding emergence of the world" (MacLure, 2013, pp. 659-660).

Keeping with a posthumanist stance, the study of Paper Three conceptualizes literacy through agential realist perspectives (e.g., Barad, 2007) where literacies are produced through and within dynamic socio-material-semiotic assemblages. Barad's relational ontology accentuates phenomena as the primary ontological unit (Zhang & Li, 2020) where phenomena are "dynamic topological reconfigurings/entanglements/relationalities/(re)articulations of the world" (Barad, 2007, p. 141) that "signify the ontological inseparability of agentially intra-acting components" (p. 23). All matter (e.g., meaning, materials, time, and space) is agential and all matter emerges and exists iteratively and are being refigured constantly through intra-actions, as posthumanism grants agency to nonhuman entities and flattens the differences between human and nonhuman agency (e.g., Barad, 2007). Taking an agential realist perspective and relational ontology moves the examinations of literacy teaching and learning in this study beyond human factors to include those beyond, including physical, material, temporal, and spatial dimensions. In agential ontologies, the socio-material forces are more than just background or contexts of literacy practices, but active entities with their agency (Honeyford & Yaman Ntelioglou, 2020). This

study decentralized human actors to better identify the range of constituents that produced curricula.

Within this posthuman orientation, the study reported on in Paper Three explored how material-informed online, cross-national biliteracy learning could support the production of students' creative literacies (Zhang & Li, 2020), and wondered at the building of ethical relationships across time, space, languages, and global others (Zhang, 2023). Through examining a creative storytelling curriculum involving a plethora of media, this study explored how the agentic assemblages of human and non-human elements shaped literacies. The design of the study of Paper Three further responds to the main critiques of multiliteracies in framing human and non-human agency. Although the concept of Design (NLG, 1996) expanded the understanding of what can be counted as literacy, it still centralized human subjects as key actors in meaning-making, thus limiting the power of semiotic resources (Smith, 2017). Similarly, Leander and Boldt (2013) critiqued multiliteracies on its over-attribution of agency on humans and its positioning multilingual and multimodal materials only as resources. This study conceptualized agency as "an enactment between humans and nonhumans" (Kuby et al., 2017, p. 357) and regarded "all matter has some form of agency" (Snaza et al., 2016, p. xvi). New materialist perspectives pushed forward this study's consideration of literacies to attend to all matter's materialities and their agency that exceeds representationalist discourses. This study also considered material-informed pedagogies, as it took the position that "agency is not an innate disposition in the individual; it is developed in artifact-mediated and objective-oriented interaction" (Lund et al., 2019, p. 50). These conceptualizations of posthumanist agency highlight the agentive roles of expansive contextual resources, casting light on how agency can be achieved (or not).

1.3 Research Design

In this section, I present the research designs of the two studies as well as my role as a research assistant in these studies.

1.3.1 The Study of Paper One and Paper Two and My Roles

The study reported on in Paper One and Paper Two is an ethnographic case study from a multiple case study project entitled *A multiple case study of literacy curricula in Canadian transnational education programs in China* (Zhang & Heydon, 2016). After this study was granted ethics approval (See Appendix A) from Western University, I was assigned the role of research assistant. My role included participant recruitment and data collection. Data collection spanned from the beginning of March to the end of April in 2017. Data sources of this study included curriculum documents (e.g., school policy, curriculum documents that underpin the school's programmatic curricula, and teachers' teaching resources, students' assignments), interviews with two principals, three literacy teachers, and seven students, 47-period classroom observations, and students' multimodal artifacts.

The research site of this study was a Sino-Canadian secondary school (pseudonym: SNBS) located in a middle-sized city in inner south China. I assisted with the observation of 47 periods of literacy classes, including 11 Mandarin classes and 36 English classes. Each period lasted 40 minutes. I, a native Mandarin speaker and the other research assistant, a native English speaker, recorded descriptive and reflective field notes about literacy interactions among teachers and students in observations. Classroom observations focused on three literacy teachers' classes (all pseudonyms): Ms. Liu's Mandarin literacy classes, and Ms. Taylor's and Ms. Johns' English literacy classes. I regularly conducted classroom observations in Ms. Liu's Mandarin literacy classes while the other research assistant regularly conducted observations in Ms. Taylor's and Ms. Johns' English literacy classes. I conducted interviews that were communicated in Mandarin, including the interviews with seven students (all student participants in this project chose to communicate in Mandarin in their interviews), one interview with the Mandarin literacy teacher, Ms. Liu, and one interview with the Chinese vice principal, Mr. Deng. I was also the secondary interviewer in all English-mediated interviews with two English literacy teachers (Ms. Taylor and Ms. Johns) and the Canadian vice principals (Mr. Thomas).

1.3.2 The Study of Paper Three and My Roles

The study reported in Paper Three is a case study using a netnography methodology (Kozinets, 2010a). Data sources of this study include students' digital stories in multiple forms (e.g., stop-motion movies, animations, and shadow puppet show), digital storytelling (e.g., portfolios), asynchronous interactions on Seesaw, transcribed video data of synchronous interactions on Skype, as well as online or onsite interviews with students about their perspectives of the impacts on the cross-border online biliteracy learning experience.

Netnography is an emerging methodology designed to study interactions on social media platforms in response to the changing digitalized world (e.g., the increased access to the Internet). It can be considered as an adapted ethnographic approach that uses real-time or archival data from all internet-enabled technologies (Kozinets, 2015) and adapts into contingencies that are mediated by the internet (Morais et al., 2020). The purpose of this method is to understand cultural elements, such as the use of language, roles, identities, and stories, thus to understand the systems of meaning, values, and power embedded within people's interactions in virtual space, and those with technology itself (Kozinets, 2021). Education studies in literacy and language that use netnography or online ethnography are emerging (e.g., Black 2005; Harrison, 2013; Kulavuz-Onal, 2015; Zhang & Li, 2020). This study borrowed netnography's strengths in dealing with the larger quantity and enhanced availability of data compared with conventional methods (Morais et al., 2020). In order to capture the "'natural environment' of the online world" (Kozinets, 2010b, n. p.), besides online or onsite interviews with the students, we collected data of students' digital storytelling portfolios, the asynchronous interactions (e.g., comments, feedback, and responses) among students, teachers, and researchers on Seesaw, as well as their synchronous interactions on Skype. We applied this methodology in our material-informed study with a focus on how technology changes human experience (Kozinets, 2015).

Data collection duration of this study spanned from February 13 to June 6, 2019, on Seesaw, with Skype being used for the complementary synchronous and asynchronous intra-actions (e.g., peer support and language support meetings). Participants' storyboarding on Seesaw kept records of the process of them choosing/changing story topics and content, languages, and forms of meaning in the creation of their digital stories. After this project was granted ethics approval (See

Appendix B) from Western University, I was assigned the role of one of the research assistants, with responsibilities in the organization and demonstration of a pilot study to field-test the feasibility of the project and the uses of the selected online platform. Prior to the commencement of this project, in August 2018, another research assistant and I collaboratively created a demo digital story in the form of an animation movie (*A Duck Who Takes Me Home*) using Powtoon (i.e., an animation software). This story unfolded from my home and hometown memories about a local dish cooked with duck, which was used as an anchor to convey reflections on connections between China and Canada from the perspective of food. During data collection, my duties entailed the collection and organization of participants' portfolio information on Seesaw platform. This involved the creation and categorization of documents pertinent to each participant, incorporating their respective data sets. Additionally, I assumed responsibility for the documentation and archiving of meeting proceedings. In terms of data management, I was responsible for monitoring participants' digital story creation progress. This entailed discerning and documenting changes in the process of participants' digital storytelling creation, such as the changes of the topics, genres and styles of the storytelling, and modal choices. Furthermore, I undertook the task of systematically categorizing data in alignment with this study's foci. For instance, I cross-checked all interview transcripts to compile a comprehensive record of participants' discourses discussing on "creativity". Moreover, I took charge of the management of all visual data, encompassing the collection, storage, and refinement of participants' visual engagements, such as their sketches, drawings, or photographs, intended for future knowledge disseminations and publications. I have also generated visualization for the publication of this project (e.g., Zhang, 2023). Besides my role as a research assistant, I was also assigned as a teacher, which entailed strategical communications with participants on Seesaw and in Skype meetings in both languages.

In the following three chapters, I present the three papers in the order in which they were composed. Chapter 2 presents Paper One (*Literacies and Identities in Transnational Education: A Case Study of Literacy Curricula in a Canadian Transnational Education Programme in China*). Chapter 3 presents Paper Two (*Literacy Teacher Agency and Transnational Education: A Case Study of Curriculum Implementation in a Sino-Canadian Secondary School Program in China*). Chapter 4 presents Paper Three (*Enacted Agency in a Cross-Border, Online Biliteracy Curriculum Making: Creativity and Bilingual Digital Storytelling*).

Chapter 2

2 Paper One: Literacies and Identities in Transnational Education: A Case Study of Literacy Curricula in a Canadian Transnational Education Programme in China[1]

Abstract

This ethnographic case study focused on a transnational education programme in an inner city in Mainland China that used both Chinese high school curriculum and Canadian provincial curriculum from New Brunswick. The goal of the study was to capture the desires and power relations that shaped literacy and identity options in the school's hybrid curriculum. Findings revealed the affordances of the programme in expanding students' cultural and linguistic knowledge and capabilities in two languages and the constraints to their literacy and identity options. Notable constraints included the compartmentalization of English and Chinese curricula, standardized literacy tests, and the school policies that limited teachers' incorporation of new media literacies and critical literacy. The study contributes to extant knowledge of transformative transnational literacy education that could help educators provide pedagogical opportunities for students to construct fluid and multi-layered identities that connect to their complex, multilingual literacy practices.

Keywords: curriculum; literacy; identity; transnational education

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[1] A version of this chapter has been published (Zheng et al., 2020).

2.1 Introduction

Transnational education, the movement of an education programme or institution between countries (Knight, 2016), is a growing feature of the current international education landscape. For instance, at the post-secondary level, eight countries[2] have set up 969 transnational education programmes in China as of August 2018 (Ministry of Education of the People's Republic of China, 2018). The number of students located in China but studying in U.K. transnational post-secondary programmes increased by 14.5% from 2015 to 2016 to reach 65,199 students (The Quality Assurance Agency for Higher Education, 2017). The trend extends to Canadian programmes: the use of Canadian K-12 curricula in China rose from 48 programmes in 2011 (Zhang, 2012) to 86 in 2018 (Canadian Information Centre for International Credentials, 2018). Various geopolitical reasons could account for the cross-border movement of curriculum. For instance, changes to funding regimes for education have pushed many educational institutions to increase recruitment of offshore international students through transnational education programmes, such as those in the British Columbia of Canada (Kuehn, 2002). Ontario, Canada instead strategically used its offshore schools to brand Ontario's quality education and there- fore become open door to bilateral trade (Zhang & Heydon, 2015). In China, the free-market ideology has pushed the commodification of education and expanded parental choices in education (Lin, 2007; Xie & Wang, 2008). The Chinese government also intended to attract 'high-quality foreign educational resources' (China's Ministry of Education, 2003, Article 3) and 'strengthen international exchange and cooperation' in education (Article 1).

Oppositional voices to transnational education have emerged in literature that address the ideological opposition to the idea of education as a commodity (e.g. Education International, 2004) and cultural and linguistic imperialism inherent in these programmes (e.g. Chambers, 2003). Literacy curricula may be salient in the local/global contact zone, given the inextricable link between language, culture, knowledge and identity. However, knowledge of literacy

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[2] These eight countries are The United Kingdom, The United States, Australia, Canada, Germany, France, Ireland and New Zealand.

curricula in these programmes is scarce. As such, this study took as its case the literacy curricula of one purposively selected transnational education programme located in China but using Canadian curricula and produces knowledge of what can happen when Canadian *programmatic literacy curricula* (i.e. what is embodied in literacy curriculum documents and materials [Doyle, 1992; Deng, 2009]) are transplanted abroad and actualized in the *implemented literacy* curricula (i.e. what happens in literacy classrooms) (e.g. Eisner, 2002).

To contribute to key knowledge pertinent to literacy education when it crosses cultural, linguistic and/or geopolitical borders, the study must index the extant re- search on English linguistic imperialism and Western-centric knowledge given that TNE programmes by their very nature move English to new settings (e.g. McBurnie & Ziguras, 2007; Ziguras, 2008) and incur privileges of English literacy curricula over local Chinese literacy curricula (Zhang, 2015; Zhang & Heydon, 2015). Initial work surrounding transnational literacy curricula has commenced. Zhang has led case studies focusing on Canadian Ontario and Alberta literacy curricula used in secondary school programmes located in China (Zhang, 2015; Zhang & Heydon, 2014, 2015; Zhang, 2019a). Findings indicated that some of these curricula leveraged students' production of new syncretic identities, namely, a sense of self composed of diverse cultural and linguistic influences from Canadian and Chinese ways of being. Findings also suggested that there were missed opportunities for cooperative, bicultural and bilingual curricula that incorporated wisdom and traditions of local literacy education in Mandarin. The studies pointed to limited knowledge about what inter- related literacy practices and identity options were prescribed, actualised and experienced in the programmatic, implemented and lived curricula. Complicating matters is that little is known about how local particularities might counterbalance the dominance of English language and Western-centric literacies in transnational education programmes. Our study sits at this gap and was designed to address the scarcity of literature on literacy and identify options in secondary level transnational literacy curricula at the private school in Mainland China. The private school under investigation was located in a middle-sized, inland city in Mainland China. Its students were registered in two academic streams: the Local Stream and the Foreign Stream. Students registered in the Local Stream only studied the Chinese national high school curriculum and would take Gaokao (i.e. the national higher education entrance ex- amination in Mainland China). Students registered in the Foreign Stream studied both the Chinese national high school

curriculum and the New Brunswick provincial curriculum that would lead to dual diplomas of the Chinese High School Diploma and the New Brunswick Secondary School Diploma if students meet the diploma test expectations from both sides, that is, China's diploma tests of Huikao and the Grade 11 English Second Language Assessment (ESLA) from New Brunswick.

Our study asked: What were the literacies and literate identities that were promoted by the school's programmatic literacy curricula? How were these intended literacy practices and identities actualised in the English and Mandarin literacy class- rooms of the programme? What were the effects on students' lived curricula as related to their literacy and identity options?

2.2 Core Concepts and Literatures

The study sought to consolidate and extend core concepts and literatures pertaining to the foci of the study: curriculum, multiliteracies and identity.

2.2.1 Curriculum

Curriculum is a concept that has been variously defined in the literature. It has, for example, been seen as a 'blueprint for achievement' (Egan, 2003, p. 10) or as a complex dialogue (Routman, 2000). We use the interrelated concepts of programmatic, implemented and lived curricula to reflect some of the variation in forms that curriculum can take. While *institutional curriculum* relates to abstract policies or ideas about what should be taught at school, programmatic curriculum is often instantiated in curricular documents (e.g. Doyle, 1992). The *implemented curriculum* involves what actually takes place in the everyday lives of schools and classrooms (Eisner, 2002). The implemented curriculum can attend to the dynamic interactions and effects between educators, learners, subject matter and social milieu (Schwab, 1973) in and across specific settings.

To capture the effects of the programmatic and implemented curricula, this research study drew on Aoki's (1993) concept of *lived curriculum,* which emphasises the multiplicity of students' lived experiences in teaching and learning situations. This notion captures the diverging and competing discourses that are associated with 'curriculum-as-plan' (p. 257) and curriculum-as-lived. Curriculum-as-plan reveals external curriculum decision-makers' 'prosaic,' 'techni-scientific' and 'striated' language (p. 261). In contrast, curriculum-as-lived, as embodied in students' diverse life stories, conveys 'the more poetic, phenomenological and hermeneutic discourse' (p. 261). This study also sought to accentuate the 'pedagogically crucial' curriculum studies that are based on lived experiences (Pinar *et al*., 2008, p. 530) and have the potential to 'recover human feeling and motivation for studies of education that had become anonymous and quantitative' (Grumet, as cited in Pinar *et al*., p. 540).

2.2.2 Multiliteracies and Identity

Literacy is at the heart of this research to understand various levels of literacy curriculum, and we conceptualise it through *multiliteracies* to account for the semiotic, linguistic and discursive complexity of the curricula in question. To respond to growing cultural and linguistic diversity and communication technology in the globalised world, multiliteracies literature identifies learning opportunities that are multilingual, multimodal (i.e. engaging multiple sign systems and related digital and analogue media) (e.g. Kress, 2009) and multi-discursive (i.e. engaging the discourses of pertinent domains such as home, school or disciplines) (e.g. Barton & Hamilton, 2000). Connected to the multiliteracies literature are the inextricable links between literacy and identity. The concept of multiliteracies has been revisited by Kalantzis and Cope (2012) that accentuates at least two major aspects of meaning-making that are inextricably intertwined with identity. First, social diversity, which describes the social contexts that impact the ways one interacts literacy, such as 'life experience,' 'area of employment' or 'gender identity' among other factors (p. 1). Second, multimodality, which sheds light on how literacy learners' identities breathe life into modal choices and are enacted through multimodal representations. Power is encoded in historically and politically privileged modes such as print-based literacy (Health & Street, 2008) and regional and international languages such as English (Street, 1984).

We adopted Moje and Luke's (2009) conceptualisations of identity: (1) *identity as difference* (i.e. the way that identity is conceptualised in prevailing discourses such as national, raced, ethnic, linguistic and cultural identities), (2) *identity as sense of self/subjectivity* (i.e. how selves and subjectivities come to be), (3) *identity as mind or consciousness* (i.e. positioning literacy practices as a tool for the evolvement of higher levels of consciousness while running the risk of positioning a certain literate skill as 'living at a lower level of consciousness' [p. 426]), (4) *identity as narrative* (i.e. identities are stories about the development of selves and recognition of others) and (5) *identity as position* (i.e. production of subjectivities through social positioning in everyday discourses, spatial arrangements, texts or other media). Gee's (2008) Big 'D' Discourses also assisted our understanding of the associations between identities and multiple forms of literacies. Primary Discourses are concerned with early home and peer group socialisations which constitute people's first social identities and form the base within which people acquire or resist later Discourses. Primary Discourses differ by constructs such as social class and ethnicity (Lankshear & Knobel, 2003). Secondary Discourses are related to socialisations within various local, provincial and national groups and institutions such as churches, gangs or schools. Distinctive literacy practices in different Secondary Discourses shape people's identities. For example, individuals' expert uses of certain modes support their identity and membership within a community (e.g. computer geek, graffiti artist, football player) (Heath & Street, 2008). Gee's big 'D' Discourses guided us to attend to the myriad Primary and Secondary Discourses that might have shaped the multiple ways of meaning-making and fluid and multiple layers to individuals' identities at the transnational education programme (Moje & Luke, 2009). We noted the New London Group scholars' initial hopes for literacy education to 'support "civic pluralism"' and to leverage differences in language, culture and identity as resources for 'a more robust and inclusive society' (Serafini & Gee, 2017, p. 7). We, therefore, examined 'power' that was both constraining/repressive and enabling/productive in shaping transnational students' meaning-making and identity construction. We also attended to students' agency (e.g. their active engagement with their situated cross-border education) and vested in Norton Pierce's (1995) original reconceptualisation of *identity investment* to examine the complex relations between language learners, their target languages and their 'ambivalent desires' to use the languages (p. 9). Hence, we attempted to capture the desires (not exclusively those of the learners), power relations and dimensions of identity that were instantiated in the

transnational education curricula, enacted in the implemented curriculum and experienced in students' lived curriculum.

The development of the multiliteracies framework reflected the interaction of competing, but complementary pedagogical orientations of literacy, which included immersion, overt instruction, critical literacy, intertextuality and hybridity in meaning-making (Zhang *et al.*, 2019). The multiliteracies pedagogy has been a field-tested theoretical underpinning to enable investigations into literacy and identity options in the transnational education contexts (e.g. Zhang, 2015; Zhang & Heydon, 2015). The inclusion of curriculum theories provided entry points into literacy as it teased out the discourses and processes that variously shaped curriculum making at different levels. The conceptualizations of identity offered nuanced lenses for us to view how fluid and hybrid practices and perceptions engrained in the transnational education literacy curricula have impacted literacy learners' identity formation. Our integrated use of the above-mentioned theoretical lenses was 'subject to the situational demands' (as cited in Merriam, 1998, p. 179) of the study due to the complexity and situatedness of specific transnational education curricula.

2.3 Methodology

The study was designed as an exploratory case study (Yin, 2009) that investigated cross-border literacy curricula in a purposively selected site using both Chinese and Canadian New Brunswick curricula. We examined teacher-shared documents that underpinned the school's programmatic curricula and interviewed Chinese and Canadian policy-makers who were involved in transnational literacy curricula. The case study also used ethnographic tools (Wolcott, 2008) (e.g. class observation and multimodal methods) to document the dynamics of the implemented and lived curricula.

2.3.1 Participants and Data Collection

After granted ethics approval (See Appendix A) from Western University, we contacted the school administration and informed them of the study. After securing approval from them to conduct the research at the school, we based participant recruitment on opportunistic sampling as we discerned whom to interview in the emergent process of data collection (Johnson & Christensen, 2012). Participants included two administrators (see Table 1): Mr. Thomas was the Canadian vice principal at the school who was responsible for Canadian provincial curriculum implementation; Mr. Deng was the Chinese vice principal who was involved in Chinese curriculum development and implementation.

Table 1: Policy-maker participant profile

Pseudonym	Time Serving at SNBS	Nationality	Position at SNBS
Mr. Thomas	4 years	Canadian	Canadian vice principal
Mr. Deng	6-7 years	Chinese	Chinese vice principal

Teacher participants included two foreign English teachers, Ms. Taylor and Ms. Johns; one Chinese English teacher Ms. Cai; and one Chinese Mandarin teacher Ms. Liu (see Table 2).

Table 2: Teacher participant and class profiles

Pseudo-nym	Time working at SNBS	Nationality	Prior working experience	Education background	Grade level	Student participants in observed class	Periods of observed class
Ms. Taylor	3 to 4 years	Expatriate [3]	2 years teaching ESL	MA in English	11	Yan, Teng, Lin	16

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[3] We used 'Expatriate' here, instead of specifying the teacher participants' nationalities, because disclosure of their nationalities would make the participants highly identifiable.

				language literature			
Ms. Liu	1 to 2 years	China	None	BA and MA in a normal university in China (i.e. teacher's college)	11	An, Teng, Lin	11
Ms. Johns	2 years	Expatriate	Taught various literacy and ESL courses at under-graduate and graduate levels	BA and PhD; TESOL certificate	12	Shan, Ying, Ke	20
Ms. Cai[4]	5 to 6 years	China	None	BA in a normal university	12	Su	0

Ethnographic class observations concentrated on *literacy events* (i.e. activities in which literacy plays a role) (Barton & Hamilton, 2000) that took place within English and Mandarin literacy classes which had schedules compatible with the project timeline. The length of observation of each class depended on the cycle of literacy-related activities defined by the teachers until saturation was reached. In total, we observed 47 periods of classes: 11 Mandarin classes and 36 English classes. Each period lasted 40 minutes. Research assistants Li, a native Mandarin speaker and Malins, a native English speaker, recorded descriptive and reflective field notes about the teacher-student and student-student interactions. Classroom observations focused on three classes: Ms. Liu's Mandarin literacy class and Ms. Taylor's and Ms. Johns' English literacy classes. Li regularly conducted observations in Ms. Liu's Mandarin literacy classes, while Malins

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[4] We did not observe Ms. Cai's English classes because she instructed local stream students who worked toward Chinese high school diplomas. Given that Ms. Cai had served at the school for over five years and had prior experiences instructing students studying the New Brunswick curricula, we interviewed her to gain a better understanding of the institutional and programmatic curricula at the school.

regularly observed Ms. Taylor's and Ms. Johns' English literacy classes. Each class had a homeroom and a Chinese homeroom teacher who oversaw student issues and sought support for them as needed. When the students had classes mandated by the Chinese national secondary curriculum, they stayed in their homerooms and waited for the Chinese subject teachers to come and deliver classes. However, the foreign English literacy teachers were assigned their own classrooms by the school. For example, when the students had English literacy classes, it was the students who went to Ms. Taylor's and Ms. Johns' assigned classrooms.

In addition to class observations, interviews with seven students helped co-create 'a situationally cohesive sense of reality' (Fontana, 2003, p. 36) of how students experienced transnational education literacy curricula (see Table 3).

Table 3: Student participant profiles

Pseudonym	Years studying at SNBS	Nationality	Prior studying experience
Yan	1 to 2 years	Chinese	Attended a public junior middle school
Teng	1 to 2 years	Chinese	Attended a public junior middle school
Lin	5 to 6 years	Chinese	Attended a Sino-Canadian school in another city for Grade 7
Shan	5 to 6 years	Chinese	Started grade 7 at the school
Ying	5 to 6 years	Chinese	Attended a public junior middle school for Grade 7 and restarted Grade 7 at the school
Ke	2 to 3 years	Chinese	Started Grade 10 at the school
Su	5 to 6 years	Taiwanese	Attended an international elementary school in Taiwan and started Grade 7 at the school

Prior to student interviews, we invited students to use their preferred communication modes (e.g. print, drawing, PowerPoint slides) to depict the literacy and identity options at the school. Our prior studies showed that using multimodal texts can make interviews more relevant to students'

local practices (e.g. Zhang & Heydon, 2014; Zhang, 2019b). Students also selectively shared their assignments from different literacy classes.

2.3.2 Data analysis

To explore the programmatic curriculum, content analysis of shared curricular documents and policy-maker interview data investigated 'instantiated' curricular policies or 'tacitly shared' perceptions of what should be taught and what identities were thus inscribed at the school (Doyle, 1992, p. 487). Our integration analysis strategies involved cyclical, recursive and interactive processes of data that could illuminate various levels of curriculum (e.g. institutional, programmatic, implemented and lived curricula) (Johnson & Onwuegbuzie, 2004). We then generated analytical and critical accounts to document the impacts on students' literacy and identity options. Finally, the research design included strategies such as inter-rater reliability and triangulation of data sources to increase trustworthiness (Lincoln & Guba, 1985) and the likelihood of producing credible findings and interpretations (Shenton, 2004). The themes were generated deductively from the theoretical lenses of identity and multiliteracies; for example, the five conceptualisations of identity (Moje & Luke, 2009) and power relations that were encoded in the various levels of curriculum regarding mode and media choices, language uses and engagement of various dis- courses in literacy events and literacy practices. Themes also emerged inductively from the data that reflect how literacy and identity are configured differently in the investigated levels of curriculum.

2.4 Results

Our analysis identified (1) the school's and teachers' commitments to preparing students linguistically and culturally for their future overseas studies in English-speaking countries, (2) the barriers to expanding literacy and identity options through the school's hybrid curriculum, (3) the school's and teachers' efforts to intersect the Chinese and Canadian curricula and (4) the

school's policies and materiality that limited teachers' efforts to incorporate new media literacies and critical literacy to nurture twenty-first century meaning-makers.

2.4.1 Cultural and Linguistic Preparation

Both the school's institutional curriculum as expressed in its mission statement[5] and the programmatic curriculum as communicated by the Canadian principal Mr. Thomas affirmed that literacy education at the Canadian side of the school focused on English language and cultural preparations for students' study abroad in post-secondary institutions. An analysis of the implemented literacy curricula revealed that foreign and Chinese teachers employed diverging approaches to actualising the school's programmatic curricular focus on English cultural and linguistic preparation for students' future overseas studies.

Students' interviews confirmed the school's focus on nurturing linguistically and culturally ready candidates for post-secondary studies in countries such as England, Australia, Switzerland and Canada. For instance, Shan and Ying concurred that the school's implemented curricula focused on preparing them to adjust well to over- seas academic life. Indeed, five students (Yan, Teng, Lin, Ying and Ke) attributed their improved English proficiency levels to their increased engagement in learning English at the school. Yan, Shan and Su shared that because of their interactions with foreign teachers and participation in Western holiday celebrations at the school, they observed their increased interests in Western cultures (including popular culture) and current events taking place in 'Western countries'[6].

All the student participants described the foreign and Chinese teachers' literacy teaching approaches that they experienced. Teng, Yan and Lin expressed that they preferred foreign teachers' English classes which involved real-life applications of grammatical rules. They also concurred that both Chinese English[7] and Mandarin teachers used more 'abstract' terminologies

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[5] We do not directly quote the school's mission statement to ensure confidentiality.
[6] All three student participants used the term 'Western countries' in the interviews.
[7] The school assigned both foreign and Chinese English teachers to teach English courses.

when teaching grammar. The assignments that the students shared from the Mandarin teacher Ms. Liu's class centred on exercise books that were designed to assist students' memorisation and application of new grammar or vocabulary knowledge. Figure 1 shows a typical example of student's shared assignments from Ms. Liu's Mandarin literacy classes that targeted Chinese character and pronunciation memorisation.
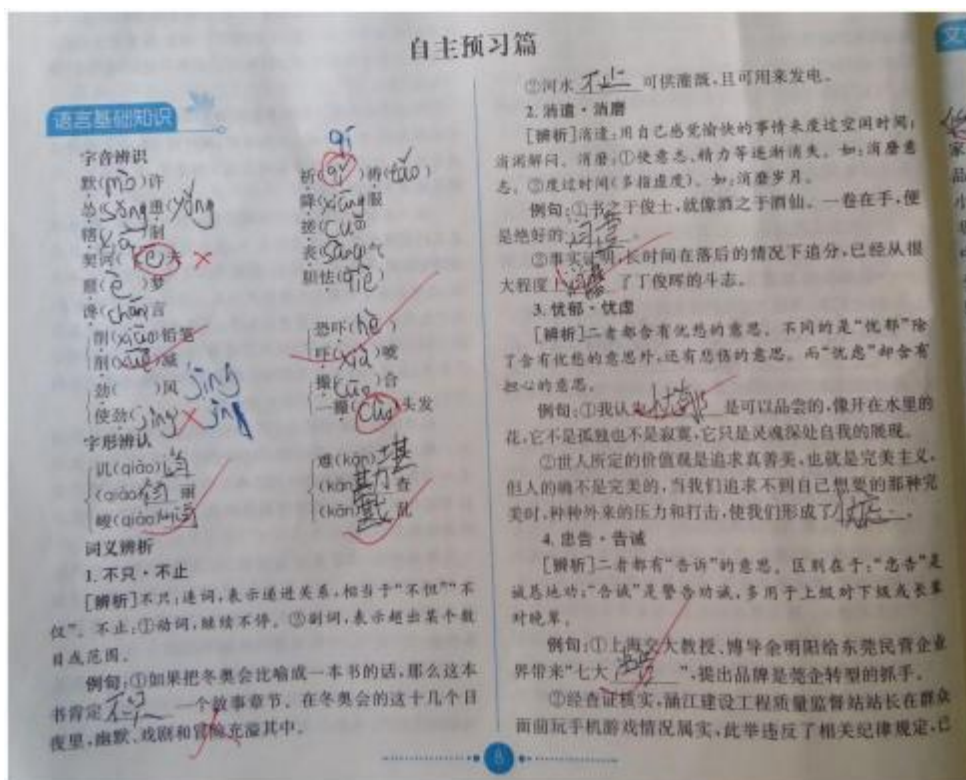
Figure 1: Teng's assignment from Ms. Liu's Mandarin literacy class

Teacher interviews and class observations revealed that students' personal interests and their imagined future memberships in Canada, Australia, Switzerland and England mediated the foreign and Chinese teachers' ways of actualising the English and Mandarin curricula. For example, in the foreign teachers' English literacy classes, we observed activities and exercises that were connected to students' idiosyncratic interests. For instance, in Ms. Johns' process writing exercise, the students chose essay topics based on their interests. Identifying new media as her university major, Ying chose to write about the benefits of watching movies (see Figure 2).
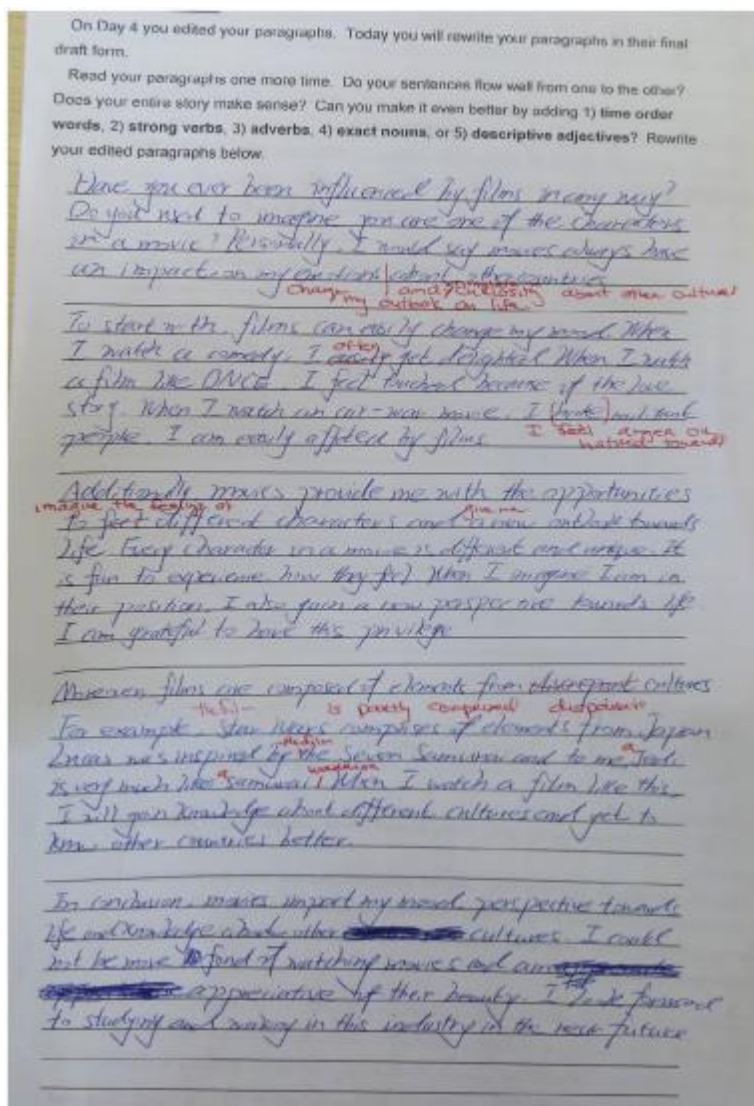
Figure 2: Ying's essay on benefits of watching films

Ms. Johns provided feedback on Ying's writing, such as how new verb choices would help her to write a clearer topic sentence and selecting a specific topic would allow her thinking to expand.

Scenarios such as Vignette 1 provide glimpses of Ms. Johns' pedagogical focuses on students' oral communication skills:

Vignette 1: Students' Role-Play Presentations in Ms. Johns' English Literacy Class

Ms. Johns encourages students to incorporate everyday life scenarios when learning comparative sentences and articulating preferences. In earlier sessions, Ms. Johns and students discussed how to state choices, how to employ intonations to express emotional tones, and how to use comparative sentences to express preferences. She asks students to incorporate what they have learnt about comparative sentences into role-play presentations. The students take turns presenting. Their presented roles include a couple and a marriage counsellor, two customers and a travel agent, two students and a course registration counsellor, and two customers and a bank representative, which seem all connected to students' familiar daily lives. (March 21, 2017)

Cutting in to help when students were encountering difficulties expressing their ideas in English, Ms. Johns tried to nurture students' abilities to utilise learned language knowledge in simulations of lifeworlds.

The Mandarin teacher, Ms. Liu, shared that she helped broaden her students' visions of foreign cultures through introducing 'foreign movies, dramas and autobiographies.'

Vignette 2: Ms. Liu's Comparison of Chinese and English Poetry
Ms. Liu starts a new lesson of Zhongshu Qian's article, "A Discussion on Chinese Poems" and leads students to compare Chinese and English poems. After introducing the author and highlighting linguistic components in the article, Ms. Liu shares slides of a Mandarin translation of Robert Frost's poem "The Road Not Taken" followed by examples of "Classic of Poetry" (the oldest collection of Chinese poetry) and "Homeric Hymns" to trace the histories of Chinese and "Western" poems. When comparing the poems, Ms. Liu and students discuss Juyi Bai's "Song of A Pipa Player" and Keats' "Ode on a Grecian Urn". Ms. Liu addresses the similar purposes of the two poems to describe the beauty of silence, by highlighting the sentences, "Silence speaks better than sounds" and "Heard melodies are sweet, but those unheard are sweeter." (March 14, 2017)

In Vignette 2, Ms. Liu introduced 'Western' cultures to her students by comparing Chinese and 'Western' poems. She used the term 'Western' throughout the class as a counterpart to Chinese

poems and Chinese cultures. Observational data also revealed that, occasionally, Ms. Liu presented Western cultures through comparing Chinese and Western architecture styles and classic literature.

In the interviews with both Chinese teachers, Ms. Liu and Ms. Cai shared discrepancies in their beliefs and their practices relative to didactic teaching. They affirmed their knowledge about student-centred approaches such as project-based learning and inquiry-learning. Nevertheless, they found that their literacy practices in class were partially mediated by the goals to fulfil the Chinese high school curricular expectations within a limited time frame and prepare students for the standardised diploma tests for the Chinese high school diploma.

The data suggested that the students' literacy options were also affected by the geographic location of the school. Mr. Thomas expressed that compared with students in big cities such as Shanghai and Beijing, students at this school, located in a small, inland city, were normally 'not exposed to English in their day-to-day life.'

The students' varied English proficiency levels also affected the school's literacy focus on reading and writing. Mr. Thomas discerned that it was 'impossible to have a year-by-year standard curriculum' because different cohorts of students had varied English levels and there were mixed-ability classes. For example, the school maintained the component of a novel study from the New Brunswick programmatic curriculum only if it was possible with the class and even then, the teachers selected miniature versions of the books. The foreign teachers echoed similar concerns and made constant accommodations because of students' low English proficiency.

The New Brunswick provincial education department was initially 'renting out' their curriculum overseas; however, there was no reported involvement of the New Brunswick education board in the production of cross-border programmatic or implemented curriculum that could potentially cater to its offshore students' cultures and languages. Mr. Thomas had witnessed that the New Brunswick education board had tried to 'maintain the New Brunswick curriculum in all its glory'

but after years realising 'it is not possible.' In 2017, there were about 25 New Brunswick offshore schools in China under the name of a corporation. It had been the corporation's, instead of the provincial board's, endeavour to develop school-based programmatic curriculum and standards; however, these schools are 'all individually run and they all have their own standards' (Mr. Thomas). The only reported curricular influence from the New Brunswick education department was from the ESLA. ESLA was New Brunswick's secondary school diploma exam that was used in its offshore schools in China. Mr. Thomas shared that the exams had been 'tailor-made' for offshore Chinese students and some Canadian specific content was removed.

In sum, policymakers and Chinese and foreign teachers at the school enacted differing approaches to preparing transnational students linguistically and culturally for their imagined memberships associated with future overseas studies. Teachers communicated how various factors such as students' personal interests, imagined memberships in foreign countries, language proficiency levels, limited time frames and standardised tests mediated their implemented curricula.

2.4.2 Barriers to Expanding Literacy and Identity Options

Data revealed that expansive literacy and identity options were enabled while also being constrained at the school, thus unfolding a contested terrain where the Chinese and Canadian curricula and identities came into contact.

The school combined New Brunswick secondary school literacy curriculum and Chinese public high school literacy curriculum. The Canadian principal shared that their student population was almost homogeneously Mainland Chinese with a few exceptions. Mr. Thomas thought that the curriculum offered at the offshore New Brunswick school could provide its offshore Chinese students expanded identity options because of the opportunities of 'having a university education abroad and potentially citizenship or something else outside of China.'

Interviews with the Chinese teacher participants Ms. Liu and Ms. Cai did not reveal the same vision that the Canadian principal had for the school's hybrid curriculum. Ms. Liu was under the impression that the integration of New Brunswick curricula into the school's hybrid curriculum was to facilitate students' English linguistic and cultural transition to Canadian universities. Ms. Cai regarded such a hybrid curriculum as a 'market demand' from local parents. She said that securing Chinese and Canadian diplomas could allow flexibility for Chinese parents and students to decide whether to go abroad or stay in China for further studies. She also reasoned that a programme solely focusing on Canadian curricula in an inland city in China was not realistic because students' English proficiency levels generally could not meet the Canadian curricular expectations.

Being solely responsible for the implementation of the Chinese high school curricula at the school, the Chinese vice principal Mr. Deng adopted a different approach to expanding students' literacy and identity options. He developed elective courses that reflected the features of the small city, including its well-known bronze pictures, Chinese calligraphy and tea art[8]. Mr. Deng perceived learning from the Chinese curricula of the school as affirming 'students' Chinese identity.'

Student participants shared diverging stories of the ways in which their lived experience at the school affected their identity options. Teng and Lin indicated their identities were rooted in their home culture. Teng, for instance expressed identity in nationalistic and cultural terms. He said, 'Though I will study abroad in the future, I will always remember that I am a Chinese.' Having studied at an international school in Taiwan and later at the school for 5-6 years, Su rendered, 'I did not feel the Western culture at the school because the weight of the Canadian curriculum [in the hybrid curriculum] is too light.' In contrast, students Shan and Ying expressed that their identities were affected by the Sino-Canada hybrid curriculum. In her multimodal artefact created for the research, Ying depicted her identity as intertwined stars and a maple leaf-symbols of China's and Canada's flags (see Figure 3).

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[8] We have modified some features of the local context to make sure that the school identity is not traceable.

Figure 3: Ying's multimodal artifact

Ying explained this representation:

I positioned myself in between the two worlds ["Canada" and "China"] because I feel myself belonging to the two countries. I studied at local public schools that only provided the Chinese curriculum. After I came to the school and experienced classes taught by foreign teachers, I started to like it and then appreciate the Canadian culture.

Similarly, Shan designed her multimodal artefact in a way that conveyed a sort of transnational identity. Shan constructed PowerPoint slides of which she said,

At the school, I am indirect contact with Western cultures. At the same time, I am also a Chinese. I feel that the fusion of the two countries results in my diversified identities. I love listening to English songs and reading poetic Chinese texts. I feel that both sides have combined to benefit my growth and ways of thinking. Also, I believe that my identity is divergent from students at

local public high schools as I might have more knowledge about the West and current events in Western countries.

In sum, Shan, Ying and Ke expressed the benefits of combining the two curricular systems at the school. Ying saw the introduction of Canadian cultural components to a Chinese school as enriching the local school culture. In Shan's view, the Mandarin literacy curricula provided at the school were aimed at students' 'deeper understanding of Chinese cultures and conventions' whereas the Canadian curriculum introduced to her Western cultures and customs.

We also observed the teachers' occasional efforts to harness students' bilingual repertoires. The foreign teacher Ms. Taylor spoke several languages, including Mandarin. In her interview, Ms. Taylor acknowledged the importance of affirming students' heritage languages when learning a new foreign language. In all the observed classes, Ms. Taylor used Mandarin to communicate with students or to clarify ideas from her lectures, though her efforts to connect the two languages remained at the level of vocabulary building because of the teacher's limited facility with Mandarin. Ms. Taylor often explained new English words in Mandarin, encouraged students to use the dictionary applications on cellphones to facilitate translation between English and Chinese, and invited students to discuss and explain things in Mandarin.

Ms. Liu occasionally incorporated discussions around English and Mandarin classic literature and English translations of Chinese classic poems. She led students to discuss subtle changes in figures of speech in translated texts and reasons for translators' choices of direct and idiomatic translation. When we probed the reasons for such translingual practices in the interview, Mr. Liu said that she intended to impart knowledge about both languages and ways to appreciating poems.

Besides sporadic classroom opportunities to expand students' linguistic and cultural repertoires, Ms. Liu and Ms. Johns noticed changes in their students' identities after about two years' immersion in a milieu with less stress to prepare for Gaokao (the standardised university entrance examinations in China) and more freedom to express themselves than they had

experienced in the local public schools. Examples of students' subjectivity changes are '[being] more open' (Ms. Liu) and '[being] more conscious of their own likes and dislikes' (Ms. Johns). Ms. Johns reported that students were more reflective about who they were and what they wanted and had more 'self-confidence.' Also, the Chinese vice principal Mr. Deng said most students joined the school with low confidence because they were lower achievers in the public-school system. But at the school, 'they regained confidence and a strong sense of self. These for me are the transformations in their identity awareness.'

Five students reported their new roles at the school as curriculum decision-makers. Teng, Shan, Ying, Ke and Su celebrated the fact that their foreign teachers' English classes did not have to follow prescribed textbooks or curriculum but welcomed students' views about content selection and preferred teaching approaches. Comparing student comments with policymaker and teacher interview data, we concur that foreign teachers' professional autonomy at the school might have contributed towards students' agency in curriculum decision-making. Mr. Thomas expressed that there was 'almost zero pressure' to follow the corporation-developed standardised English curriculum, and he gave teachers autonomy for curricular accommodations. Ms. Johns concurred that she did not follow the corporation curriculum as it was 'confusing'. Both foreign teachers used their discretion to decide what to focus based on their understanding of students' needs.

However, except for Shan, all the students expressed their limited roles in curriculum decision-making in Chinese English teachers' and Mandarin teachers' classes. For example, Teng observed that his Chinese-English teachers strictly followed the expectations of the English textbooks and there was little space to accommodate students' voices about what to learn. Nevertheless, our observations in both Canadian and Chinese teachers' literacy classes led us to believe that students had few choices in curriculum making, except for conversations about text selections or teaching approaches in the English literacy classrooms.

Despite the reported and observed expansive identities, teachers' interview data also related that transnational education programmes could be constraining students' literacy and identity options if the hybrid curriculum or Canadian curriculum was sold as an educational commodity to only

attract students who were from well-off families but who had failed other schools. Ms. Taylor said that such a focus could backfire and identify their school as the one where 'all the failed, rich people go.' Similarly, Ms. Johns observed that at this for-profit school, an 'astronomical' amount of tuition fees went to pay administration who did not invest much in the facilities, extra support for students with lower English proficiency, extracurricular activities or new media and technologies.

2.4.3 Intersecting Chinese and Canadian Curricula

The school's mission statement conveyed its ideal of promoting mutual understanding and building good relations between the Chinese and Canadians. This part of the school's curriculum was not reflected in the Canadian principal's interview. Mr. Thomas said, 'there is no dialogue between us and the Mandarin teachers. They do not speak English. And the foreign teachers, other than one or two-like one and myself-do not speak Mandarin'. In contrast, the Chinese vice principal Mr. Deng described the Sino-Canadian interactions that were present at the school. For instance, he said the Canadian and Chinese teachers observed each other's classes and co-organised events such as English corners, English speech competitions and holiday celebrations.

Neither the Canadian principal nor the Chinese vice principal communicated about why and how the school integrated the Canadian and Chinese secondary school curricula. Based on the interviews with the principals, the governance structure of the school might have influenced the production of the school's institutional curriculum. According to the Canadian principal, he could bypass the Chinese principal in decision-making and directly 'go to my boss-the executive director-and get his approval and then do my thing'. The Chinese vice principal added that the corporation that ran the New Brunswick schools was 'a family business,' and there was a lack of experts in the corporation who understood education.

The Canadian principal conveyed that interactions between the two languages, English and Mandarin, were not happening at the school, even though students would receive dual diplomas

after they accomplished the requirements of both Canadian and Chinese secondary school curricula. Similarly, five students (Yan, Teng, Lin, Ying and Ke) communicated that despite the presence of Chinese and foreign teachers in extra-curricular activities, they witnessed little interaction between Chinese and foreign teachers about co-teaching or collective curriculum decision-making. Teng, Lin and Su expressed that they would prefer to see more interactions between the Chinese and Canadian teachers to support their literacy learning. In the inter- view, Su expressed that in her opinion the school intended to 'nurture talents who are capable of blending Chinese and Western cultures.' Su told us,

My foreign and Chinese English teachers don't communicate much in lesson planning, but they interact with each other in extra-curricular activities, such as English corners and calligraphy competitions. They deliver their classes respectively. I think they could consider preparing Mandarin and English lessons together, which could benefit everybody. For example, two teachers (one from each side) could deliver a lesson together. Or they could deliver a lesson with the same content but in different languages, which would help us retain what is learned.

Pointing towards an element of collegial interaction, Ms. Johns appreciated the relationship between the Chinese and foreign teachers who taught English. She said,

Here, actually, we work in the same office with the other Chinese English teachers; they're very nice. I've often talked with the person who teaches my class and we've talked about students and what we can do. We met together with parents and talked with the parents about certain things.

Nevertheless, in other interviews, teachers, Ms. Taylor, Ms. Liu and Ms. Cai, ex- pressed that they observed little interaction between Chinese Mandarin and foreign English teachers. Ms. Taylor shared, 'No, it's quite separated. We don't meet the Mandarin teachers and we don't talk about them, and I think it's a shame.' Ms. Cai reasoned that teachers from both sides had to follow their own curricula and prepare students for different assessments prior to Grade 12, such as Huikao (Chinese high school diploma tests) and ESLA. Indeed, there was little evidence that showed Chinese and foreign teachers' interactions in curriculum decision-making to leverage the

wisdom of both educational systems and nurture students' dual linguistic and cultural repertories. Both Chinese and Canadian curricula and English and Mandarin literacy teachers were positioned in the Sino-Canada contact zone of transnational education. Points of curricular convergence in the contact zone were evident in terms of both Chinese and Canadian teachers' possession of autonomy in curriculum decision making and the prioritisation of standardised tests from both sides. However, the opportunities to nurture syncretic literacies were missed at the school. There was limited evidence of literacy practices that syncretized 'the languages, literacies, narrative styles and role relationships appropriate to each group' and transformed the languages and cultures in use for new forms of meaning (Gregory, 2008, p. 25).

2.4.4 Tensions with New Media Literacies and Critical Literacy

The school's digital resources and its ban on digital devices placed constraints upon students' literacy and identity options as twenty-first century meaning-makers and critical media literacy users. The Chinese vice principal shared that the school encouraged the use of new information and technology. For example, Chinese teachers were expected to use Smartboards in 80% of their sessions in one single semester to 'enhance their teaching effectiveness' (Mr. Deng). In contrast, the Canadian principal commented that the school had two 'ancient' computer labs. Also, there was limited Internet access in the labs and most of the classrooms. For places where Internet was accessible, students and teachers were 'still faced with The Great Firewall of China[9]' (Mr. Thomas). Both foreign teachers mentioned the constraints of Internet censorship upon literacy practices in their classes. Ms. Taylor said,

There are a lot of topics that I would love to talk about, but I don't because it's not the right place to do that. But, I think they would benefit from thinking about those issues, and be ready to face other opinions once they're out … but if I talk about Internet liberty here … I don't know if it's a limit I can cross or not.

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[9] The Great Firewall of China is a combination of legislative and technological actions that are taken by the government of Mainland China to achieve Internet censorship (Great Firewall, 2017).

Ms. Taylor commented on what she tried to avoid. Our ethnographic observation data also showed that even with the VPN, teachers and students could not unlock websites such as Google or YouTube within the school's network; and the divergent search results on Google and Baidu (China's official search engine) would have affected students' meaning-making in the projects and assignments.

On top of the school's restricted access to the updated technologies and the Internet, the school's ban on students' use of gadgets further influenced students' identities as digital and media meaning-makers. However, the Canadian principal explained that before the ban it was 'one of the biggest issues' on campus regarding classroom management because 'you could not get them out of their hands. They wouldn't listen to you. They would just be addicted, like zombies to their phones.'

In the interviews, all the students acknowledged the availability of new media and technologies within the classrooms, such as Smart Boards, projectors and speakers. Echoing our findings from classroom observation, most of the students mentioned Chinese teachers' prevalent use of PowerPoint slides in contrast to the foreign teachers' random use of new media and technologies in class. Teng and Shan expressed that teachers' use of new media and technologies made the literacy classes more engaging. Lin shared that digital images could assist in understanding content but she disagreed that foreign teachers' limited use of technologies affected their teaching effectiveness. Similarly, Ms. Taylor admitted, 'I personally don't use that much because I feel more comfortable with student-teacher interaction, and it is slow enough when I want it to be and fast enough when I want it to be and I'm more in control.' Observation data showed that Ms. Johns tried to include new media and technologies in meaning-making practices despite the school's limited provision of digital resources and Internet access. Both Ms. Taylor and Ms. Johns occasionally asked students to use their personal cellphones to look up online information in class. Ms. Johns specified that there should be a space for students to use technologies. Ms. Johns said that her students watched movies in her classes so that they were involved in critically viewing life and culture in the movies about high schools and colleges in the U.S.

However, the observation data and the students' reported use of new media literacies within the school revealed the positioning of students as passive new media consumers of PowerPoint slides and online videos. Only two student participants, Ke and Su, identified the rare occasions where Ms. Johns had asked them to design PowerPoint slides or assignments in digital forms, which is consistent with what we had observed.

Moreover, the foreign teachers were aware of the transnational education regulations in China, that is, no Sino-foreign cooperative education institutions should be established to provide 'military, police and political education services' (China's Ministry of Education, 2003, n. p.). The student participant, Su and Ms. Johns re- ported similar scenarios where students got reported for saying 'I worked [studied] in Taiwan as if it was its own country, instead of saying "the province of Taiwan"' (Ms. Johns). In the interview, Ms. Johns thus shared,

Racial [issues] … it's just not talked about … and it's not something that you should really bring up, because there are monitors that are watching you like all the time. So you are not supposed to bring up all these issues. You know, I've brought up a couple of things, and then I think, errr, be careful-not political stuff.

Taken together, various sources of data point to the contested transnational education arena at the school with regard to nurturing new media and critical media literacy users.

2.5 Discussion

In this section, we discuss the curricular openings that reveal affordances of the school's transnational education in expanding students' literacy and identity options. We probe factors that curbed those options at the school. We also give primacy to curricular and pedagogical initiatives that could influence individual educator's and student's agency in literacy practices in the context of Sino-Canada education.

Findings relate new transnational education identities that were fraught with neoliberalism 'under the homogenising pressures of global capital' (Smith, 2003, p. 36). Teachers' high turnover rate, selling Canadian education as commodity and the school administration's limited investment in facilities, new technologies and extracurricular activities might have impacts upon students as transnational education consumers and new media literacies users.

The globalised Canadian education in the local Chinese context rendered a new site of identity struggles. The student participant, Su, envisioned an ideal hybrid Sino- Canadian curriculum as one that could 'nurture diversified students.' Nevertheless, she and Lin expressed their concerns with their membership at the Sino-Canadian school that was known locally as only attracting failed, rich students. While most student participants applauded their freedom of expression at the school in comparison with the local public schools, Su lamented her struggles of identity as a Taiwanese student who received diverging ideological education before she joined the school. Echoing Su's struggle, both Ms. John and Ms. Taylor communicated their intentional avoidance of discussing political issues in their English literacy classes.

Both transnational education students' and teachers' interview and observation data revealed a political agenda where standardised local and global literacy assessments regulated cross-border teaching and learning rather than opening up possibilities (Murphy, 2015). The standardised English tests of ESLA from the Canadian side and the English and Mandarin diploma tests on the Chinese side (Huikao) operated as separate regimes to subjugate literacy practices within the school and did not leverage the potential of a syncretic literacy curriculum that elevated the strengths of both China and Canada (see Zhang & Heydon, 2015). The subjugating nature of these tests mediated students' engagement in literacy learning, in particular their Mandarin learning. Both students and Mandarin teacher participants reported the students' unwillingness to invest in Mandarin learning beyond the test expectations.

The school's expedient incorporation of separate evaluation systems from China and Canada also narrowed the possibilities of improving these transnational education students' metalinguistic and cultural repertoires in both languages and affirming their expansive identity investments as

bilingual and bicultural citizens. Methodologically, we recognise the 'indeterminacy' (Smythe *et al*., 2017, p. 22) of these students' identity changes within the timeframe of this study. However, we also concur that the presence of dichotomised curriculum systems and the absence of the New Brunswick education department at the school limited educational exchanges about new forms of narrative styles and expansive identities.

The surveillance roles of the standardised assessments also moderated literacy practices of the students. For example, in the interviews, almost all the student participants talked about their outside-of-school interests such as popular culture (Western movies, American shows, English songs), gaming, reading Encyclopaedias and reciting and appreciating Chinese classic poetry. However, the examined in-class literacy practices or assignments seldom reflected the multimodal literacies that students were engaged in outside-of-school. Almost all the shared assignments from the English and Mandarin classes were written assignments, revealing that the school privileged print-based literacy practices.

We concur with Murphy's (2015) vision of an agentive individual who 'moves through the world in hope and with the possibility of taking action' instead of unwittingly 'embracing the subjugation of convention and tradition' as inscribed in the standardised tests (p. 31). We therefore advocate multilingual and multimodal literacy practices and assessments where transnational education teachers and students could be collectively involved and engaged in 'semiotic readings and representations' (p. 33). We also see the value of providing opportunities for transnational education students to offer justifications in support of their multilingual and multimodal representations that reflect the local and global other's literacy practices. In line with the findings of our prior studies (e.g. Zhang & Heydon, 2015; Zhang, 2019a), we foreground student participants' outside-of-school meaning-making with new media and advocate pedagogical new pathways to nurturing ethical and creative new media users.

Students and teachers reported more leeway for shared curriculum decision making at the school than at their familiar local public schools. The teachers communicated having professional autonomy, and we observed that school administrators were wittingly downloading the power of

curriculum decision-making to transnational education teachers. However, even though the students reported their involvement in conversations about what and how to learn in the foreign teachers' classes, their voices were not explicitly included in curriculum making processes in most courses based on our class observations. Commenting on curriculum and pedagogy facing globalisation, Smith (2003) accentuated 'vigilance in the protection of democratic principles' within globalised schooling contexts (p. 39). He thus called for 'increased participation of all the world's people in the decision-making processes that ultimately affect them' (p. 39). We see the value in curricular and pedagogical practices that could help transnational education students reflect on the 'dominant frames' that have shaped their identities (Johnston, 2014, p. 57). Giving primacy to agency, we also probe the implication of Norton Peirce's (1995) social identity investment in learners' biliteracy development in transnational education. Norton Peirce pictures a second language learner as consciously resisting subject positions within specific second language learning discourses while setting up a 'counterdiscourse which positions the person in a powerful rather than marginalized subject position' (p. 16). Interviews with students Yan and Shan show their resistance to their prior test-oriented English language learning in the local public schools. Yan, Teng and Lin also expressed their dislike of classroom curriculum that emphasises structured, test-oriented exercises (e.g. filling blanks, grammar). In the interview, the students appraised the counter-discourse within the foreign English teachers' classes where the focus was more on 'authentic' (Shan), 'meaningful' (Yan) and 'communicative' (Shan) English learning. The students also participated in the construction of such a counter-discourse in their outside-of-school experience of learning English through gaming, watching Western movies and shows, and listening to English songs. However, none of the students commented negatively about the test drills that they received at the school for the International English Language Testing System (IELTS), thus remaining 'subject *to* this discourse' (Norton Peirce, 1995, p. 16) of dominant, global standardised testing. IELTS was potentially seen by these students as instrumental for their global mobility. Therefore, students might have an assumption that investing in such globalised literacy assessments would guarantee a return that would broaden their 'range of symbolic and material resources' and thus enhance their cultural and linguistic capital (p. 17). Zhang's (2019a) findings on a Canadian transnational education programme in Macao also identified how the neoliberal trends enabled the mobility of curriculum and standardised tests from the Anglophone countries and neutralised transnational students'

contested identities as global consumers mastering multiliterate and multimodal skills. We thus heed the potential negative impacts of paring English and local language curricula in transnational education upon biliteracy learners' identities. Specifically, policymakers', foreign teachers' and students' negative representations of students' heritage languages and the local ways of literacy practices might narrow students' identity options and their access to expansive symbolic and material resources in both languages. Similar to our findings in the Ontario offshore school in South China (e.g. Zhang & Heydon, 2014), we continue our call for dialogic pedagogies that help transnational education teachers and students problematise the 'dominant culture's literacy' (MacKinnon & Manathunga, 2003, p. 131) that would expand the globalisation of Anglo-European literacy and assessment and pathologise local ways of literacy practice and teaching. Dialogic pedagogies are also in line with open curricular systems (Doll, 1993; Slattery, 2006) in transnational education schools that would allow for creative spaces for critical and communal conversations about the conflicting dualism of pathologising the local as suppressing and appraising the global other as emancipating under the homogenising, neoliberal discourse.

The Mandarin-English compartmentalisation in the school's 'hybrid' curricula manifests the globalisation's tensions between cultural and linguistic fragmentation and nation-states' educational and economic interconnectivity. The neoliberal trends enabled the encounter of two different languages, cultures and curricula at the school. The neoliberal forces such as the standardised literacy tests and remote control of teacher professionalism also dichotomised the two curricular systems and students' multiple abilities in two languages. Existent literature otherwise shows close correlations between emancipating environments that affirm bilingual and multilingual learners' identities and their literacy engagement and academic achievement (e.g. Cummins *et al*., 2015). Hybrid language curricula in the cross-border space at the school had the potential to draw from twenty-first century learners' metalinguistic, metacognitive and multimodal resources in both the heritage language and target language. In this research, data reveal few opportunities at the school for students to negotiate their multiple identities (e.g. as difference, as self, as mind, as narrative and as position). Also, there were few observed efforts to engage transnational students' biliteracy and bicultural identities in order to improve their language learning engagement. The Chinese and Canadian curricula were bifurcated and functioned as physically and intellectually separated, for instance, Mandarin and English literacy

classes were taught in different venues and there were limited interactions intellectually between the foreign and Chinese literacy teachers. We observed Ms. Liu's and Ms. Taylor's occasional uses of English-Mandarin translation in their classes, but there were few observed opportunities of the two key features of translanguaging: creativity and criticality (Stewart & Hansen-Thomas, 2016). For example, there shall be more opportunities for students' own creative translation and critical examination of the politics around the classic literature translations.

In summary, we see transnational education literacy curricula as possessing the potential to eradicate nation-state boundaries and open benefits to students and Chinese and Canadian teachers and policy-makers who are actively involved in Sino-Canadian transnational education. In the meantime, we argue that transnational education literacy curricula should not be 'producing' global citizens that possess disparate literacies and knowledge systems. Rather, for literacy education in inter- connected, evolving global communities, we propose transformative transnational education literacy curricula that engage educators, students and nations in complex conversations about cultural and linguistic supports for students to construct fluid and multi-layered identities that connect to their complex, multilingual and multi- modal literacy practices. We hope that stakeholders involved in transnational education could use these findings to sustain and engage transnational students' local meaning-making experiences that are rooted in diverging social, cultural, historical and semiotic traditions but marginalised in the globalisation processes of curriculum and English-related, test-oriented literacy. Further, given the fast-growing transnational education initiatives, we hope that this research provides countries that are involved in transnational education with timely knowledge to recalibrate their teacher training benchmarks to nurture youth as creative and ethical meaning-makers and thrive in the interconnected global landscape.

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Chapter 3

3 Paper Two: Literacy Teacher Agency and Transnational Education: A Case Study of Curriculum Implementation in a Sino-Canadian Secondary School Program in China

Abstract

This study focuses on the mounting research interest of the role of teacher agency in curriculum-making, within the lesser investigated context of transnational education and its implications for language and literacy learning. The literature documents tensions in transnational education programs arising from the juxtaposition of local and international curricula with more needing to be understood about the ways in which teacher agency is implicated in the implementation of these curricula. This ethnographic case study of a transnational education program in China that used the secondary school curricula from China and New Brunswick, Canada to create what it termed an "integrated curriculum", was undertaken to contribute knowledge to address this gap. Informed by a conceptualization of curriculum as relational effects and the ecological approach to teacher agency, the study sought to explore factors implicated in English and Mandarin literacy teachers' enactment of curricula. The study identified key factors: the school's governing structures, standardized tests, students' varied facility with English, and the school's limited provision of technological resources. These factors combined to normalize binaries of first and second languages, local/global curricula, and media producers/consumers and constrain teachers' efforts to support transnational education students' meaning making across languages, cultures, and semiotic resources. The paper provides recommendations about promoting teacher agency in globalized schooling contexts to support diverse learners. (195 words)

3.1 Introduction

Teachers and teaching are central in curriculum making and the production of learning opportunities for and experiences of students (Priestley et al., 2021). This study builds on this premise through the contemporary movement of transnational education where different cultures, languages, and pedagogical approaches meet. Transnational education and teacher agency are ripe foci for generating timely understandings of curricula and teachers, in hyper-diverse curricular settings. The two decades prior to the COVID-19 pandemic saw a stark increase in international mobility of students, educators, and educational programs and a growing diversity in the forms of cross-border education (Knight & McNamara, 2017). We understand transnational education as "any teaching or learning activity in which the students are in a different country (the host country) to that in which the institution providing the education is based (the home country)" (Global Alliance for Transnational Education, 1997, p. 1). Canada, being one of the largest curriculum exporters worldwide (Lee & Gough, 2021), has set up 126 elementary and secondary transnational education programs all over the world as of June 2024 (Canadian Information Centre for International Credentials, 2024). Most of these Canadian transnational education programs have involved curriculum licensing and governmental accreditation through Canadian provincial governments (Cosco, 2011; Schuetze, 2008; Zhang, 2024). In China, transnational education has become a crucial part of its nation building against the backdrop of intensifying globalization (e.g., Jiang, 2021), and China has become one of the largest importers of transnational education since the mid 1990s (e.g., Dunn & Wallace, 2008; Lee & Gough, 2021). As of July 2023, there are 64 Canadian offshore elementary and secondary schools in China, compared with 48 in 2011 (Zhang, 2012).

Despite the expansion of transnational education in terms of its "scale and frequency of interactions among people" (Lee & Gough, 2021, p. 7), there is only emerging literature on its curricula. Most prevalent is the literature concerning literacy curricula in K-12 transnational education contexts (e.g., Li, 2017; Zhang, 2012, 2015, 2022, 2023; Zhang & Heydon, 2015). These studies examined variations of literacy curricula in transnational schools and focused on various aspects of transnational education, such as policy making (e.g., Krejsler, 2021),

curriculum delivery (e.g., Zhang, 2015), and student experiences (e.g., Zhang & Heydon, 2014). Emergent studies on K-12 transnational education programs reported the use of hybrid curriculum models, which incorporated both local and international curricula (e.g., Zhang & Heydon, 2015; Zhang, 2023). Expanding on this literature, the current study explored teachers' implemented curricula, that is teachers' actualization of curricular policies (e.g., Westbury, 2003) in a Canadian transnational education school that used the Canadian province of New Brunswick's curriculum and the Chinese national secondary curriculum. Focusing on the temporal, contextual, and personal dimensions that mediated teachers' implemented curriculum, the study adopted Schwab's (1973) conceptualization of curriculum as relational effects of dynamic interactions and Priestley et al.'s (2021) ecological approach to teacher agency. In the study, we asked: (1) How did Mandarin and English literacy teachers implement the Chinese and Canadian curricula? (2) What temporal, contextual, and personal influences (if any) were involved in the teachers' curriculum implementation?

3.2 Literature Review

Existing literature documents the impacts of various factors on the curriculum design and curriculum implementation of transnational education programs (e.g., Zhang, 2012; Zhang & Heydon, 2015). For example, English literacy curricula have been the centerpieces of transplanted Canadian curricula because of the market value of English (e.g., Schuetze, 2008). Scholars also reported that this market-oriented education engendered hybrid curriculum models that incorporated International Baccalaureate curricula, host, or/and home country curricula (e.g., Zhang & Heydon, 2015; Zhang, 2022). However, there is minimal literature that documents how Western-centric or hybrid literacy curricula are implemented in K-12 transnational education contexts (e.g., Zhang, 2015, 2022, 2023).

The existent literature documents tensions in transnational education in higher education contexts. For example, Wang's (2017) study reported differences in local and transnational education teachers' values and beliefs. Wang described Canadian offshore schools as a "medium" (p. 538) that delivers Canadian values and pointed out that the offshore school students had

difficulty understanding the Canadian culture-based materials, which constrained how the offshore teachers could teach. Some Canadian teachers in China reported feeling "constrained" (p. 538) to discuss historical events with Chinese offshore students because such topics were deemed as locally sensitive. Liu et al. (2021) found tensions related to pedagogical approaches in a Sino-British higher education program. The Chinese offshore teachers mixed approaches common to the local Chinese teachers' teacher-centred approach and the expatriate teachers' student-centred approach. The study reported challenges that local Chinese students encountered when they interacted with the "westernized, student-centred approach" that lacked "direct knowledge transfer" but had "a heightened requirement for student engagement" within the UK style classes (p. 15). Similarly, Che's (2023) case study of a Sino-British transnational higher education program reported differences in Chinese pedagogies (e.g., teacher-centered) and British pedagogies (e.g., learner-centered). For example, teacher participants highlighted students' oral reticence in class and rarely contextualized cultural-sensitive knowledge (e.g., politics in Africa) for local Chinese students. These led to the students' passivity in learning and challenged the offshore teachers' intention to promote oral participation and interactivity for critical learning. Similarly, in an Australian-Malaysian higher education program, Lim (2016) pointed out that offshore teaching was challenged by the differences between the local (i.e., Malaysia) and the international (e.g., Australia) teaching approaches. Students were "unused to an interactive teaching style and its requirements to contribute in class and engage significantly in the learning process" (p. 533). Ragoonaden and Akehurst's (2013) self-study of a Canadian ESL teacher in China reported cultural discontinuities between Canadian teachers and their Chinese offshore students and called for culturally responsive pedagogies. Their study found that instructional strategies and activities that were commonly employed in Canadian classrooms generated "great anxiety" (p. 103) for Chinese ESL students and resulted in their silence in class, reluctance to participate in class discussions, and uneasiness in making peer- and self-evaluations.

Literature on teaching in transnational education programs at the secondary school level is emerging (e.g., Li, 2017; Zhang, 2012, 2015, 2023). Examples of extant studies include Zhang's (2015) inquiry into a Chinese-Canadian transnational program that reported limited interactions between Canadian and Chinese teachers regarding curriculum planning or language-teaching

pedagogies. Her study found that though the Mandarin and English literacy curricula both made-up the program, the teachers treated the languages as separate, which limited opportunities for students' to translanguage or make meaning from an inclusive pluri-lingual repertoire. Li's (2017) study on a Sino-Canadian transnational secondary program examined how literacy teachers' teaching was enabled or constrained by a pyramid of factors, such as standardized tests, professional development, and resource limitation. Zhang's (2023) case study of a Hong Kong-Canadian secondary school reveals how human and nonhuman actors affected the English and Mandarin literacy teachers' implementation of critical literacies. The actors included the school's multiculturalism (e.g., the student population consisted of 60% Hong Kong and Hong Kong Canadians and 40% expatriates), technology, the IB curriculum expectations, the teachers' personal and professional experiences, and a global accountability model of assessing students in transnational education.

The review identified a handful of studies on transnational education that addressed teacher agency (e.g., Zhang, 2022; 2023). Zhang (2022) adopted a posthumanist orientation to conceptualize agency and attended to how human bodies, languages, technologies, and other sociomaterial entities intra-acted and distributed agency to impact the programmatic, implemented, and lived curricula in the program. Zhang's (2023) study recommended that curricula that indexed transnational education students' lifeworlds and multilingual repertoires could leverage learners' and educators' agency in creating new literacy practices that did not compartmentalize first and second languages. Mizzi and O'Brien-Klewchuk's (2016) study examined nine pre-departure orientation manuals for transnational teachers at elementary and secondary school levels. The authors questioned the adequacy in preparing offshore teachers to adjust to their cross-border living. The authors problematized the dominant assumptions in these manuals, such as providing taken-for-granted and vague information (e.g., the meaning of "good" teaching; "dos / don't dos"; advice such as "remember to bring teaching materials to the classroom"), and lack of concrete guidance on teaching practices (e.g., provision of situational examples with problems and recommendations for how teachers should respond in certain situations). The authors suggested future manuals that provided transnational teachers with opportunities for agency; these manuals would include concrete guidance on such matters as

promoting multiple cultures and deconstructing power relations between the institutions and teachers.

The literature we here reviewed indicates a pressing need for greater conceptualizations of teacher agency and curriculum making, as well as its relationship to the enactment of transnational education curricula which is a nexus for a variety of curricular, pedagogical, linguistic, and cultural diversity. The current study responded to the need and focused on factors that jointly affected transnational education teachers' agency enactment to engage students' linguistic repertoires in their first and second languages, different learning styles, and semiotic uses (e.g., Zhang, 2022).

3.3 Theoretical Framework

This study draws on theories on curriculum and teacher agency to illuminate the implemented literacy curricula in the transnational education program.

3.3.1 Curriculum

The study references a variety of curricular terms to account for the multidimensional nature of curriculum (Eisner, 2002) which is actualized "in different ways and exist[s] at different levels" (Morris & Adamson, 2010, p. 4). *Intended curriculum* describes explicit goals and objectives and offers options of curriculum provision (Eisner, 2002). *Institutional curriculum* functions as an abstract model of curriculum discourses that embody social-cultural expectations and typify the schooling paradigm (e.g., Doyle, 1992). *Programmatic curriculum* refers to the translation of the abstract aims, ideals, and expectations at the policy level into curriculum documents and materials for classroom use (e.g., Doyle, 1992). *Implemented curriculum* is also referred to in the literature as *classroom curriculum* (Westbury, 2003) and *operational curriculum* (Eisner, 2002). It captures teachers' interpretation of programmatic curriculum and their classroom curriculum

making that foregrounds the "enacted events in which teachers and students jointly negotiate content and meaning" (Elbaz, 1983, p. 492).

In this study, we conceptualize implemented curriculum as per Deng (2009): Implemented curriculum-making entails the transformation of the programmatic curriculum embodied in curriculum documents and materials into "instructional events" (p. 589). Decades of curriculum research has indicated that teachers who are involved in implemented curriculum are not simple "conduit[s]" of programmatic curricula (Reddy, 1979, p. 286). Similarly, Schwab (1983) contended that teachers are not "assembly line operators" (p. 245), and Clandinin and Connelly (1992) expressed that such metaphors belie teachers' curriculum decision-making roles. Coterminously, Doyle (1992) promoted the view of teachers as agentive curriculum interpreters. These scholarly views foreground teachers' agency in curriculum making including when they connect curricular expectations with students' experience, interests, and strengths (Doyle, 1992; Westbury, 2003).

Similarly, in this study, we problematize the view of teachers as mere transmitters of top-down knowledge and curriculum (Lewison et al., 2002). We explored mediators of transnational education teachers' pedagogical and curricular decision making involving home and host countries' curricula and students' linguistic repertoires in L1 and L2. We did so through a contemporary, ecological understanding of agency.

3.3.2 Ecological Approach to Teacher Agency

The study is built from Priestley et al.'s (2015a) ecological model of teacher agency. In this model, *agency* is an "emergent phenomenon" (Priestley et al., 2015a) that arises through "the interaction of individual 'capacity' with environing 'conditions'" (p. 19). Agency, in this sense, is not the quality or competency that individual teachers possess. Instead, it concerns the quality of engagement of actors with "temporal-relational contexts-for-action" (Priestley & Drew, 2019, p. 6). Agency manifests itself in various forms and actions that have "discursive, practical, and

embodied relations" to the world (Eteläpelto et al., 2013, p. 45). It is bounded by the "concrete practicalities" in the surrounding contexts (Priestley et al., 2015a, p. 30). Teacher agency can be achieved in various forms, either through a force for change or resistance (Fenwick & Somerville, 2006), such as teachers' responses in educational reforms, or through a critical stance toward assigned tasks (Fenwick, 2006).

Drawing on Emirbayer and Mische's (1998) "chordal triad of agency" (p. 972), Priestley et al. (2015b) propose teacher agency as a dynamic interplay of different temporal and contextual dimensions, namely, the *iterative dimension* (i.e., the past experiences that resource individuals' decision making), the *practical-evaluative dimension* (i.e., the present at the moment when individuals take actions), and the *projective dimension* (i.e., the future aspects that guide individuals' actions). This ecological approach asserts that individual teachers enact agency through "a configuration of influences from the past, orientations towards the future and engagement with the present" (Priestley et al., 2015a, p. 3). The iterative aspects affect the enactment of teachers' agency in the process when teachers make curriculum decisions based on their past experiences (Priestley et al., 2015a). Referencing to iterative aspects entails following, appropriating, and refashioning routinized behaviour patterns. The practical-evaluative aspects concern the capacity of actors to make decisions and take actions in response to "the emerging demands, dilemmas, and ambiguities of presently evolving situations" (Emirbayer & Mische, 1998, p. 971). The projective aspects exert influences on individuals through motivating them to refer to and reconfigure their perceived patterns to reshape the future.

Going beyond an individual-centered analysis of agency, the ecological perspective enabled us to explore the contextual and temporal factors that affected teacher agency in the transnational education setting.

3.4 Methodology

The current study employed a case study design (e.g., Ashley, 2012; Cohen et al., 2011) to investigate teacher agency in the implementation of transnational curricula. The case was a literacy curriculum of a transnational (i.e., Sino-Canadian) secondary education program that used both literacy curricula of China and New Brunswick. Adopting the case study methodology, we collected multiple sources of data to capture the "richness" of the events in a case, blending descriptions and analysis of these events (Hitchcock & Hughes, 1995, p. 317). The data sources for this study include school policy and curriculum documents, interviews with principals and teachers, and classroom observations.

3.4.1 Site and Participants

The research site was selected for a few considerations. The selected research site is a Sino-Canadian secondary school (pseudonym: SNBS) located in a middle-sized city in south China and accredited by the Canadian province of New Brunswick. This site was selected to respond to our research questions on how the Mandarin and English literacy teachers implement the Chinese and Canadian curricula, as SNBS used a combination of New Brunswick secondary school curricula and Chinese national secondary curricula at the time of the study. In addition, our substantive interests in teacher agency made SNBS a good fit for research due to its teaching staff comprising of both local and expatriate literacy teachers. Furthermore, our research interests in literacy curriculum against the backdrop of the growing cultural and linguistic diversity made SNBS a satisfactory research site where local and global languages and cultures coexist.

At SNBS, students were granted dual diplomas (i.e., the Chinese High School Diploma and the New Brunswick Secondary School Diploma) when they pass the two diploma tests (i.e., China's Huikao[10] (Ministry of Education of the People's Republic of China, 2000) and New Brunswick's

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10 Huikao is the provincial high school diploma test in mainland China.

Second Language Competence Evaluation [SLCE][11]). This transnational education program consisted of subject area curricula (e.g., Mandarin, English, maths, history, geography, and politics) from Chinese curricula that were taught in Mandarin Chinese by local Chinese teachers, and also subject area curricula (e.g., English language, English writing, social studies, and second language competence[12]) provided by New Brunswick, taught in English by expatriate teachers[13]. Students were also expected to take international English language tests (e.g., International English Language Testing System [IELTS]) to enter higher education systems located in English-speaking countries.

The teacher participants in this study were three literacy teachers: Ms. Taylor, Ms. Johns, and Ms. Liu (See Table 4 for the participants' profiles).

Table 4: Participant profiles

Pseudonyms	Teaching Grade	Language used in teaching	Role
Mr. Thomas	N/A	N/A	Canadian vice-principal of SNBS
Mr. Deng	N/A	N/A	Chinese vice-principal of SNBS
Ms. Taylor	Grade 11	English	Literacy teacher teaching subjects of Second Language Competence and English language
Ms. Liu	Grade 11	Chinese	Literacy teacher teaching subject of Mandarin
Ms. Johns	Grade 12	English	Literacy teacher teaching subjects of English writing and English language

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[11] We changed the test name to make information nontraceable.
[12] This course is designed for Grade 11 students for SLCE preparation. For anonymity, we changed the course title.
[13] All expatriate teachers who were teaching courses were from countries other than Canada.

3.4.2 Data Sources

The data sources of this study included school policy and curriculum documents, interviews with principals and teachers, and classroom observations. The major school policy and curriculum documents we studied included SNBS's admission information booklet (SNBS, 2016a), Year Book (SNBS, 2016b), and its corporate-developed Curriculum Document Standardization (SNBS, 2016c). We also studied the textbooks, exercise books, documents (e.g., Huikao Guideline) being used in class that were shared by the participating teachers. Our interview data included three interviews with all three participating literacy teachers and two interviews respectively with the Chinese and Canadian vice principals (See Table 4 for the participants' profiles). Our observational data included classroom observations in the three participating teachers' literacy classes. Following all ethical protocol, we observed 46 sessions of the participating teachers' literacy classes (40 minutes each). The observed classes included: 1) two cohorts of Ms. Taylor's English language classes and her Second Language Competence (SLC) classes of a grade 11 class, 2) Ms. Liu's Mandarin classes of the same grade 11 cohort, and 3) Ms. Johns' English language classes and English writing classes of
a grade 12 class.

3.4.3 Data Analysis

Data were analyzed in response to the research questions, our literature findings on curriculum implementation in transnational education, and related theories on implemented curriculum and the ecological approach to teacher agency. We used thematic analysis (Braun & Clark, 2006) method to identify, analyze, and report patterns (i.e., themes) within our data. We selected this strategy due to its "theoretical freedom" (Braun & Clark, 2006, p. 78) in providing rich, detailed, and complex accounts of data. To be more specific, thematic analysis, not associated with any pre-existing theoretical framework, rendered us possibility in reading data from our own ontological and epistemological orientations. According to Braun and Clarke (2006), thematic analysis can be an essentialist, a realist, a constructionist, or a contextualist method. We orient our understanding towards teacher agency as emerging relational effects influenced by its

contextual factors. This strategy thus enabled us not only to "reflect" reality (p. 81), but also to "unpick or unravel the surface of 'reality'" (p. 81). Our thematic analysis thus focused on identifying temporal, contextual, and personal influences that impacted on teacher agency and how their dynamic interplay affected teachers' implemented literacy curricula at the transnational education program.

Using thematic analysis method (Braun & Clarke, 2006), we initially familiarized ourselves with transcribed interview and observational data through reading and re-reading data, followed by generating initial codes, such as the school's materiality provision, the students' English proficiency levels, and the teachers' agreement and disagreement on school policies and regulations. The following phase was to search for themes across data. The multiple data sources led the researchers in many directions to read and reread data to explore the relations of temporal, contextual, and personal factors and the effects that these relations produced on teachers' implemented curriculum. For example, fieldnotes about Ms. Liu's reflection on her test-oriented teaching in the interview led the researchers to reread the observation data of her lessons and explore how her pedagogical aspiration was mediated by the school's test-oriented culture. After reviewing potential themes, we defined and named the themes. Themes were generated using both inductive (i.e., a data-driven approach of coding without looking for its fit into a pre-existing coding frame or preconceptions) and theoretical approaches (i.e., an analyst-driven approach) (Braun & Clarke, 2006). Examples of inductively-generated themes included teachers' negotiations with the school's corporation-developed curriculum, tensions between the local and global standardized tests, separate governance structures between the local and expatriate teaching staff, students' wide differences in English proficiency levels, and the school's limited technological resources. Examples of theoretically generated themes included: teachers' experiences as professionals and as students (i.e., the iterative dimension of teacher agency), teachers' perceptions and evaluation of their students and the researched cross-border program (i.e., the practical-evaluative dimension of teacher agency), and teachers' anticipation of their teaching and students' different future needs (i.e., the projective dimension of teacher agency). To conduct trustworthy thematic analyses, we referred to Lincoln and Guba's (1985) conceptualization of trustworthiness by following their criteria of credibility, transferability, dependability, and confirmability. We established trustworthiness during each phase of thematic

analysis (Nowell et al., 2017). For example, in data collection phase, we triangulated different data collection methods; two research assistants collecting data documented theoretical and reflective thoughts. In data analysis procedure, we documented team meetings and peer debriefings, and used researcher triangulation within our research group.

3.5 Findings and Discussions

In this section we report the key mediators that shaped the English and Chinese teachers' implementation of curricula at SNBS with a view to illustrating the actualities of teacher agency in an integrated curriculum.

3.5.1 The Intended Curriculum and Its Implementation

Literacy teachers' agency in enacting the school's integrative curriculum was found impacted by a pyramid of factors. SNBS was explicit about its integrative curriculum model saying that it "integrates a curriculum system with Chinese courses as a foundation, and combines with Sino-Canadian courses to complete students' preparation for successful study abroad" (SNBS, 2016b, p. 2). The school justified the model by highlighting that "These two education systems compliment [*sic*] each other in our school and provide more engaging opportunities for teachers and students" (SNBS, 2016b, p. 22). However, data suggest various factors that limited Chinese and Canadian literacy teachers' agency in making interactions in pedagogical and curriculum planning to actualize a truly integrative model of curriculum.

The Chinese and Canadian vice-principals' interview data show that the school's separate administrative structures limited opportunities for literacy teachers to exercise their agency in integrating Chinese-Canadian curricula, including connecting Mandarin and English languages and related literacy curricula. The Chinese vice-principal, Mr. Deng, for instance, shared, "the Chinese and Canadian curricula do not interfere with each other" ("中方和加方两方的课程互

不干预") because the curricula were developed by different agencies. For example, "the Chinese curriculum is regulated by the Ministry of Education of China, and all are already decided" ("中方的国家课程是教育部规定的，都是规定好的"); however, "the Canadian curriculum is produced by the corporation. I usually don't interfere with Canadian curriculum" ("加方课程是集团做的。我一般不干预加方"). Similarly, addressing the separate governance structures at the school, the Canadian principal Mr. Thomas, commented that all Chinese teachers were under the supervision of the Teacher Administration Office of SNBS, while he was the only person who was responsible for expatriate teachers. In addition, he pointed out his freedom in making decisions about the New Brunswick curriculum being used and in supervising expatriate teachers, regardless of the Chinese vice-principal's decisions. Mr. Thomas recounted that he was "in charge of the foreign curriculum" and "responsible only to the executive director" of SNBS's governing corporation.

Besides shared office space (e.g., shared space for Chinese literacy teachers who taught English and all expatriate teachers), the principals reported that the school did not focus on opportunities for collaborative curriculum making between Chinese literacy teachers (i.e., Chinese literacy teachers who taught Mandarin and English) and Canadian English literacy teachers. In the interview, Mr. Deng foregrounded extra-curricular interactions between the local and expatriate literacy teachers. He also shared that "Chinese and expatriate teachers can visit each other's classes" ("中方和外籍教师可以相互听课的"). Other than that, most interactions between local and expatriate staff were limited to extracurricular activities, such as collaborations in "English Corner" ("英语角"), "English speaking contests" ("英语演讲比赛"), and "foreign festival activities" ("外国节日活动"). The Canadian vice-principal, Mr. Thomas, also commented on limited integration between Chinese and Canadian curricula and foreign and Chinese teachers' limited interactions at SNBS. He explained that this lack of integration was "completely unintentional" and interactions only occurred when literacy teachers in the English and Chinese classes were unintentionally discussing commonly-used teaching topics (e.g., "pollution and the environment"). Mr. Thomas elaborated that the language barrier between Mandarin-speaking and English-speaking literacy teachers at SNBS was the reason for the scarcity of interactions

between them. When asked about the ways of integrating Chinese and Canadian curricula at SNBS, Mr. Thomas said, "We haven't looked at that, to be honest" because "there's a big disconnect" between Chinese and English languages that "have very few similarities".

Another barrier to integration was that teacher interview data indicate that the teachers themselves were not familiar with the school's mission to create an integrated, complimentary [*sic*] curriculum (SNBS, 2016b), and there were rare conversations between Chinese and Canadian literacy teachers regarding collaborative curriculum planning or pedagogical approaches. For example, when asked about the idea to integrate curricula from both sides at SNBS, the Mandarin literacy teacher Ms. Liu shared, "I haven't heard about this from the principal. I don't know much about it" ("这个好像没有听校长说过。不是很了解"). She also said, "I don't know . . . the relations between the two [curriculum systems]" ("我不知道...两者有什么关联"). Ms. Liu recounted that there was little professional training for Mandarin teachers to understand how to support integrative curriculum. She said, "I don't know how to adapt our curriculum to fit the foreign curriculum. . . . I don't know how to combine [the two curricula] ("我就不知道我们的课程怎样去适应国外的课程…不知道该怎样去结合")." The expatriate English literacy teacher Ms. Taylor shared her willingness to have conversations with Chinese teachers who taught the same cohort of students, but she said, "We didn't really have access to that [having conversations with local literacy teachers], which is a shame."

The corporate-developed standardized programmatic curriculum and the assigned teaching resources also affected literacy teachers', especially expatriates', agency in enacting an integrative curriculum. The company that owns the school developed a standardized curriculum and prescribed standardized teaching objectives and teaching materials. Our document analysis shows that the standardized programmatic curriculum lists recommended teaching resources from three curricula: the New Brunswick secondary school literacy curriculum, China's high school English curriculum, and the school's corporation-developed and recommended teaching materials. However, the corporation-developed curriculum did not contain any pedagogical recommendations about how to teach the school's standardized curriculum or how to integrate

the local and global curricula. Ms. Taylor referred to the corporation-assigned teaching resources as "arbitrary." She also expressed that the language proficiency levels expected in the corporation-developed textbooks are "higher than their [students'] capability"; therefore, she thought the recommended resources were too difficult for her students. Similarly, Ms. Johns saw the corporation-developed textbooks as "wrong in a lot of cases" and stated that the difficulty levels among the materials vary greatly and the textbooks provide limited opportunities to develop students' critical thinking abilities. Ms. Johns also shared that she started to "put together [her] own curriculum" by adjusting the difficulty levels of her teaching content based on her students' language proficiency and needs (e.g., their need to develop essay-writing skills for future undergraduate studies abroad). For example, Ms. Johns "pick[ed] easier material" when the assigned teaching materials were proven "too difficult" or "incomprehensible" for her students and she incorporated teaching materials that she deemed "much better" and "much more useful" than the prescribed textbooks.

It is notable that the expatriate English literacy teachers identified that the loose teaching supervision at the school enabled them to practice their teacher agency in adapting the standardized curriculum, such as creating their own teaching materials and teaching plans. For example, Ms. Taylor said, "no one's going to check, so whatever" and "there's no follow-up" on how they implement the English literacy curriculum. Similarly, Ms. Johns shared that she was told to "do whatever you want." She was able to use her self-developed curriculum in class, drawing on her judgment of the problematic corporation-developed teaching materials, her students' actual academic and language proficiency levels, and her outlook of her students' future academic activities.

Observation and interview data show that the huge differences in students' English abilities impacted English literacy teachers on practicing their teacher agency in making curriculum and pedagogical accommodations by preparing double lesson plans for different groups or incorporating students' heritage language in the English-dominant teaching setting. As Magne et al. (2017) reported, students' English proficiency is identified as a key challenge to transnational education programs' curriculum actualization. Classes with mixed English levels were common

to impact teacher agency in implementing integrative curriculum at SNBS. Ms. Johns commented that her students' English proficiency levels ranged from "accomplished" to "almost nothing." This is similar to Ms. Taylor's situation where she had students who could write "a couple pages paper" and those "who [didn't] understand 'What's your name?'." Exercising her teacher agency, Ms. Taylor disrupted the prescribed teaching sequence to balance the difficulty levels among the assigned textbooks, for example, working "[some] days with the lower ones [with easier materials] and [some] days with the higher-level ones [with more difficult materials]." She shared, "It works." Ms. Johns reported that students' differences in English proficiency levels compelled her "to break the class into two" and "to do two lesson plans" because of the different levels. For example, Ms. Johns varied the ways of grouping of students with different English proficiency levels, based on her judgement of the practicalities to enhance learner engagement. As she said in the interview, "I've gotten a better sense of who works well with another person and who's disruptive…I do put strong people in each group. Each group has one of the three highest. Sometimes they'd be in their own group, and I do switch it around at times."

Ms. Taylor legitimated the use of students' heritage language in her class to support their understanding of content. She said sometimes she needed to do "a lot of guessing in order to understand what he [one of her students] wants to say" because "it's a lot of random words." In her interview, Ms. Taylor shared that her personal experiences of learning expatriate languages shaped her perceptions and usage of mother languages in assisting foreign language learning. She recounted,

I think what helped me the most is not something I read or something I studied. . . . It's more personal experience, because I had to study foreign languages and I know how slow it [learning foreign languages] is, and I know that to relate it to your mother language is not a sin. So I tend to use Chinese . . . and I'm sure it would help someone in the classroom, so I don't mind it.

Ms. Taylor's "empathy" for her students was rooted in her personal experience and her belief that "it's useful to relate languages among themselves. . . I feel personally that it is helpful."

Observation data reveal her frequent use of spoken Mandarin[14] in class for clarification purposes, her encouragement of students' use of Mandarin in class for peer support (e.g., helping each other to interpret instructions), and her encouragement of dictionary use.

To sum up, despite SNBS's intention to promote an integrative Chinese-Canadian curriculum, the English and Mandarin teachers implemented their respective literacy curricula with limited interactions, and exercised their teacher agency to various extents. The separate expatriate and Chinese teacher management structures, the loose teaching supervision, and the school's less explicit communication with teachers about the school's integrated Chinese-Canada curriculum model all contributed to the implementation of this bifurcated Mandarin and English literacy curricula and teachers' exercised agency to engage students' linguistic repertoires in L1 and L2, different learning styles and semiotic uses. Ms. Taylor's legitimation of students' use of their heritage language Mandarin in her English class exemplifies teachers' sporadic efforts to engage transnational education students' linguistic repertoires for their optimal learning experience.

3.5.2 Test-oriented School Climate and Curriculum Implementation

SNBS's test-oriented school climate, featured by its prioritization of standardized tests' preparation, mediated teachers' agency to a large extent. The school's document emphasizes that its "ultimate goal is to let every student achieve comprehensive and personalized development" (SNBS, 2016b, p. 19). The document states that "For the international world education, people have come to realize that although it is important for academic achievement, the academic knowledge has no longer been able to meet [offer] today's young people for [with] the sufficient preparation for tomorrow" (p. 19). However, our findings indicate that the test-oriented school climate at SNBS mediated teachers' agency to adapt the test-oriented curriculum and pedagogy to cater for individual learners' needs.

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[14] Ms. Taylor speaks several languages, Mandarin Chinese being one of them.

According to both Chinese and expatriate literacy teachers, the school prioritized preparation for standardized tests at both local (e.g., Huikao) and global levels, such as the New Brunswick provincial diploma test (i.e., SLCE) and global language qualification tests (e.g., IELTS). For example, Ms. Johns shared that before the exam season, her teaching priorities were limited to New Brunswick high school diploma test preparation. In the interviews, Ms. Taylor and Ms. Johns both highlighted that the main goals of teaching and learning at SNBS were to help students pass the standardized tests and gain diplomas. Ms. Liu also shared her dilemma in planning teaching content around Huikao, the Chinese high school diploma test.

Given the local and global standardized test requirements for the transnational education program, both English and Mandarin literacy teachers at SNBS made curricular and pedagogical decisions that contradicted their aspirations (Priestley et al, 2015a). For example, in the interview Ms. Liu shared her intention to enrich students' appreciation of Chinese and foreign literature through the incorporation of "foreign language movies, drama, and autobiographies" ("外国电影、戏剧和人物传记"). However, such a curricular focus could not be actualized in her classes due to the test expectations of Huikao. Exercising her teacher agency in response to the dilemma between meeting test requirements and catering for students' individual needs, Ms. Liu divided her teaching into pre-test and post-test phases, which highlights how temporal factors related to standardized tests impacted her implemented curriculum. In the interview, when we discussed her teaching of a classical Chinese article on kinship (i.e., "A memorial to the emperor" "陈情表"), Ms. Liu reflected that her teaching had a "heavy emphasis on knowledge dissemination" ("太偏重知识性了"). This emphasis was reflected in the class observation data when she instructed her students to "think about this question by imagining you were writing a test" ("你把它当做考试的一题来想一下"). Vignette 1 showcases one of Ms. Liu's Mandarin lessons that focused on analyzing test papers.

Vignette 1

In the previous lesson, the students finished their mid-term test. In this class, Ms. Liu focuses on analyzing the test paper. She goes over all the exercises one by one by giving simple explanations and the standard answers to the students. For example, one exercise requires students to "appreciate and analyze" ("赏析") one sentence of a classic Chinese poem. Ms. Liu tells the students that to appreciate and analyze a classical Chinese poem means to translate the texts from classical Chinese to contemporary Chinese. She then reads the translation of the poem from the answer sheet to the students. She repeats the answer several times for students to copy into their test papers. In another exercise of reading comprehension of a contemporary article, Ms. Liu also reads the answers and awaits the students to copy what she reads into their test papers.

In the interview, Ms. Liu questioned her own teaching when she complied with the teaching-to-test pedagogy in class due to her test-oriented mindset and the school's testing culture. She recounted, "I often say that when you are writing a test, you need to write like this. . . . But I had to reiterate this" ("我经常就会上课的时候就说考试的时候要这样写..., 但你不说也不行"). Through the interview conversation, Ms. Liu reflected on her teaching planning and realized that the school's test-oriented culture mediated her original intentions to "arouse students' interests" ("引起学生的兴趣") in literature learning and broaden students' vision by incorporating diverse media from different languages.

Ms. Johns shared in her interview that her teaching prior to the SLCE tests was more geared towards exams. She also expressed her appreciation of the free rein after the test to develop her students' creativity while preparing them with adequate academic skills for future university study abroad (e.g., "to write a research paper," "to get the format of an essay," and "to know citations"). Ms. Johns shared her experiences of being a student, as someone who "loved playing around with [her] own thoughts." In Vignette 2, Ms. Johns supported students' creative role-play presentations that were rooted in students' real-life experience.

Vignette 2

In earlier classes, Ms. Johns discussed with students about how to state choices, how to employ intonations to express emotional meanings, and how to use comparative sentences to express preference. She assigned five contexts to students, expecting them to create conversations and role play within these contexts in the next day. She reminded students to incorporate what they had learnt about comparative sentences into role-play presentations by overtly giving example sentences. For example, she said, "You ask questions… 'I would rather not do this', 'I would prefer to do that'… And remember the focus is on using…and you can also throw in some comparative structures, 'I think Japan is a much more interesting place than x; I prefer to go to Japan'." She also expected students to fuse what they had learnt about choice statements and intonation into the activity. Today, Ms. Johns creates a "stage" with three chairs and one table for the presentations. Ms. Johns reminds the students to use the comparative sentences and intonation and also talk about preferences in their presentations. The students take turns to present. The presented roles include a couple and a marriage counsellor, two customers and a travel agent, two students and a course registration counsellor, and two customers and a bank representative. The role choices are connected to students' daily life. Ms. Johns cuts in to help when she identifies challenges. After each show, Ms. Johns gives comments and suggestions on their presentations regarding their use of comparative sentences in articulating their preferences.

However, Ms. Johns expressed that the test-focused school culture shifted her teaching priorities from equipping her students with meaningful skills and capacities to preparing them just for tests. Ms. Johns deemed standardized test preparation inadequate in supporting students' future study life abroad. She commented that to learn how to write IELTS is "not going to help you in college." However, the school culture at SNBS is "very test-oriented". Ms. Johns recounted that she was told "your job is to get them ready to take that test [SLCE]… and I was told . . . if you can get a certain pass rate for the SLCE then the executive director gets a big bonus, so you should do that . . . so that's what I focus on really."

Ms. Taylor reported that her English literacy teaching practices had to change in the standard exam preparation season, but the observed classes after the exams were more focused on everyday language use. Talking about her pedagogical preference, she shared that "I would focus

more on everyday language and being able to read everyday things and talk about everyday life . . . but now it has to be a bit more complicated, because they'll have to go and write papers and be more academic . . . that would be to think at a more abstract level." Vignette 3 and Figure 4 illustrate Ms. Taylor's pedagogical focus on supporting students' use of everyday English (Yan and Teng are student participants).

Vignette 3

Yan: He has a big face…he has a very big eyebrow…and small eyes, and an ugly nose. There are many small points (Teng is listening to Yan's description attentively and drawing on whiteboard).

Ms. Taylor: Freckles.

Yan: Ya, freckles on his face. And he has very long mouth, and very sharp teeth, and he has two teeth out of his mouth.

Ms. Taylor: Like a vampire?

Yan: Ya, two long sharp teeth, and he has a neck…average neck, and he has a scare.

Ms. Taylor: Scales? Like a fish?

Yan: No, someone fight him.

Ms. Taylor: Oh, he has a scar.

Yan: Yes, scar.

Ms. Taylor: That's going to be helpful for the story. When you get injured and then your skin heals, but you can still see (Ms. Taylor explains the word "scar" to Teng so he can draw. She points to her arm and Yan points to her head where they have scars).

Yan: Ya, he has a scar on his neck. And he has long curl hair.

Ms. Taylor: Long curly hair.

Yan: Oh, curly hair….and he wears a coat…a long-sleeved coat…a jacket…He wears shorts (Ms. Taylor demonstrates to Teng the word "shorts" by drawing a line across her thigh).

Yan: And he only has one leg.

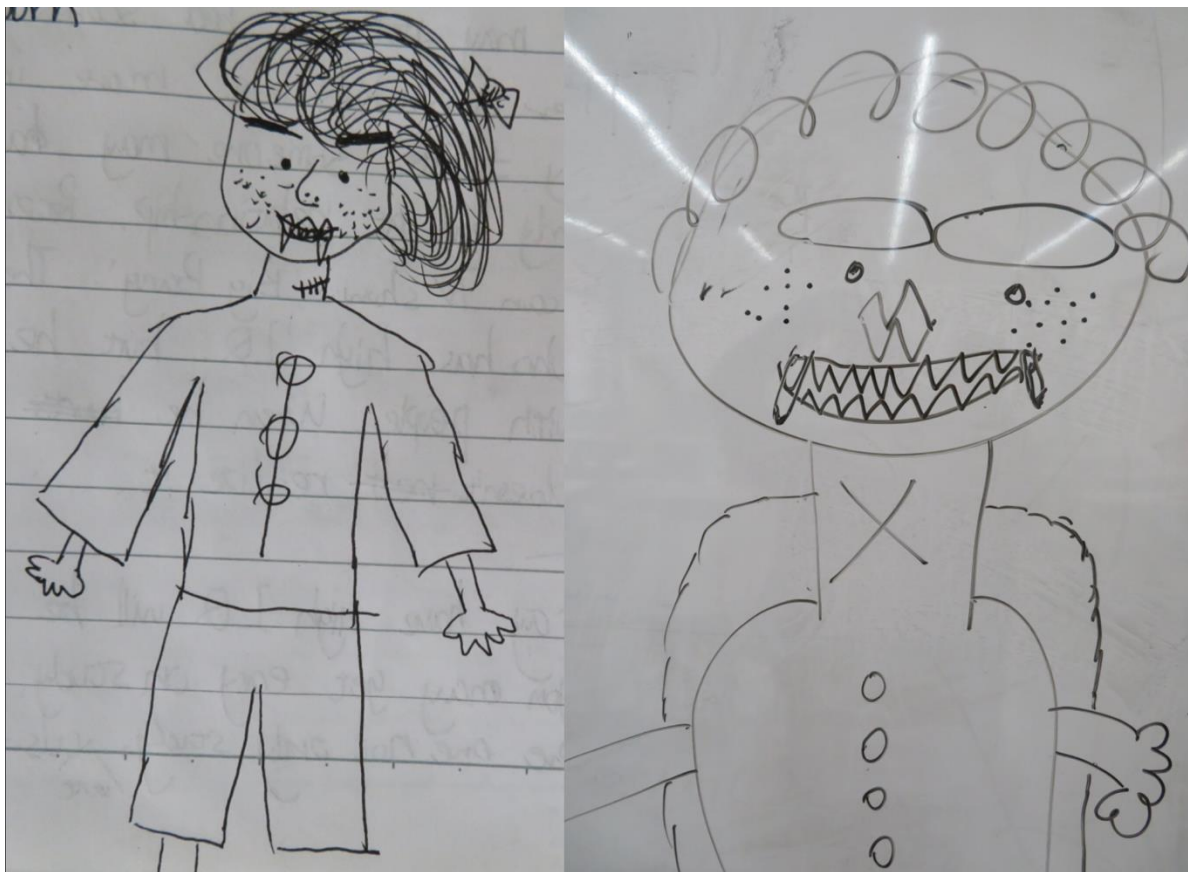*Ms. Taylor: Wow, that's a very good character. I have so many questions.*

Figure 4: Yan's Drawing (left) and Teng's Drawing from Yan's Descriptions

Findings also show that literacy teachers' agency is also enacted through their interactions with students' tendency toward test-oriented teaching because of the examination culture. For example, in the interview, Ms. Liu pointed out her students' "strong inclination" ("倾向性很强的") towards standardized test preparation. She shared, for instance, that after being presented with the Huikao test syllabus, her students said, "we would learn this if it would be tested in Huikao, and we would not learn if it would not be tested in Huikao" ("他们就是说这个考，那就学，不考就不学了"). Observational data in Ms. Liu's class also show that when discussing teaching content for upcoming classes, she and her students jointly selected a chapter that would be tested in Huikao. Ms. Taylor shared that she observed "laziness in a lot of students" because of the priority that the school gave to passing the SLCE tests. As she said, "they pass the SLCE and they're done…they're in university." Ms. Liu also echoed in the interview that she regretted

showing students the document of "The Guideline of Mandarin Diploma Test of 2017" for Huikao, because afterwards students only showed interests to learn what would be tested.

In sum, standardized test expectations shaped literacy teachers' evaluation of the practicalities (e.g., passing tests and gaining diplomas), which resulted in their pedagogical focus on test preparation. Both observational and interview data show that local and global standardized test requirements mediated literacy teachers' aspirations and constrained their agency in diversifying media and pedagogies for local students' needs and interests.

3.5.3 The School's Digital Agenda and Teachers' Teaching Practices

Findings indicate that limited accessibility to digital resources mediated literacy teachers' agency in making use of media and technologies to support transnational education students' meaning making.

Findings show the stark contrast between what digital resources the school claimed to have and what teachers and students had access to. The school's document (SNBS, 2016b) states that "SNBS is considered a technologically advanced school with the use of SMART Board technology in each classroom" (p. 28) and that the school has installed "new multimedia teaching devices, SMART Boards and Internet in all classrooms" (p. 2). This document also specifies that "all teachers at SNBS are trained to use these technologically interactive SMART Boards" (p. 28) to fulfill the school's focus on "changing the traditional teaching and learning paradigm, by engaging the student learner[s] and multiple interactive strategies for teaching" (p. 28). The Chinese vice-principal, Mr. Deng, expressed in the interview that the school placed a strong focus on integrating technological teaching and learning in class because "the use of modern teaching approaches is inevitable in the trend of our time" ("现代化工具是时代趋势，是无法控制的潮流"). However, the Canadian principal Mr. Thomas shared in the interview that the internet cable was the only internet access in every classroom and there was no wireless internet provision. Additionally, Mr. Thomas described the limited accessibility to technology at

SNBS and the challenges of using virtual private network[15] (VPN) for external online resources due to internet censorship in China, which became a "constraint" for both teachers and students at the school. For example, he shared that computers in one of the two computer labs were running Windows 2003, and that students' university applications were constrained by the internet censorship in China. To quote him, "when it comes to things like university prep and doing the applications with the students to send their applications off to university . . . because of the internet, it just takes forever. Almost impossible without a VPN. . . . It's really, really annoying, really frustrating." Observation data also show that each classroom was equipped with a teacher's computer, an internet cable, and a projector system, including a SMART Board[16]; however, wireless internet was unavailable in the observed classrooms. Computer labs were outdated. Many SMART Boards needed repair and maintenance. The students and teachers were not equipped with personal digital devices, and students were discouraged from using digital devices on campus. In her interview, Ms. Taylor shared that the computers provided in the computer labs were "older than the students," and that she didn't have internet access in her classroom because the internet cable provided was not compatible with her computer.

Interview data show the literacy teachers' mixed understandings of the school's agenda of technology-assisted education. For example, commenting on the school's out-of-date computer labs, Ms. Johns pointed out that "the school does not invest the money that [where] they should." Ms. Taylor shared that "it's a personal choice [to use technology or not in class]" and wondered "what the school's approach is there…. because on one hand it seems like they believe in using it [technology], but on the other hand they're not updating their computer labs." For her part, Ms. Liu indicated that she was not aware of the school's explicit intention of promoting technology use in class. To quote her, "This [the usage of technology in class] is decided by teachers themselves" ("这个都是老师自己发挥"). She also noted that opportunities for students to use technology in class were very limited.

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[15] A virtual private network is a mechanism that can be used to secure a connection between a computer and a network or between different networks.

[16] SMART Board is one brand of interactive whiteboard. It is a large interactive display board used for teaching in the classroom. It is touch sensitive and connects to a computer and a digital projector.

Interview and class observation data show literacy teachers' prevalent use of digital resources for presentation purposes, which mediated their agency in providing transnational education learners' with opportunities to become "active media producers" (Lange & Ito, 2010, p. 244). For example, Ms. Liu used information and technological resources in her Mandarin literacy classes (e.g., use of SMART Board, computer, or/and internet in 7 periods out of 10 observed classes). However, Ms. Liu only used the display function to present teaching content instead of using the interactive features of the SMART Board. Interviews and observations of the expatriate English literacy teachers' classroom practices reveal different patterns of digital resource deployment. For example, Ms. Taylor did not use the SMART Board in the observed classes. Ms. Johns shared that "a lot of the SMART Boards here don't work." In the 11 sessions of the observed classes, Ms. Johns used the internet cable and the SMART Board system twice, but only for presentation purposes. In six sessions, Ms. Johns encouraged her students to use cellular data on their cellphones for research purposes or to view course content on their phones when the classroom computer did not work.

Findings reveal moments when the unstable internet and limited digital resources constrained English literacy teachers' incorporation of media and technologies to support learners' active media production. Vignette 4 presents a snapshot of the impacts of technological constraints on teaching and learning in Ms. Johns' class:

Vignette 4

In the previous lesson, Ms. Johns handed out laptops for each group to create slides for their final projects about volunteer trips. Only one computer could be connected to the Internet via cord beside teacher's desk. The PowerPoint application is not installed on the computers. Today, students are going to present group by group. Some students use USB drivers to transfer their slides onto Ms. Johns' main computer on teacher's desk, which is connected to the projector. Ms. Johns asks one student to record the presentations. The first group is trying to download their presentation from one group member's email, but realize that the Internet is too slow and it will take too long. Ms. Johns asks the student to email the file to her to see if she can open it faster. While waiting, Ms. Johns offers an alternative that she will download the file at night at her own

place so that they can do the presentation in the next day. Ms. Johns successfully downloads the file in class. It takes 25 minutes out of the 40-minute class time before the students start presenting.

In her interview, Ms. Johns lamented, "You have to give them some way of researching, and we don't really have such a great computer lab here that they can go to in their off hours." Ms. Johns appealed for more school support with technology provision on campus. She also believed that technology provision for researching purposes in class could help reduce smartphone distractions. To quote her, "I think if you do allow them [students] to use them [technology] for research purposes, they're less inclined to . . . be sneaking text messages."

To conclude, teachers' and students' limited access to various digital resources and stable internet mediated literacy teachers' agency in the form of constraining their teaching practices to engage transnational education students' meaning making across media and their creative media use.

3.6 Conclusion and Significance

Our study examined literacy teachers' agency in their curriculum actualization in a transnational education secondary school. Major findings show that various factors interacted to impact literacy teachers' agency in implementing the integrative Chinese and English curricula and their support of students' meaning making cross languages, cultures, and media. Key mediators include SNBS's separate expatriate and local teacher governance structures, the school's corporation-developed standardized programmatic curriculum, the standardized testing mechanisms at the local and global levels, students' varied facility with English, and the school's limited technological resources. These factors combined to normalize binaries of L1/L2, local/global curricula, academic/authentic meaning making, and media producers/consumers and constrain teachers' efforts to support transnational education students to make connections between languages, cultures, and semiotic resources.

Similar to other Sino-foreign schools in China that run a "blended or dual-track model" (Cosco, 2011, p. 12), SNBS also brought together the Chinese and Canadian curricula, the Chinese and English teachers from various countries, and different pedagogies for transnational education students' academic success in global contexts. However, the above-mentioned mediators connected and constrained the possibilities for Mandarin and English literacy teachers to enact the integrative, "complementary" Chinese-Canadian curricula that could potentially enhance students' engagement with different languages, media, and cultures. Previous studies recommended mechanisms that connect local and Canadian literacy teachers to collaboratively develop a school-based curriculum to integrate local and global curricula, such as assigning a liaison person or coordinator to ensure smooth interactions between local and international teachers (Hicks & Jarrett, 2008). Transnational education programs hold out possibilities for translingual and intercultural engagement (Dunn & Wallace, 2008; Leask, 2008). Besides the liaison mechanism, we argue that it is important for both educators and students in transnational education contexts to critically examine the dynamic power relations entrenched in cross-border education contexts (e.g., Zhang, 2022). Such opportunities were absent in the observed literacy classes at SNBS, despite teachers' efforts to resist the standardized, corporation-developed English curricula. We propose that literacy teachers support students to question statements in selected texts in concerned languages and elicit students' opinions informed by different cultural perspectives, histories, cultures, and body movements across spaces. Our findings point to a need to involve teachers in localized curriculum making, such as in school-based curriculum development. McBurnie and Ziguras (2007) pointed out that in transnational higher education settings, centrally produced teaching and learning resources make it possible "to ensure some consistency wherever program is offered" (p. 51); however, the standardized curriculum packages are problematic, as these centralization-featured curricula may undermine teachers' autonomy or assert impacts on teacher agency. We, therefore, argue for localized/indigenized curricula in transnational education contexts that highlight teachers' agentive roles in curriculum making in response to the local students' and communities' needs, interests, and different ways of meaning making across languages and media. Kalantzis and Cope (2021) suggested a "transpositional grammar" to combine various forms of meaning making (e.g., text, image, space, object, body, sound, and speech). Our observation data show that both English and Chinese teachers' use of technological resources was limited to media consumption, such as

displaying content on the SMART Board. We hereby highlight the importance of professional support, teacher education, and resource provision that promote the integration of multiple forms of semiotic resources to expand learners' creative and critical meaning-making options in various contexts (Kalantzis & Cope, 2021).

Observational and interview data show that the test-oriented culture conflicted with the literacy teachers' "aspirations" about promoting authentic meaning making, which resembles the teachers who felt "coerced by what they might see as arbitrary and unnecessary intrusions into their work" in Priestley et al.'s study (2015b, p. 7). All the teachers in our study acknowledged the detrimental impacts of high-stake standardized tests to their students' literacy learning. However, they opted for test-preparation in exam seasons in the fear that students' failure in these tests would lead to students' inability to obtain diplomas and deny their access to future learning opportunities abroad. The "outcome-driven" culture eroded teacher agency (Priestley et al., 2012, p. 4). Anderson-Levitt (2008) pointed out that there is an "international obsession with international rankings of learning, with learning defined as achievement on a particular set of international achievement tests" (p. 363). Carson (2009) noted this obsession might lead to "impoverished understandings of learning" (p. 152) and "teachers with less pedagogical control" (p. 152). Zhang (2022) depicted English literacy teachers who explicitly resisted neoliberal accountability and IB curricular emphasis on academic excellence in their teaching at a Canadian school in Hong Kong. We hence advocate transnational education teachers' and students' collective examination of the negative impacts of the global testing culture, for example, the potential to hinder optimal learning opportunities for diverse learners and incur cognitive demarcation that privileges academic literacy over authentic meaning making related to students' lifeworlds.

Our study examined literacy teachers' enactment of teacher agency in implementing an integrative curriculum in a Sino-Canadian transnational education secondary school program located in China. Further research is needed to investigate how teachers can enact their agency in curriculum decision making to problematize power imbalances related to languages, cultures, curricula, and pedagogies and explore pedagogical alternatives to resist the impacts of

standardized accountability systems at the local and global levels. Our findings point to the significance of promoting teacher agency within and beyond transnational education contexts, particularly in the promotion of multilingual and multicultural teaching and learning in globalized schooling settings.

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Chapter 4

4 Paper Three: Enacted Agency in a Cross-Border, Online Biliteracy Curriculum Making: Creativity and Bilingual Digital Storytelling[17]

Abstract

This research investigated potentials of bilingual digital story making to engage the creativity of 13 Canadian and Chinese biliteracy learners aged 11- 15. Findings in this paper draw on six focal participants and their digital story creation. Informed by asset-oriented multiliteracies, new media literacies, and new materialism, this research adopted a netnography methodology to explore the communal and sociomaterial practices embedded in the intra-actions of human, matter, and virtual spaces of Seesaw and Skype. Drawing on data from six focal students, findings relate how intra-actions among researchers, teachers, students, matters, and spaces shaped participants' creative acts. This research adds to the knowledge of developing and applying material-informed pedagogies which attend to the enacted agency among teachers, students, materials, and spaces.

Social Sciences and Humanities Research Council[18]'s (SSHRC, 2018) The next generation of emerging global challenges identified 16 interrelated future global challenges. Many of the challenges emerge from technological innovations and request the "greatest need of attention from social science and humanities researchers" (p. I). UNESCO's (2017) working document of "E2030: Education and Skills for the 21st Century" accentuates the multiple facets of lifelong learning to nurture responsible and competent individuals through 21st century skill development, global citizenship education, digital literacy, and sustainable development

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[17] A version of this chapter has been published (Zhang & Li, 2020).
[18] Social Sciences and Humanities Research Council of Canada (SSHRC) is a Canadian federal research funding agency that supports research and training in the humanities and social sciences.

education. Academic literature also calls for ethical, transformative literacy pedagogies to nurture younger generations with the skills and competences to come up with creative solutions to the pressing challenges in the 21st century (e.g., Mirra et al., 2018). This SSHRC-funded study explores a cross-border, online biliteracy curriculum. It is a timely response to Canada's two major future challenge areas: namely, using emerging technologies to benefit Canadians, and generating knowledge for Canada to thrive in the globalized world.

Emergent literature on bilingual education in Canada has discussed the use of transformative multiliteracies pedagogies to leverage bilingual learners' assets of meaning-making in different languages, modes, and technologies (e.g., Cummins et al., 2015). However, there is a scarcity of online, cross-border biliteracy programs in Canada that harness biliteracy learners' assets for creative meaning-making in both English and their heritage language of Mandarin. Collaborating with Mandarin and English language teachers and students, the research team actualized a cross-border, online biliteracy curriculum that connected six Canadian biliteracy learners (i.e., learners in Canada who speak the heritage language of Mandarin but are more fluent in English) and seven Chinese biliteracy learners (i.e., learners in China who are fluent in Mandarin but learning English as a foreign language). The participants were 11-15 years old. Our study built social networking spaces through Seesaw and Skype for these learners to develop biliteracy and new media literacies skills.

The cross-border, online biliteracy curriculum making recruited joint engagement between academics, Mandarin and English teachers, and biliteracy learners from Canada and China. Existent literature on actualizing emergent curriculum in various early childhood education contexts accentuates students as agentive protagonists of curriculum making (e.g., Tal, 2014; Thomas, 2008; Verwys, 2007). Studies also show the Reggio Emilia model of early childhood education as aptly representing the emergent curricular paradigm (Barnett & Halls, 2008; Boyd & Bath, 2017; Fantozzi et al., 2013; Hesterman, 2011; Heydon & Wang, 2006; Mills, 2013; Murris, 2016; Stegelin, 2003). However, few studies on the emergent curriculum attend to the agency of materials in digital story creation, and the impacts of human-matter intra-actions on creative meaning-making. To respond to this gap, the paper asked:

1. What are teachers', students', and matter's roles as creative entities to enact the emergent cross-border, online biliteracy curriculum?

2. What are the implications of cross-border, online biliteracy projects for new pathways of creative meaning-making?

4.1 Theoretical Framework

The study was undergirded by asset-oriented multiliteracies and new media literacies. Acknowledging the sociomaterial turn in literacy research (e.g., Kuby & Rowsell, 2017; Smythe et al., 2017; Toohey et al., 2015), we applied critical re-reading of these theoretical lenses in this material-informed study.

4.1.1 Asset-oriented Multiliteracies and Our Critical Re-reading

One theoretical underpinning of this biliteracy project was multiliteracies (The New London Group, 1996). Multiliteracies proposes an expanded notion of literacy shaped by rapid social, cultural, and technological changes. Multiliteracies pedagogy responds to the growing cultural and linguistic multiplicity and diversity that is intensified by globalization activities such as immigration, multiculturalism, and global integration (Cope & Kalantzis, 2000; Kalantzis & Cope, 2008). Expanding the dimensions of literacy and literacy education, multiliteracies attempts to provide "holistic" (Cope & Kalantzis, 2009, p. 167) literacy pedagogies to engage language differences, multiple sign systems, diverse communication channels, and various domains of literacy practices (e.g., those at home, in school, and across various disciplines).

Our cross-border, online biliteracy project was in line with the multiliteracies pedagogies that celebrate "the many ways that people write, speak, or read themselves into the world" (Moje & Luke, 2009, p. 434). We also designed our project to capitalize on biliteracy learners' funds of knowledge (González et al., 2005) - that is, to develop their creative ways of representation based on their funds of knowledge in both English and Mandarin, the associated cultures, and

multiple semiotic resources. However, we were also aware of the constraints of the multiliteracies lens in framing human and non-human agency in creative meaning-making. Leander and Boldt (2012) critiqued that multiliteracies overemphasize human agency in utilizing multilingual and multimodal materials as resources. Portraying materials only as resources casts aside the agency of non-human animals and matter. In this project, we attended to enacted agency that is continuously produced through the intra- actions between meaning makers and materials (Kuby et al., 2017); we interrogated the binary in human and/or nonhuman agency and define agency as "an enactment between humans and nonhumans" (p. 357). Enacted agency is produced in the entanglement of meaning makers and materials, similar to the case of turtles crawling on the beach. Without the assemblage of animal agency, sand and rock on the beach, and the force of friction, turtles could not even move at the speed of turtles.

Barad's (2007) agential realism accentuates the inextricable ties between reality and language, matter and meaning. As Barad contended, "the 'distinct agencies' are only distinct in a relational, not an absolute, sense, that is, agencies are only distinct in relation to their mutual entanglement; they don't exist as individual elements" (p. 33). Instead of individual objects with inherent "boundaries and properties," Barad's relational ontology foregrounds phenomena as the primary ontological unit and perceives phenomena as the "ontological inseparability of intra-acting 'agencies'" (p. 333). Likewise, creative meaning-making practices do not center around human agency but involve co- production processes of all participating human and non-human entities. Without the force that is enacted by multiple materials and media in their intra-actions with humans, creative meaning productions would not be possible. Creative meaning-making takes place because matter and humans are in mutual relationality and influence one another. The removal of human from the ontological centre of meaning-making welcomes ethical responsiveness to and reciprocal relationship-building with non-human animals, matter, and spaces (Murris, 2016).

In this paper, we explore teachers', students', and matter's roles as creative entities to enact the cross-border, online biliteracy curriculum and look at how enacted agency emerged in the entanglement and assemblage of meaning makers and materials. Our focus in the material-

informed research was on the agential performativity of humans, materials, and the virtual and physical contexts as well as the transformative potentials of their relational encounters in creating new forms of meaning.

4.1.2 New Media Literacies and Our Critical Re-reading

Under the *new media literacies* framework, Jenkins (2009) highlighted the focus shift from "individual expression" to "community involvement" in meaning-making via new media and technologies (p. xiii). Jenkins argued that youth are actively involved in participatory cultures and develop their new literacies skills through online participation and collaboration. Likewise, our cross-border, online biliteracy project created collaborative virtual spaces through Seesaw (an educational app for student-driven digital portfolios) and Skype for both synchronous and asynchronous intra-actions. We intended to provide strong support and mentorship for Canadian and Chinese biliteracy learners, share new creative forms, engage divergent perspectives of their global peers, and facilitate collaborative problem-solving to develop creative digital stories.

In the process of enacting the cross-border, online biliteracy curriculum, we started to see new media literacies' constraining interpretative power because it over-rationalizes biliteracy learners' participation and collaboration in the online community. Informed by the emerging literacy studies on new materialism and posthumanism (e.g., Justice, 2016; Kuby & Rowsell, 2017; Kuby et al., 2019; Leander & Boldt, 2012), our gazes turned to focus on humans, diverse forms of matter, and physical and virtual spaces worked relationally to bring the digital stories to life. We also looked at whether enhancing biliteracy learners' connections with humans, materials, and spaces across linguistic, cultural, and geographical boundaries could facilitate their creative meaning-making in two languages and multiple modes and media.

4.2 Project Design

The research objectives were achieved through the strengths of *a netnography methodology* that is suitable for investigating cross-border, online biliteracy curricula. Netnography is an emerging methodology designed to study interactions on social media platforms (Kozinets, 2010a). Netnography helped the research team explore the communal and sociomaterial practices that are embedded in the intra-actions of human, matter, and virtual spaces. We used netnography to examine online aspects of biliteracy learners' cross-border interchanges and portfolios containing their meaning-making artifacts. The purpose of using this method was to show "how knowledge creation and learning occur through a reflective 'virtual re-experiencing' discourse among the members of innovative online communities" (Kozinets, 2010a, p. 2).

The project spanned from February 13 to June 6, 2019 on Seesaw, a social network site, and through synchronous interactions on Skype. In this paper, we draw on the following netnography data sources to shed light on the emergent nature of the cross-border, online biliteracy curriculum and biliteracy learners' creative meaning-making: 1) students' shared digital storytelling portfolios and online interactions on Seesaw; 2) transcribed video data of synchronous interactions on Skype; and 3) interviews with students either on Skype or onsite about their perspectives of the impacts on the cross-border, online biliteracy learning experience.

Participants were 11-15 years old and included six Canadian and seven Chinese biliteracy learners. In this paper, we draw on data about six focal participants and their digital story creation (see Table 5[19] for the focal participant profile).

Amelia attended an international school in China and was fluent in both English and Mandarin. All the five focal participants from Canada came from immigrant families with Chinese descent. They lived in two cities in Eastern Canada and did not know one another before the project. An

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[19] the original published paper, this is Table 1. We changed the numbering of the figure to fulfill the requirements of dissertation formatting.

offline face-to- face meeting was arranged by the research team for Aaron and Adam because Aaron asked for help with stop motion animation making.

Table 5: Focal participant profile

Pseudonyms	Age	Country of origin	Self-Identified Mother Tongue
Amelia	11	China	Mandarin
Chloe	13	Canada	English/French
Jenny	14	Canada	Mandarin
Aaron	11	Canada	English
Adam	15	Canada	Mandarin
Kenna	13	Canada	Mandarin

Our data analysis focused on "content" (e.g., students' meaning-making with creative tools that were documented on the educational app Seesaw) and "context" (e.g., the features of Seesaw and Skype that enabled social networking opportunities with an authentic global audience) (Kozinets, 2010b, p. 4). Data analysis started when the cross-border, biliteracy curriculum began to unfold based on the continuous intra-actions between researchers, English and Mandarin teachers, biliteracy learners, and more-than-human entities. Instead of deductively reducing data to abstract codes and categories based on theoretical lenses, we remained open to emerging themes throughout data collection. We allowed the emergent data to lead us to the next stage of bilingual digital story making. For example, students played a major role in deciding topics that they were interested in exploring for their digital storytelling when they shared initial ideas on Seesaw and posted their storyboards. The relational encounters of the research team, language teachers, students in China and Canada, materials, and spaces continuously transformed the enactment of the cross-border, online biliteracy curriculum about what to learn, how, and when. We adopted a reflexive, iterative approach to data analysis that focused on "visiting and revisiting the data and connecting them with emerging insights, progressively leading to refined focus and

understanding" (Srivastava & Hopwood, 2009, p. 77). The iteration of data analysis attended to the evolving intra-actions between the research team, Mandarin and English teachers, biliteracy students, and other non-human entities (e.g., gadgets, apps, LEGO, cardboards, and physical and virtual spaces).

4.3 Findings Illustrated Through Biliteracy Learners' Creative Digital Story-making

In this section, we present the findings through examples of six focal biliteracy learners' creative digital storytelling. The examples will exhibit the emergent nature of their creative meaning-making and shed light on how the agentic assemblages of diverse elements (researchers, teachers, students, matter, and spaces) were "constantly intra-acting, never stable, never the same" (Lather & St. Pierre, 2013, p. 630) to shape biliteracy learners' creative acts. The study has generated new knowledge on how a research team, language teachers, and biliteracy learners can collaboratively develop and enact a cross-border, online curriculum to espouse biliteracy and new media literacies skills.

The focal participants commented on the affordances of emergent curriculum decision making that embraced students' agency. As Aaron from Canada said, by allowing students to shoot and write about something that they like, students "would like to keep writing it or keep working on it." Wiebe and Caseley Smith (2016) contended that preparing students for prescribed curriculum outcomes constrains creativity in teaching. Accentuating teachers' artistic creation and agency, they argued that explicit instruction does not "help students achieve the necessary literacies for today's digital world" (p. 1167). Prior to and throughout data collection, graduate research assistants and language teachers conferred and negotiated the differences between logocentric literacy teaching and material-informed literacy education approaches. Biliteracy learners therefore did not learn a discrete set of predicable language patterns; instead, they received substantial peer and teacher support for their individual biliteracy learning purposes. Neither the research team nor the participants could predict what they would have created at the beginning of

the project. Their experimentation with traditional and digital technologies transformed their practices in digital story making. In the post-research interviews, all six focal students commended the enhanced creativity in their meaning-making both in Mandarin and English.

Both interview data and data on Skype synchronous intra-actions show that the focal participants reported enhanced engagement in the bilingual digital story creation because meaning-making was "profoundly relational" (Howard et al., 2018, p. 857). The learners' ongoing storytelling unfolded the potential of such a cross-border, biliteracy project to enable biliteracy learners' continuous development in their posthuman ethico-onto-epistemology; that is, the ethical knowing / becoming / doing of literacies through virtual connections among learners who are geographically separated. As Newfield and Bozalek (2019) argued, literacy cannot be taught autonomously, unrelated to time, space, and matter. Students' online intra-actions and the post-interview data demonstrate their desire to be connected globally while learning new technologies for meaning-making. In the last Skype meetings, groups of participants shared their self-reflection about their story creation experience and offered suggestions and feedback to their peers' digital stories. Through self-reflection, comments, and suggestions, participants exhibited their critical viewing skills, including their critical thoughts about peers' modal choices, reasons for alternative modal choices, connections to personal strengths and interests, perceptions of audience engagement with the artifacts, and challenges encountered when creating the digital story. In the post- research interview, Adam from Canada reported how cross-border collaboration helped shape his creativity in the digital storytelling:

"A lot of the peers in China would give a lot of suggestions that I haven't considered before, and I think that really helps with my creativity and in the future, I could look a concept in broader ways".

As the interview data show, all the focal biliteracy learners discussed how intra-actions through reflection and feedback provision nurtured their sense of community building and awareness of a global audience.

Storyboarding in visual texts was a powerful approach that encouraged biliteracy learners to experiment with digital materials while they polished plot design ideas. Constantly intra-acting with materials, Adobe Illustrator, and teachers and peers from both Canada and China, Adam used Seesaw to document how his storyline evolved from his first-version storyboard to his second-version storyboard, bilingual scripts, and animation making through Adobe Illustrator.

Figure 5 and Figure 6[20] show the evolvement of Adam's storyline. His entanglement with the apps, the plot, and his own life and drawing experience helped develop his understanding of the affordances and constraints of the apps. He also attributed the storyline development to the relationality with and constructive feedback from his global peers and language teachers (see Figure 7[21] for his final story).

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[20] In the original published paper, these are Figure 1 and Figure 2. We changed the numbering of the figures to fulfill the requirements of dissertation formatting.

[21] In the original published paper, this is Figure 3. We changed the numbering of the figure to fulfill the requirements of dissertation formatting.

Figure 5: Adam's First-Version Storyboard

Figure 6: Adam's Second-Version Storyboard

Figure 7: Screenshots of Major Scenes of Adam's Final Digital Story

Similar to Wiebe and Caseley Smith's (2016) findings, biliteracy learners also showed sustained engagement in revising their bilingual scripts. Amelia, Kenna, and Chloe named themselves the Cat Lords and their "collaborative play-creating" emerged through online sharing and discussion

(Carter et al., 2011, p. 20). The collaborative meaning-making also enabled divergent perspectives and new ways of constructing meaning to emerge (see Figure 8[22]).

Figure 8: Screenshots of Major Scenes of The Cat Lords' Final Digital Story

The Cat Lords' (Figure 8) new knowledge about coordinating sketching, line art, and coloring with Flipaclip and collaborating with global peers was "always emerging and evolving" (Carteret al., 2011, p. 19). Chloe commented on the force of divergent thinking in shaping her experience in the project:

"I think there was really strong support because there were, like… everyone was really open to, like, open to all types of ideas. I guess it just made us feel more accepted because even though we maybe have […] really different ideas from other people, like um… our teachers and […] our

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[22] In the original published paper, this is Figure 4. We changed the numbering of the figure to fulfill the requirements of dissertation formatting.

friends and my… and my classmates are still, like, supporting us during the making of our project".

Unique bodily intra-actions and communicative relationships were enacted by the virtual spaces in Seesaw and Skype and effected impacts upon participants' creative storytelling.

Online intra-actions and interview data show that creative biliteracy meaning-making emerged while humans and matter worked relationally to bring their digital stories to life. In the post-research interviews, the focal participants shared their appreciation of the opportunities to tap into the "synaesthetic potentials" in their "transformative, creative actions" with multimodal materials and artifacts (Kress, 1997, p. 27). The focal participants' digital stories exhibit the creative affordances of orchestrating multiple ways of meaning-making compared to mono-mode texts. Jenny's Chinese shadow puppet movie exemplifies the force of ensembled modes that helped reproduce the artistic features of the original Chinese classic poem "Sunny Sand and Autumn Thoughts" (see Figure 9[23]).

Figure 9: Screenshots of Major Scenes of Jenny's Final Digital Story

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[23] In the original published paper, this is Figure 5. We changed the numbering of the figure to fulfill the requirements of dissertation formatting.

We observed how Jenny experimented with the materials to make sure the crow flies, the horse gallops, the sun goes down behind the hill, and the people walk on the bridge in the shadow puppet movie. In the edited movie, the traditional Chinese zither music plays as the background music, intertwined with the crow growling, scattered kids' giggling, river gurgling, and Jenny's oral interpretation of the Chinese classic poem in Mandarin. Jenny also moved the cut-out figures and the light source to create various effects indicating dawn, bright daylight, and sunset. The sensory entanglement of human and more-than-human entities in her digital story reconfigures the world that is conveyed by the well-known Chinese classic poem and enables the original gloomy and desolate loneliness to emerge.

Wiebe and Caseley Smith (2016) argued that abstract text-only representations could become concrete and "visible through the materiality of film" (p. 1172). Likewise, Chloe commented on how drawing and animation brought the Cat Lords' co-created bilingual scripts to life and how their subjectivities breathed life into the creation:

I think the animation that we did kind of expresses, like, ourselves, because we kind of put our personalities in the drawings, like, the way we draw is […] related to us in some way but as, like, the kind of artist. I think that the way that everyone draws is, like, what type of person they are. For example, if you're […] a really sad person or anything like that, then you will only draw with […] a lot of black scribbles and whatever. If you're a really lively person, then you will probably draw a bunch of rainbows everywhere. So I think that's the way of expressing ourselves in another way than texting.

Throughout the research, researchers and language teachers also attended to how learners' material-discursive intra-actions shaped the flow of the online biliteracy curriculum. Biliteracy learners' creativity shone through their intra-actions with materials. Figure 10[24] contains snapshots of Aaron's LEGO stop-motion animation.

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[24] In the original published paper, this is Figure 6. We changed the numbering of the figure to fulfill the requirements of dissertation formatting.

Figure 10: Screenshots of Major Scenes of Aaron's Final Digital Story

When asked whether the project enhanced his creativity in his digital storytelling, Aaron's answer was brief: "Yes… Like using LEGO to shoot the movie". It was Aaron's first time creating LEGO stop-motion animation.

Similar to Wiebe and Caseley Smith's (2016) argument that "an artist's way of thinking and being are the ways curriculum work lives in the relational, messy world" (p. 1169), the process of Aaron's creation of LEGO stop-motion animation was messy and (dis)continuous. Aaron's Scene One footage looked jumpy. After viewing it, Adam helped Aaron to shoot and edit stop-motion footages in a peer-support, face-to-face meeting including Adam, Aaron, and language teachers. Adam and Aaron set up backgrounds for individual scenes, and Aaron took pictures until there were sufficient stop-motion pictures for a specific scene. When Aaron started editing the movie, Adam gave suggestions to Aaron regarding the length of footages, transition of

scenes, and how to avoid jumpy footage. During this meeting, LEGOs, cardboards, the camera, and movie-editing apps entangled with Aaron and Adam and impacted their verbal discussions and bodily intra-actions.

Despite their tight school schedule, all six focal participants persisted in creating the digital stories after school. When asked why, Adam said, "This is something that I am very interested in, but normally parents would not allow me to do in outside-of-school life". Moje and Luke (2009) argued that literacy- and-identities research should move beyond "simple admiration for or celebration of the many ways that people write, speak, or read themselves into the world" (p. 434). They recommended further research that links identity and learning in multiple domains. Findings of the six focal participants' digital story creation relate that this cross-border, online biliteracy curriculum engaged biliteracy learners in a spectrum of literacies through capitalizing on learners' funds of knowledge, namely, their peripheral linguistic, cultural, and semiotic knowledge. The findings also show how biliteracy learners' relationality with matter and humans helped bring their subjectivities to presence.

4.4 Conclusion and Significance

In this study, biliteracy learners' relational knowing/becoming/doing literacies left material traces in the virtual spaces and learners' situated worlds, such as the transformed worlds around them, the enhanced relationality with global peers and traditional/digital materials, and their transformed practices in meaning-making. In turn, the cross-border, biliteracy research prompted the researchers and language teachers to engage ethical meaning-making via multimodality, relationship-building, and interdisciplinary exploration. This research offers a counter-narrative to the neoliberal application of new media and digital literacies in certain schooling systems; for example, the inclusion of digital tasks in standardized curriculum and assessment (e.g., PISA testing), which might result in "normalizing, controlling what officially counts as digital creativity, critique, and innovation" (García et al., 2018, p. 75).

The sociomaterial turn in literacy education and research has potential to help reconfigure new ways of representation and ways of learning and teaching literacies (Kuby et al., 2017). Though illuminated by multiliteracies in our prior and current projects (e.g., Zhang, 2015; Zhang & Heydon, 2014; Zhang et al., 2020), we are in line with the current critiques of multiliteracies as an advocacy for transformative and inclusive pedagogies (e.g., Jacobs, 2014; Leander & Boldt, 2012; Rowsell & Burgess, 2017). Our findings refer to the importance of literacy researchers' and educators' reconfiguration of the concept of design: the artifacts and digital stories presented in the paper reveal biliteracy learners' "spontaneous, random, and unexpected" creative meaning-making (Jacobs, 2014, p. 272). Multiliteracies pedagogy portrays both teachers and learners as agentive in meaning-making (e.g., Kalantzis & Cope, 2010; The New London Group, 1996). The findings refer to the possibilities offered by material-informed pedagogies which attend to the enacted agency that emerged between teachers, students, materials, and spaces - specifically the enacted agency of materials and cross-border virtual spaces in shaping creative literacy practices. These findings also allude to the shifting nature of 21st century biliteracy learners' meaning-making which is more variegated than the original call for multiliteracies back in 1996, as Rowell and Burgess (2017) exemplified. In the research process, graduate research assistants and language teachers appraised opportunities to learn with and from biliteracy learners about their creative intra-actions with traditional and digital materials. In contrast to top-down professional training that is mono-mode and print-based (Cloonan, 2010), meaningful professional learning is needed through which literacy educators, learners, and matter intra-act to create meaning. To nurture 21st century meaning-makers as "collaborative," "innovative," and "creative risk-takers" (Kalantzis & Cope, 2012, p. 7), literacy educators need opportunities to engage in experiential professional learning likewise.

One key challenge we encountered in analyzing data in material-informed research was researchers' tendency to "interpret our observation [of meaning- makers'] behaviour [and] hasten to introduce a representational system to stand in for embodied materialities" (Hackett & Somerville, 2017, p. 377). It required researchers' constant awareness to decenter the human in the various data sources that unfold creative meanings. Meaningful intra-actions with various traditional and digital materials and the cross-border virtual spaces enabled students' sustained engagement in creative meaning-making beyond classroom settings. Educators need sensibilities

to attend to how young meaning-makers are, as Hackett and Somerville (2017) state, "coordinating their actions" among more-than-human, and equally important, how the more-than-human entities are "coordinating the actions" (p. 386) of the humans - therefore, to consider the "role of bodies, objects, and places" in ethical, creative meaning-making processes (p. 387). Future research on cross-border biliteracy education should also create spaces and incorporate elements that facilitate learners' instantaneous feedback to one another, either online or offline.

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Chapter 5 Conclusion

5 Conclusion

This dissertation is built on two studies. It consists of three papers concerning cross-border biliteracy education between Canada and China. The papers discuss curricula from different dimensions (e.g., institutional curriculum, programmatic curriculum, implemented curriculum, and lived curriculum) and together aimed to produce knowledge necessary for the promotion of equitable, diverse, and inclusive biliteracy education in cross-border spaces. This chapter synthesizes key connections between the two studies, including the interconnectedness of their findings, and recommendations for future research in biliteracy education.

5.1 The Two Studies and Their Connections

Paper One (*Literacies and Identities in Transnational Education: A Case Study of Literacy Curricula in a Canadian Transnational Education Programme in China*) and Paper Two (*Literacy Teacher Agency and Transnational Education: A Case Study of Curriculum Implementation in a Sino-Canadian Secondary School Program in China*) reported on a case study of a Sino-Canadian transnational education program in China at secondary school level. Paper One concerned the school's institutional, programmatic, and implemented curricula and examined students' literacy and identity options that were enabled or limited at the school. Paper One identified enabling factors such as the school's commitment to support students' bilingual development. However, the constraining factors included the school's compartmentalized local/global curricula, standardized tests, and the school's limited provision of digital resources and its ban on digital devices. Paper Two reported on the same case study but focused on literacy teachers' agency in the implementation of the hybrid model of Canadian and Chinese curricula.

Paper Two identified key factors that mediated teacher agency in the curriculum implementation, such as the school's governing structures, standardized tests, students' language proficiency, and limited technological resources. These factors mediated both local and expatriate literacy teachers' agency to provide opportunities for multimodal and multilingual meaning making across various contexts/places.

The study reported in Papers One and Two produced knowledge about constraints to expansive literacy and identity options in the formal, transnational educational context, hence Study Two explored an alternative cross-border biliteracy curriculum model. Study Two built a biliteracy, multimodal digital curriculum spanning participants in Canada and China and conducted a netnography to understand its affordances. This study is reported in Paper Three (*Enacted Agency in a Cross-Border, Online Biliteracy Curriculum Making: Creativity and Bilingual Digital Storytelling*). The program included in the study was designed to create opportunities for students to creatively use English and Mandarin and encouraged students to connect to their local and situated lifeworlds in/through digital storytelling. The study culminated with participants' digital stories in various forms (e.g., LEGO stop-motion movie, shadow puppet show, animation, and Minecraft movie). The paper highlights how the intra-actions among the human (e.g., researchers, teachers, and students) and the more-than-human (e.g., languages, semiosis, materials, time, and places) collectively shaped Canadian and Chinese bilingual students' creative literacies.

The sections will present the key connections in the two studies and their findings.

5.2 Utilizing Students' Linguistic Repertoires

Findings reported in Paper One and Paper Two showed that students' heritage languages (e.g., Mandarin and other Chinese dialects) were not fully valued in English literacy classes. English and Mandarin were also treated as separate entities in the programmatic and implemented

curricula. García et al. (2017) propose a "translanguaging stance" that advocates bi/multilingual students' heritage languages as legitimate resources for their literacy learning. In the study reported in Paper One and Paper Two, we identified some opportunities created by teachers for students to employ both Mandarin and English to make sense of the curricular content. However, students' spontaneous translanguaging was not a feature of the curricula, that is, where curricula promoted students' unplanned and sporadic use of multilingual resources to (re)construct new meanings and where boundaries between languages were fluid (Cenoz & Gorter, 2020). There were also missed opportunities in the observed classes for the teachers to pedagogically support students' meaning making in the two languages.

In contrast, the project reported in Paper Three, included a specially designed biliteracy curriculum that challenged the hierarchies of languages (e.g., in the Canadian context, English is the dominant language whereas biliteracy learners' heritage language of Mandarin is often marginalized in formal schooling). The project employed pedagogical translanguaging, such as when it supported students to use different languages for online brainstorming and digital storytelling (Cenoz, 2017). For example, the program explicitly and constantly expressed to the students that shuttling between languages was an asset for their story-composing. The study found evidence of students' using and mixing Mandarin and English in interviews, in Skype meetings, in Seesaw communications, and in their digital stories. Translanguaging pedagogy is known to have the potential to create an inclusive and equitable social environment given its emphasis on bilinguals' full linguistic repertoires "rather than undervaluing their flexible languaging practices" (Yilmaz, 2021, p. 449). In line with the existent literature on translanguaging (García & Kleifgen, 2020), the study found how the cross-border, online biliteracy project supported students to generate diverse texts in two languages and to develop self-assurance, confidence, and a sense of efficacy and agency in literacy. However, our study was not designed to identify evidence of whether the project could foster critical meta-linguistic awareness (García & Kleifgen, 2020). Future studies could engage diverse learners in critical conversations about hierarchies of languages and develop their critical awareness of the sociopolitical realities that languages could carry.

5.3 Utilizing Students' Semiotic Repertoires

Recent scholarship on translanguaging has expanded the notion of *linguistic repertoires* to *semiotic repertoires* (e.g., García, 2020). The two studies show differing opportunities for students in/through the curricula for expanding their semiotic repertoires and having them acknowledged. Findings reported in Paper One and Paper Two reveal the Canadian transnational education program's prioritization of print-based literacy. The examined literacy practices in class and assignments after class seldom reflected the multimodal meaning making that students were engaged in outside school (Zhang et al., 2020). These findings indicate missing opportunities for students to mobilize their full semiotic repertoires in literacy practices. In contrast, in the cross-border digital storytelling project was designed to capture students' story making practices and potentials in using multiple modes and media for creative meaning making. In so doing, it followed in the vein of Li (2018) who posited, translanguaging "embraces the multimodal social semiotic view that linguistic signs are part of a wider repertoire of modal resources that sign makers have at their disposal and that carry particular socio-historical and political associations" (p. 14). Study Two embraced students' semiotic repertoires and challenged the prioritization of print-based literacy that was entrenched in the Canadian transnational education program featured in Study One. The study captured participants' digital stories and exhibited the creative affordances of orchestrating diverse and multiple ways of meaning-making. It also reported on the participants' appreciation of the opportunities to tap into the "synaesthetic potentials" (Kress, 1997, p. 27) with multimodal materials and artifacts (Zhang & Li, 2020). In these ways, the study confirmed Ho's (2024) study that used the digital multimodal composing (DMC) approach to support students' literacy learning. Similar to Ho's (2024) findings about students' enhanced engagement in literacy practices, multiple data sources of our digital storytelling project also pointed to participants' increased desire to try more and do more through experimenting with multimodal resources (Zhang, 2023).

By opening up the genre choices for diverse learners' digital stories, the cross-border, online biliteracy project liberated the bilingual learners from print-based literacy in formal schooling.

Extending translanguaging to promoting diverse learners' semiotic choices provides new insights into promoting equity, diversity, and inclusion in culturally and linguistically diverse classrooms.

5.4 Utilizing Students' Spatial Repertoires

Scholars have recently conceptualized places as agentive spatial repertoires (Canagarajah, 2018; Pennycook, 2018; Zhang, 2022). The two studies show how students connected their knowledge about various places with their literacy activities, in a way to utilize and expand their spatial repertoires. For example, findings reported in Paper One and Paper Two relate that there were limited opportunities for students to connect their spatial repertoires with their literacy learning or identity construction. The notion of spatial repertoires goes beyond internalized individual competence in meaning making and links to particular places through individual learners' life trajectories (Canagarajah, 2018; Pennycook, 2018). In the Canadian transnational education program reported in Paper One and Paper Two, students' spatial repertoires were not included to resource their literacy learning. For example, findings reported in Paper One show that students' literacy activities (e.g., reading English novels and listening to English songs) in local contexts were excluded from teaching, learning, and standardized tests. These exclusions might further limit students' access to expansive symbolic and material resources that are entrenched in their lifeworlds and constrain their identity options in cross-border educational spaces. Shahjahan et al. (2022) called for an "inclusive curriculum going beyond dominant knowledge systems that privileged particular cannons, ways of knowing and/or embodied subjects" (p. 86).

In contrast, the cross-border, online digital creation project reported in Paper Three examined how students' spatial repertoires provided important resources and inspiration for their digital story making. Zhang's (2022) study on a Canadian transnational secondary school program in Hong Kong related that transnational students' cross-border experiences in local and global places shaped their meaning making. Similarly, in the cross-border digital storytelling study reported in Paper Three, students' bodily movements (e.g., immigration experiences) and bodily encounters with physical and virtual spaces (e.g., their encounters with fish, fishing, and lake in

nature; experiences in watching sci-fi fictions and environmental documentaries at home; interactions with peers and teachers in virtual spaces) mobilized their spatial repertoires and instantiated their stories.

This dissertation challenges English-related academic literacy that privileges literacy from English-speaking countries. Addressing students' spatial repertoires that they brought from outside of literacy classes holds the potential to "link the repertoires formed through individual life trajectories to the particular places in which these linguistic resources are deployed" (Pennycook & Otsuji, 2015, p. 83). This dissertation thus advocates for biliteracy education that acknowledges diverse learners' local ways of doing literacies and their spatial repertoires in supporting their literacy practices.

Particularly, in relation to the focus on teacher agency in Paper Two, this dissertation foregrounds that teachers play an active role in promoting equitable and inclusive education in terms of creating equitable learning contexts for students who might have been "systematically marginalized due to ability and other sociocultural identity markers" (Li & Ruppar, 2021, p. 52), such as the linguistic, semiotic, and spatial repertoires that they use to make meaning. Following Li and Ruppar (2021), this dissertation advocates to promote teacher agency for inclusive education that is inclusive not only in terms of identity as difference (Moje & Luke, 2009) (e.g., national, racial, ethnic, linguistic and cultural identities), but also inclusive of different ways people express and exchange meanings across languages, modes, media, and spaces.

5.5 Conclusion and Recommendations

To conclude, this dissertation intended to utilize findings from two cross-border biliteracy education projects to explore approaches to biliteracy education that promote equity, diversity, and inclusion. The two studies related biliteracy to individuals' meaning-making practices pertaining to their bilingual resources. Nevertheless, with the deepening of the discussions on the

need to include individuals' repertoires in linguistic, semiotic, and spatial dimensions in this dissertation, it has become necessary to re-understand the scope of individuals' practices of doing literacies. This dissertation thus takes the posthumanist orientation of biliteracy (e.g. Guerrettaz et al., 2021; Pennycook, 2017; Takaki, 2019) and conceptualizes biliteracy learning as engaging multiple human and nonhuman entities (e.g., languages, objects, space, and time [e.g. Canagarajah, 2018; Pennycook, 2017]) in the cross-national spaces (Zhang, 2023). This work hopes to challenge the view of conceiving individuals' resources in two languages as separate and autonomous entities (e.g., translanguaging [García et al., 2017]) and the transition to acknowledge students' multilingual resources. This dissertation follows the translanguaging turn (e.g., García, 2020; García & Kleifgen, 2020) and troubles the hierarchies embedded in languages and the tensions between academic literacy and literacies. The dissertation also referred to future research on cross-border biliteracy education that disrupts the normalized and standardized ways of doing literacies, promotes diverse learners' local ways of meaning-making, and celebrates their linguistic, semiotic, and spatial repertoires.

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Zhang, Z., & Li, W. (2020). Enacted agency in a cross-border, online biliteracy curriculum making: Creativity and bilingual digital storytelling. *McGill Journal of Education*, *55*(3), 550–567. https://doi.org/10.7202/1083422ar

Zhang, Z., Heydon, R., Li, W., & Malins, P. (2020). Literacies and identities in transnational education: A case study of literacy curricula in a Canadian transnational education programme in China. *Curriculum Journal, 31*(1), 132–156. https://doi.org/10.1002/CURJ.5

Appendices

Appendix A: Ethics Approval Notice for the First Study (Paper One and Paper Two)

Western Research

Research Ethics

Western University Non-Medical Research Ethics Board
NMREB Amendment Approval Notice

Principal Investigator: Dr. Zheng Zhang
Department & Institution: Education, Western University

NMREB File Number: 108476
Study Title: A multiple case study of literacy curricula in Canadian transnational education programs in China

NMREB Revision Approval Date: February 15, 2017
NMREB Expiry Date: November 15, 2017

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Instruments	Interview Questions (Principal or School Administrator) English	2017/02/04
Instruments	Interview Questions (Student) English	2017/02/04
Instruments	Interview Questions (Teachers) English	2017/02/04
Revised Letter of Information & Consent	Parents - English	2017/02/03
Revised Letter of Information & Consent	Principal and School Administrator - English	2017/02/03
Revised Letter of Information & Consent	Teachers - English	2017/02/03
Revised Letter of Information & Consent	Written and Oral Consent (Canadian and Chinese Policy Makers) - English.	2017/02/03
Revised Western University Protocol	Received February 5, 2017.	

The Western University Non-Medical Science Research Ethics Board (NMREB) has reviewed and approved the amendment to the above named study, as of the NMREB Amendment Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Ethics O
EO: Erik

Western University, Research, Support Services Bldg., Rm. 5150
London, ON, Canada N6G 1G9 t. 519.661.3036 f. 519.850.2466 www.uwo.ca/research/ethics

Appendix B: Ethics Approval Notice for the Second Study (Paper Three)

Western Research

Date: 22 November 2018

To: Dr. Zheng Zhang

Project ID: 111666

Study Title: Building on assets: a netnography of a cross-border, online biliteracy curriculum

Application Type: NMREB Initial Application

Review Type: Full Board

Meeting Date: 03/Aug/2018 12:30 05/Oct/2018 12:30

Date Approval Issued: 22/Nov/2018 09:50

REB Approval Expiry Date: 22/Nov/2019

_____

Dear Dr. Zheng Zhang

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the above mentioned study, as of the date noted above. NMREB approval for this study remains valid until the expiry date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Chinese Version of Interview Protocol (clean version)	Interview Guide	17/Sep/2018	3
Guidelines (Providing constructive suggestions toward peers' artifacts, Chinese)	Supplementary Tables/Figures	29/Oct/2018	1
Guidelines (Providing constructive suggestions toward peers' artifacts, English)	Supplementary Tables/Figures	29/Oct/2018	1
Guidelines (Self-reflection upon artifacts and feedback from peers and teacher researchers, Chinese)	Supplementary Tables/Figures	29/Oct/2018	1
Guidelines (Self-reflection upon artifacts and feedback from peers and teacher researchers, English)	Supplementary Tables/Figures	29/Oct/2018	1
Interview Protocol English (Clean version)	Interview Guide	17/Sep/2018	3
Letter of Information & Consent for Parents Chinese (clean version) 1119	Written Consent/Assent	19/Nov/2018	5
Letter of Information & Consent for Parents English (clean version) 1119	Written Consent/Assent	19/Nov/2018	5
Letter of Information & Consent for Students Chinese (clean version) 1119	Written Consent/Assent	19/Nov/2018	5
Letter of Information & Consent for Students English (clean version) 1119	Written Consent/Assent	19/Nov/2018	5
Monitoring Guidelines(Chinese version)	Supplementary Tables/Figures	29/Oct/2018	1
Monitoring Guidelines(English version)	Supplementary Tables/Figures	29/Oct/2018	1
Observation Guide Clean Version	Participant Observation Guide	17/Sep/2018	2
Oral Script in English and Chinese(clean version)	Oral Script	29/Oct/2018	4
Photo and Video Guidelines Chinese (clean version)	Supplementary	19/Nov/2018	2

	Tables/Figures		
Photo and Video Guidelines English (clean version)	Supplementary Tables/Figures	19/Nov/2018	2
PROJECT-POSTER clean version	Recruitment Materials	19/Nov/2018	3
Sample Chinese Test (Listening Reading and Writing)	Other Data Collection Instruments	29/Oct/2018	2
Sample Chinese Test Speaking	Other Data Collection Instruments	29/Oct/2018	2
Sample English Test (Reading and Writing)	Other Data Collection Instruments	29/Oct/2018	2
Sample English Test Listening	Other Data Collection Instruments	29/Oct/2018	2
Sample English Test Speaking	Other Data Collection Instruments	29/Oct/2018	2
Sample Model Keys to Chinese Test (Listening Reading and Writing)	Other Data Collection Instruments	29/Oct/2018	1
Sample Model Keys to English Test (Reading and Writing)	Other Data Collection Instruments	29/Oct/2018	1
Sample Model Keys to English Test Listening	Other Data Collection Instruments	29/Oct/2018	1
Social Media Message Script in English and Chinese Clean Version	Recruitment Materials	17/Sep/2018	2

Documents Acknowledged:

Document Name	Document Type	Document Date	Document Version
Attestation of Translation	Supplementary Tables/Figures	29/Oct/2018	3

No deviations from, or changes to the protocol should be initiated without prior written approval from the NMREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Appendix C: Copyright Permission for Paper One

Format	Electronic
Portion	Full article
Will you be translating?	No
Title of new work	Biliteracy Education in Cross-border Spaces: Case Studies of Curriculum between Canada and China
Institution name	Western University
Expected presentation date	Sep 2024
The Requesting Person / Organization to Appear on the License	Wanjing Li, Faculty of Education, Western University
	Western University
Requestor Location	
	Canada Attn: Western University
Publisher Tax ID	EU826007151
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Appendix D: Copyright Permission for Paper Three

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Please don't hesitate to ask if you have any further questions.

Best regards,

MJE co-managing editor

From: Wanjing Li
Sent: September 25, 2024 12:18
To: McGill Journal of Education
Subject: Re: An Inquiry about MJE' permission to include one published paper in a dissertation

Good afternoon,

I am just writing to follow up on the last email, please. It would be great if you could advise on permission/copyright.

Thank you very much,
Wanjing Li, PhD
Faculty of Education
Western University

From: Wanjing Li
Date: Monday, September 23, 2024 at 2:37 PM
To:
Subject: An Inquiry about MJE' permission to include one published paper in a dissertation

Hello, dear McGill Journal of Education,

My name is Wanjing Li, and I am from Western University, Ontario. I just finished my doctoral program in August 2024. I am now submitting the final version of my dissertation to Western's repository. I am writing to consult about a permission-related issue relating to my dissertation.

My dissertation is completed in the format of an integrated article, including three papers. One of the papers has already been published in the McGill Journal of Education: Zhang, Z., & Li, W. (2020). Enacted agency in a cross-border, online biliteracy curriculum making: Creativity and bilingual digital storytelling. *McGill Journal of Education*, *55*(3), 550–567. https://doi.org/10.7202/1083422ar

My university requires that: "If the candidate wishes the work to include text that they have already published as a journal article or book chapter, **they must obtain permission from the publisher and include this permission in the appendices**. This is of utmost importance if the integrated-article format is used".

Could you please advise how I can obtain this permission from the McGill Journal of Education?

Thank you very much for your help.

Cheers,
Wanjing Li, PhD
Faculty of Education
Western University

Curriculum Vitae

Wanjing Li

EDUCATION

Doctor of Philosophy, 2017-2024

Curriculum Studies, Faculty of Education, *Western University*, London, ON, Canada

Master of Arts, 2015-2017

Curriculum Studies, Faculty of Education, *Western University*, London, ON, Canada

Master of Translation and Interpreting, 2012-2014

Interpreting between Chinese and English, School of Foreign Languages, *Nanjing Normal University*, Nanjing, Jiangsu, China

Bachelor of Arts, 2008-2012

English Education, School of Foreign Languages, *Liaoning Normal University*, Dalian, Liaoning, China

HONORS & AWARDS

John Dearness Memorial Graduate Award, 2019

$ 6,000   Mitacs Global Research Award, Sept 2018

$ 5,000   AER Graduate Scholarship for Literacy Studies in Education, May 2016

$ 5,000   AER Graduate Scholarship for Literacy Studies in Education, July 2015

RELEVANT WORK EXPERIENCE

Research Project Assistant, Jan 2019 – Present

Research Project Title: Building on assets: A netnography of a cross-border, online biliteracy curriculum

Granting Agency: SSHRC PEG[25]

Institution: Faculty of Education, Western University, London, ON, Canada

---

[25] Social Sciences and Humanities Research Council, Partnership Engage Grants

- Training High-Quality Personnel and teachers on research ethics, methods, and pedagogies (onsite & online).
- Creating a demonstrative digital artifact (i.e., an animation) for this research project.
- Disseminating information to participants and recruiting participants (e.g., emails & phone calls).
- Overseeing and managing the selected research website.
- Data collection, analysis, and management.
- Composing visualizations for publishable papers using digital tools (e.g., ProCreate).
- Knowledge dissemination (e.g., authoring publishable papers & presentations) (ongoing).

Research Project Assistant, Nov 2016 – Present

Research Project Title: A multiple case study of literacy curricula in Canadian transnational education programs in China

Granting Agency: SSHRC IDG[26]

Institution: Faculty of Education, Western University, London, ON, Canada

- Contacting potential participant schools and securing consent from principals.
- Cross-border onsite data collection in China.
- Knowledge dissemination at the research site (e.g., onsite presentations, lectures, and Q&A sessions).
- Data analysis and management (ongoing).
- Budget management (e.g., calculating, sorting, documenting and claiming research travel expenses).
- Drafting and copyediting publishable papers and knowledge dissemination (e.g., conference presentations) (ongoing).

RELEVANT PUBLICATIONS

- Li, W., Zhang, Z., & Heydon, R. (in preparation). Teacher Agency in a Transnational Secondary School Program: A Case Study on Curriculum Implementation in a Sino-Canadian School in China.

- Zhang, Z., Li, W., & Heydon, R. (2024). Literacy and identity in cross-border educational space: Students' lived experience in a Canadian offshore school in a metropolitan city in China. In J. Zajda & S. Majhanovich (Eds.). *Globalisation and multicultural education*. Springer Nature.

---

[26] Social Sciences and Humanities Research Council, Insight Development Grants

- Zhang, Z., & Li, W. (2020). Enacted agency in a cross-border, online biliteracy curriculum making: Creativity and bilingual digital storytelling. *McGill Journal of Education, 55*(3), 550-567.

- Zhang, Z., & Li, W. (2020). Biliteracy Learners' Enacted Agency in Digital Storytelling: Creativity in a Cross-Border, Online, Emergent, Biliteracy Curriculum. *Journal of the Canadian Association for Curriculum Studies*, *18*(1), 66–67. https://doi.org/10.25071/1916-4467.40570

- Zhang, Z., Heydon, R., Li, W., & Malins, P. (2020). Literacies and identities in transnational education: a case study of literacy curricula in a Canadian transnational education programme in China. *Curriculum Journal, 31*(1), 132–156. https://doi.org/10.1002/curj.5

- Zhang, Z., Heydon, R. M., Li, W., & Malins, P. M. (2018). A case study of literacy curricula in a New Brunswick school in China.

- Zhang, Z., Nagle, J., McKishnie, B., Lin, Z., & Li, W. (2018). Scientific strengths and reported effectiveness: A systematic review of multiliteracies studies. *Pedagogies: An International Journal*, 1-29. doi:10.1080/1554480X.2018.1537188

- Li, W. (2017). A Case Study of Literacy Curricula in a Canadian Offshore School in China. http://ir.lib.uwo.ca/etd/4839/