Supporting all Learners’ Engagement in a Multicultural Classroom Using A Culturally Responsive Self-Regulated Learning Framework

by

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Abstract

Culturally diverse learners (i.e., students from different cultural backgrounds studying together in the same classrooms) populate North American classrooms. The benefits of classroom cultural diversity notwithstanding, teachers struggle to support all learners’ engagement in multicultural classroom contexts. Fortunately, research on culturally responsive teaching (CRT) and self-regulated learning (SRL) both identify teacher practices that enhance student engagement, albeit from different perspectives. This study explored how classroom teachers at multicultural schools on the West Coast of Canada built on a Culturally Responsive Self-Regulated Learning Framework (Anyichie & Butler, 2017) to design a supportive learning environment for their students. This dissertation applied sociocultural and situated perspectives to learning as sensitizing lenses. Two elementary teachers and forty-three students in two classrooms (i.e., grades 4 and 5) participated in this study. A multiple, parallel case study design that integrated mixed methods of data collection was used to investigate teacher enacted practices, teachers’ perceptions about the practices, and how those practices may have been associated with students’ engagement. Data were generated through video-taped observations, records of classroom practices, an experience sampling method, students’ work samples, a student survey, and teacher and student interviews. Results indicated that: (1) while designing a supportive classroom context for all learners (e.g., an inquiry-based project), teachers enacted practices in the three main categories of the CR-SRL framework including classroom foundational practices, CR-SRL pedagogical practices and dynamic supportive practices, although in different ways; (2) teachers perceived both benefits and challenges associated with trying to enact new practices; and (3) student engagement and motivation could be linked to teacher practices. In addition, students’ engagement and motivation varied across contexts (e.g., classrooms, teacher practices, and days). Overall findings suggest that the CR-SRL framework served as a successful guide for teachers’ enhancement of all learners’ engagement. Further findings revealed dynamic, complex learner-context interactions, and how learning processes, such as engagement, motivation, and regulation of learning are situated in sociocultural contexts. After discussing findings in relation to previous research, this dissertation closes by identifying contributions to and implications for theory and research; methodology and measurement; and teaching and learning; as well as limitations and future directions.
Lay Summary

Students tend to struggle in classrooms that do not acknowledge their cultural knowledge and values, nor provide learning opportunities that relate to their previous learning or daily life experiences. In the face of cultural diversity and differences in students’ ways of knowing, teachers struggle in designing supportive environments for all students’ successful learning. In this study, I investigated a new approach to supporting culturally diverse learners by collaborating with classroom teachers in designing practices that built from culturally responsive teaching (CRT) and self-regulated learning (SRL). Also, I wanted to know teachers’ and students’ experiences of these practices. Results show that teachers integrated culturally responsive pedagogical practices and self-regulated learning promoting practices in their classrooms; experienced the benefits and challenges of experimenting with these practices; and, students’ engagement and motivation were linked to the ways in which teachers provided these practices. These findings highlight the importance of combining practices across CRT and SRL to enhance all students’ engagement in multicultural classroom contexts.
Preface

This dissertation is an original intellectual work of Aloysius Chijioke Anyichie, and supervised by Dr. Deborah L. Butler. Aloysius developed the research proposal including the culturally responsive self-regulated learning framework employed in this study, research design, recruitment of participants, data collection methods and analyses plan. He was responsible for the data collection, analyses and writing of this dissertation in collaboration with his supervisor and with the cooperation of his research committee members.

This dissertation research “Supporting all Learners’ Engagement in a Multicultural Classroom Using A Culturally Responsive Self-Regulated Learning Framework” was approved by the Behavioural Research Ethics Board (BREB) of the University of British Columbia, Vancouver with the certificate number H16-03235.

A version of chapter two is in the American Education Research Association’s (AERA) repository as a conference proceeding by Anyichie & Butler, 2017. Also, a version of chapter three is in AERA’s repository as a conference proceeding by Anyichie & Butler, 2018.
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May God in His infinite mercies reward you abundantly through Jesus Christ Our Lord. Amen.
Dedication

“Train up a child in the way he should go: and when he is old, he will not depart from it” -Prov. 22:6

I dedicate this work to all educators especially my grandfather (Late Pa. Victor Anyichie), father (Late Sir. M.C. Anyichie), and mother (Lady Maria N. Anyichie) for being great classroom teachers and transformative school administrators.
Chapter One: Introduction

Canada has witnessed a great demographic shift through immigration. For example, the 2016 National Household Survey (NHS) indicated that over 21.9% of Canada’s total population is made up of immigrants (i.e., foreign-born individuals), with 22.3% visible minorities. The current population of Canada (i.e., based on 2016 census) represents over 250 ethnic origins (i.e., the ethnic or cultural origin of an individual’s ancestors both on paternal and maternal sides); and, 41.1% of this population reported multiple ethnic origins (i.e., more than one origin). Of this number, 72.5% reported a mother tongue other than English or French (Statistics Canada, 2017). Currently, Canada has the highest percentage of foreign-born citizens (1 in 5 persons) compared to all G8 countries, namely, Canada, the United States of America, Germany, Italy, France, the United Kingdom, Japan, and Russia. Statistics Canada records that these foreign-born residents tend to inhabit Canada’s three largest cities: Vancouver (British Columbia), Toronto (Ontario), and Montreal (Quebec). Diverse ethnic and cultural groups in Canada are distributed among: Asian, African; Latin, Central or South American; Caribbean, Oceania, European, and North American including North American Aboriginal origins (Statistics Canada, Census Population 2016). The contribution of immigration to the diversity of Canada’s population, and to the multicultural nature of Canada, is projected to experience a significant rapid increase by the year 2026 (Canadian Heritage Multiculturalism, 2006). A recent example is the influx of Syrian refugees who recently moved into Canada.

Overall, Canada as a multicultural nation emphasizes preservation and encouragement of multiculturalism. Canada encourages institutions to improve their responsiveness in meeting the needs of their diverse population, and, her citizenry to have sense of belonging and not to lose their identity and cultural heritage while participating in the development of Canada’s shared identity (Canadian Heritage Multiculturalism, 2017; Canadian Multiculturalism Act, 1988). This
multiculturalism shapes the structure of teaching and learning in the classroom. Educators and policy makers are concerned about how best to meaningfully include and support culturally diverse learners.

Culturally Diverse Learners in Canada

In the context of this study, culture is understood as a system of inherited and transmitted symbolic meanings through which humans construct and communicate their knowledge and responses about life experiences (Geertz, 1973). Variations in people’s lived experiences and their responses to those experiences capture the defining element of cultural diversity (Marshall, 2002). Students in each classroom have their own cultural backgrounds, and they bring particular experiences and cultural frameworks to their classroom environments. So, the presence of students from different cultural backgrounds as well as their experiences can create and increase classroom cultural diversity. Therefore, for this study, all learners studying together in a multicultural classroom context are referred to as culturally diverse learners and often interchanged with “diverse learners”.

Canada’s diverse learners bring a wide variety of languages, cultural identities, experiences, interests, and academic needs to Canada’s 21st-century classrooms. Culturally diverse learners can experience discontinuities between their prior knowledge, schemata, lived experiences, interests, aspirations and classroom learning experiences that constrain their academic engagement and success (Gay, 2010). Students’ cultural diversity in multicultural classrooms creates learning opportunities and challenges for both students and teachers (Fine & Handelsman, 2010; Omeri, Malcolm, Ahern, & Wellington, 2003).

Opportunities for Learning in Culturally Diverse Classroom Contexts

Diverse learners bring culturally enriching knowledge and experiences, as well as thought-provoking insights, ideas, values, and skills to classrooms that can increase learning opportunities for all students. Creating opportunities for peer interaction with students from culturally diverse backgrounds enhances all learners’ progressive thinking, intellectual engagement and motivation
Interpersonal interactions in culturally diverse classrooms provide opportunities for cross-cultural communication, sharing multiple perspectives, challenging traditional opinions and supporting negotiation of new ideas. Students in such contexts are better equipped to succeed in heterogeneous society (Gurin, Nagda, & Lopez, 2004). That said, making meaningful cross-cultural connections among students, between students and teachers, and between what diverse learners bring and what the teacher offers in the classroom context to foster their learning can present a challenge to both students and educators.

**Challenges for Learners in Culturally Diverse Classroom Contexts**

Culturally diverse students can face challenges when navigating differing cultural, social contexts and expectations, which can undermine their engagement, motivation and success both in and outside of the classroom environment. Among the challenges they can experience are individual differences in the level of English language proficiency and ways of knowing, lack of intercultural communication and peer interaction, as well as home-school cultural mismatches (Gay, 2010; Hannon & D’Netto, 2007). Culturally diverse learners tend to struggle while negotiating unfamiliar learning environments, structures and expectations including discourse styles, values, and behaviour (Butler, Schnellert, & Perry, 2017; Keels, 2009). The challenges of home-school cultural disparities in beliefs, methods of support, and control may impact students’ school adaptation, engagement and success (Barbarin, Downer, Odom, & Head, 2010). For example, students whose home culture and expectations match with that of the school adapt more successfully than their counterparts whose home culture does not match their school culture (Keels, 2009). Thus, culturally diverse learners tend to be disadvantaged in utilizing opportunities for attaining their full potential and success.

**Challenges for Teachers within Culturally Diverse Classrooms**

Furthermore, educators are challenged by the need to address the unique needs of culturally diverse learners in their classrooms (Hyland, 2009). Teacher preparatory programs may not
adequately provide teachers with the training, content knowledge, attitudes, instructional skills, practices, experience, and materials they need to actively engage diverse learners so that they can achieve their optimal success (Au, 2009; Cummins, 2007; Gay, 2002; 2013; Lucas, Villegas, & Freedson-Gonzalez, 2008). On the one hand, some teachers unknowingly create classroom environments where activities and practices are disconnected with students’ lived experiences, prior knowledge, aspirations, or interests and needs, leading to boredom and lack of engagement (Hockings, Cooke, Yamashita, McGinty, & Bowl, 2008). On the other hand, some teachers who are biased by their own cultural hegemony tend to have lower expectations for culturally diverse learners, and easily withdraw their support (Sleeter, 2012). Teachers may also fail to recognize, validate and utilize what diverse learners bring to classrooms including culturally enriching knowledge, experiences, practices, thought-provoking insights, ideas, beliefs, values, and skills as learning opportunities (Howard & Rodriguez-minkoff, 2017).

A Way Forward

Addressing the problems of student diversity in the classroom requires the examination, and implementation of a useful pedagogical framework that can help teachers in gaining better knowledge of their students and to address their individual needs and interests so as to support culturally diverse learners’ academic engagement and active learning in their classrooms. Therefore, the overall goal of this study was to advance theory and practice in ways that might enable educators to better support culturally diverse learners in schools and classrooms. I studied teachers and students in two classrooms where both culturally responsive pedagogical designs and self-regulated learning (SRL) were used in addressing the needs of culturally diverse learners. I expected that an integrated pedagogy would help teachers in engaging culturally diverse learners in active learning in their classrooms. Overall, the outcome of this study was expected to be helpful to educators, culturally
diverse learners, and all learners, since all students have cultural backgrounds that impact on their learning process.

Addressing the challenges of cultural diversity in the classroom requires the examination and understanding of the impacts of layered contexts including political, economic, religious, social and cultural environments, as well as school and classroom settings situated within them, on the learning process (Aronson, Amatullah, & Laughter, 2016; Butler & Cartier, 2018; Cartier & Butler, 2016; Orellana & Bowman, 2003; Villegas & Lucas, 2002). Järvenoja, Järvelä, and Malmberg (2015) stress that individual learning happens in contexts that are always changing. Researchers (e.g., Haines, Summers, Turnbull, Turnbull, & Palmer, 2015; Tang, 2009) have tried to understand why and how individual and contextual influences interact in shaping and reshaping learners’ engagement in SRL. This study explored how pedagogical approaches might be best designed to take advantage of opportunities, and overcome challenges, faced by both learners and educators in the context of today’s increasingly diverse classrooms.

First, pedagogical approaches can create supportive contexts for culturally diverse learners by deliberately making meaningful connections between what they are bringing (e.g., everyday home and community lived experiences, culturally situated and driven prior knowledge) and what the teacher is offering (e.g., classroom pedagogy, new concepts and topics they are expected to learn). To explore this possibility, this study examined the potentialities of culturally responsive pedagogical practices (CRPPs) in engaging diverse learners. At the same time, engagement of all learners within a culturally relevant classroom requires that they be empowered to understand themselves and others, take up practices deliberately and navigate their learning environment. Thus, in addition, this study examined the potentialities of adding attention to fostering students “self-regulated learning” (SRL) as another support for engagement. By integrating principles and practices associated with CRT and SRL, educators might both create culturally proactive, responsive, relevant and sustaining
environments (i.e., through CRT) and enable students’ active participation within them (i.e., through SRL) in ways that will more successfully motivate and engage all learners in their classrooms.

**Student Engagement**

In this study, I focused on practices with potential to foster engagement for culturally diverse learners. Engagement describes the quality of a student’s active participation in a learning activity (Christenson, Reschly, & Wylie, 2012; Wellborn, 1991). Student engagement involves a range of actions taken up to advance learning and make academic progress (Reeve, 2013). Engagement is a multidimensional construct that includes behavioural, emotional, cognitive and agentic aspects (Connell & Wellborn, 1991; Finn, 1989; Fredricks, Blumenfeld, & Paris, 2004; Reeve & Tseng, 2011). Research findings have associated engagement with positive learning outcomes including student achievement and success (Appleton, Christenson, & Michael, 2008; Fredricks, Blumenfeld, & Paris, 2004; Kahu, 2013; Reeve & Tseng, 2011; Reschly & Christenson, 2012).

**Culturally Responsive Teaching**

Culturally Responsive Teaching (CRT) is a pedagogical practice developed to address the challenges of students from diverse cultural backgrounds (Gay, 2001, 2010; Ladson-Billings, 2001; Villegas & Lucas, 2002; Wlodkowski & Ginsberg, 1995). CRT frameworks attend to the interactional influences of an individual’s background and the classroom context on the learning process. Examples of pedagogical practices suggested from a CRT perspective include creating culturally responsive caring environments, establishing cross-cultural communication, designing culturally diverse curriculum content, and establishing cultural congruity in classroom teaching and learning (Gay, 2000; 2013).

Research in the CRT field shows that students’ motivation and engagement is sustained when knowledge and skills are connected with diverse students’ interests, prior experiences and perspectives (Ginsberg & Wlodkowski, 2015; Kumar, Zusho & Bondie, 2018). Both teachers and
students need to be proactive in creating opportunities for making these connections by interpreting social and cultural influences on their thinking and behaviours, shaping classroom environments to celebrate students’ cultural diversity and taking up opportunities created for engagement in learning tasks (White & Bembenutty, 2014).

**Self-regulated Learning**

Self-regulated Learning (SRL) is a form of learning through which learners take ownership of their learning process within the various contexts in which they are living and learning. SRL involves students’ ability to control thoughts and actions to successfully achieve personal goals and respond to environmental demands (Zimmerman, 2008). Examples of SRL-promoting practices (SRLPPs) include providing students with opportunities for choice, control of challenge, and self-evaluation, all of which provide opportunities for students to tailor learning to their needs and interests and take ownership over learning (Perry & VandeKamp, 2000; Perry, 2013). These and other SRLPPs empower learners’ proactive engagement, address individual differences in learning processes and lead to positive outcomes both in school and beyond (Butler, Schnellert, & Perry, 2017; Perry, 2004). Research in the SRL field continues to generate evidence that supporting students’ regulation of learning and strategy use is imperative to their motivation, academic engagement, problem-solving, performance, achievement, and success (Perry & VandeKamp, 2000; Schunk & Zimmerman, 2007; Zumbrunn, Tadlock, & Roberts, 2011). For example, fostering students’ use of cognitive strategies (e.g., planning, summarization, elaboration, rehearsal) in their regulation of learning increases their engagement in high quality thinking (Wolters & Taylor, 2012).

In relation to understanding how best to address cultural diversity in classrooms, theories (e.g., sociocultural, situated, sociocognitive, and socioconstructivist) and models of SRL offer insight into how individual-contextual interactions influence engagement. For example, sociocultural theories of SRL consider how regulation is socially constructed, for example, through forms of co-
regulation (McCaslin, 2009; Mccaslin & Burross, 2011). Also, Butler and Cartier’s (2018) situated model emphasizes the dynamic interaction between the individual and context. Their model foregrounds how an individual learner exercises agency in order to successfully navigate multiple layers of social, cultural and historical contexts. At the same time, those contexts shape the individual’s learning engagement. However, although SRL is instrumental to student engagement and success (Wolters & Taylor, 2012), and SRLPPs are capable of creating supportive and engaging classrooms for all learners, the benefits of SRLPPs could be further investigated in relation to principles and practices associated with CRT, particularly for students from diverse social, cultural and linguistic backgrounds.

Summary

Important synergies exist between principles and practices derived from CRT and SRL frameworks. For example, theories of CRT and SRL overlap in stressing the interdependency between the individual and the learning context. Further, because of how they emphasize different aspects of the individual-context relationship—that is, the relationship between what learners bring (e.g., histories, interests, prior perceptions about learning and environment) and classroom learning contexts including peers and what teachers offer (e.g., designed tasks and embedded supports)—an integrated enactment of CRPPs and SRLPPs might be useful in creating a supportive classroom context that can facilitate culturally diverse learners’ engagement and performance.

Classroom Contexts for Supporting all Learners’ Engagement

For this study, I focused on how opportunities were created in classroom teaching and learning activities by integrating principles and practices from CRT and SRL perspectives. In particular, I investigated how educators can integrate CRPPs and SRLPPs within complex tasks (e.g., inquiry-based projects) in order to facilitate students’ learning engagement (i.e., active participation in learning activities). According to Perry (2013), tasks that are complex by design provide students
with opportunities for choice and decision making in the context of meaningful work. Often, they engage students in working together to support one another’s learning. In so doing, complex tasks create opportunities for students to engage in self, co-regulated and socially-shared regulation of learning in ways that enhance learning and engagement (Grau & Whitebread, 2012; Järvelä, Järvenoja, Malmberg, Isohätälä, & Sobocinski, 2016; Järvelä & Hadwin, 2013; Perry, 2013; Tielman, den Brok, Bolhuis, & Vallejo, 2012; Volet, Summers, & Thurman, 2009). For example, to create a complex task, an inquiry-based project could be deliberately designed with opportunities for learners to engage in self, co-, and socially-shared regulation. To illustrate, a teacher can ask students to research, then compare and share their cultural values with that of their friends from another cultural background. Such opportunities can facilitate students’ learning engagement by helping them bring in and share their prior knowledge, cultural values, interests, daily life and learning experiences.

Students’ prior knowledge and lived experiences constantly shape and reshape their own and others’ engagement and participation as small group activities unfold (Järvelä & Järvenoja, 2011); thereby increasing their high-level engagement in peer interaction in the classroom (Volet, Summers, & Thurman, 2009). Therefore, a culturally responsive complex task that allows students to connect their prior knowledge and culturally driven lived experiences to what they are learning might create the context for active learning, social interaction, and peers’ reconstruction of their knowledge and thinking process (Wang, 2007). This kind of culturally responsive complex task might also set the stage for effective teaching processes, foster students’ active learning engagement, and impact positively on student outcomes such as academic achievement, improved quality of interpersonal interactions, retention, and critical thinking (Johnson, Johnson, & Smith, 1998; Gokhale, 1995).

**Summary**

In summary, in this research, I investigated how an integrated CR-SRL pedagogical framework might be useful in establishing supportive classroom learning environment that engages
all learners. On the one hand, while there is research on supporting culturally diverse learners through CRT principles and practices, little attention has been paid in that literature to how learners might be empowered to take up CRPPs. On the other hand, while there is research about the use of SRLPPs in fostering all students’ ownership of learning engagement, there is scarcity of research on how these practices could be implemented as cultural tools for supporting culturally diverse learners. So, research is needed on how to design social and cultural contexts that empower learners’ active engagement in effective forms of learning and positive outcomes. This current study was designed to address this need by investigating benefits and challenges associated with helping teachers construct pedagogical practices from CRT and SRL perspectives to support culturally diverse learners in a classroom context.

**Overview of this Study**

To examine potential synergies between SRL and CRT, I collaborated with two elementary classroom teachers from two schools with diverse student bodies to create culturally relevant and proactive classroom contexts informed by culturally responsive pedagogical practices (CRPPs) and SRL-promoting practices (SRLPPs) to better engage diverse learners in meaningful learning and identify the potential benefits and challenges of integrating pedagogical practices for both teachers and students. Specifically, we co-designed a learning context with opportunities for all students to work both independently and collaboratively in a culturally responsive complex task. The students in this study were supported to work as communities of learners, wherein they served as resources to one another, interacted and shared their opinions towards solving a shared problem. I looked to these contexts to answer the following questions:

1. What practices, including CRPPs and SRLPPs, did teachers enact to create a supporting learning environment for culturally diverse learners?
2. What benefits and challenges of those CRPPs and SRLPPs did teachers perceive in addressing the needs of culturally diverse learners?

3. How could student engagement in classroom contexts be associated with CRPPs and SRLPPs for culturally diverse learners?

This study employed a case study design in answering these questions. Case study allows for an in-depth examination of social phenomena in real time (Yin, 2014). The use of case study offers opportunities for collecting and coordinating multiple sources of data across individuals and contexts in ways that are helpful in understanding students’ engagement in CRPPs and SRLPPs as they unfold in the classroom context (Butler & Cartier, 2018; Cartier & Butler, 2016). Thus, I gathered multiple forms of evidence from a variety of sources (e.g., classroom observations, teachers’ and students’ interviews, teacher lesson plans, an experience sampling reflection form, and student work samples). In general, by integrating multiple sources of data using a case study design, I was able to examine how CRPPs and SRLPPs can be enacted, as well as how SRL engagement can be situated in a CRT context so as to impact on students’ engagement and performance (Butler & Cartier, 2018).

Organization of the Thesis

Chapter Two presents my theoretical perspectives and a review of the literature on engagement; CRT and SRL, and their pedagogical practices that are believed to support student success (engagement in particular). Chapter Three describes the methods I employed to study the classrooms that integrated CRPPs and SRLPPs to support culturally diverse learners’ engagement. Chapters Four and Five present the results of my study. Chapter Six discusses the findings. Chapter Seven discusses theoretical, methodological and practical implications; limitations and directions for future directions; and conclusions derived from my research.
Chapter Two: Theoretical Perspectives and Literature Review

Introduction

Applying a case study design within a multicultural classroom context, this study aimed to address the challenges of culturally diverse learners including lack of engagement by: (1) proactively creating a classroom context informed by culturally responsive teaching (CRT) and self-regulated learning (SRL) pedagogical practices; (2) investigating the potential benefits and challenges of enacted practices from teachers’ perspectives; and (3) examining the links between students’ engagement and teacher practices. Based on these goals, this research study was sensitized by theory and research relating to CRT and SRL. Researchers from CRT and SRL fields have identified pedagogical practices for supporting students’ learning engagement and success. In addition, the overlap of these pedagogical practices and their possible integration can be elaborated using a socio-cultural theoretical lens (SCT), combined with a situated model of SRL as a framework for their practical integration. Thus, this chapter establishes a rationale for pulling across CRT and SRL-pedagogical practices to create an engaging classroom for supporting culturally diverse learners, and then draws on SCT and a situated model of SRL to provide theoretical and practical frameworks for their integration, respectively.

Culturally Responsive Pedagogy

One of the major challenges for culturally diverse students is a lack of engagement in learning resulting from cultural discontinuities and mismatches between home and school including in expected learning behaviours and discourse patterns (Richards, Brown, & Forde, 2007). Diverse learners’ challenges increase when classroom practices do not provide opportunities for students to engage in constructing knowledge that is relevant to their interests, culture, prior knowledge and lived experiences leading to poor academic achievement (Gay, 2010). Culturally responsive pedagogy has been developed to address these challenges. As an essential factor in an integrated
framework, this section focuses first on defining culturally responsive teaching (CRT) and its dimensions, and then on discussing how its pedagogical principles and practices support learners’ engagement. Empirical findings related to CRT are woven through the latter discussion.

**Dimensions of Culturally Responsive Teaching**

Culturally responsive teaching (CRT) was developed to address the challenges of culturally diverse learners, rooted in the lack of adequate attention to the impact of culture and social environments on learning processes. CRT has been defined as a form of teaching and learning that effectively utilizes ethnically, linguistically and culturally diverse students’ lived experiences and cultural elements, such as language, values, and symbols, as a channel of effective teaching (Gay, 2010). This is based on the understanding that students tend to be motivated and engaged to learn when knowledge and skills are connected with their perspectives and lived experiences (Gay, 2010; Ginsberg & Wlodkowski, 2015; Kumar, Zusho & Bondie, 2018). One key element of this definition is the contextualized nature of CRT because it pays attention to socio-cultural contexts in which students exist, by honouring individuals’ history when designing classroom activities and instruction.

CRT advocates for the wellbeing of the whole child by using cultural resources in teaching knowledge, values, attitudes and skills for the students’ intellectual, political, emotional and social development (Ladson-Billings, 1992). In CRT classrooms, teachers engage in reflective thinking about their behaviour and cultural biases, learn about their students’ histories, acknowledge diversity and encourage students’ maintenance of their identity, connection with their cultural heritages, shared responsibility, collective accountability and interpersonal relationships (Gay, 2010; Lucas & Villegas, 2013; Villegas & Lucas, 2002).

There are three identified dimensions of culturally responsive pedagogy: (1) *institutional* – this involves upholding school policies and values that reflect diversity and community involvement; (2) *personal* – teachers’ self-reflective process of knowing who they are in terms of their values,
biases and appreciating differences among their students; and (3) *instructional* – involving materials, teaching methods and activities (Richards et al., 2007). These three dimensions interact together in shaping students’ engagement. For example, school policy (i.e., institutional) together with teacher beliefs (i.e., personal) on cultural diversity influence how classroom activities are designed and implemented (i.e., instructional). However, the instructional dimension is considered the most fundamental of CRT especially within the classroom context (Gay, 2010).

**Culturally Responsive Pedagogical Practices**

Researchers (Gay, 2001, 2010; Ladson-Billings, 2001; Villegas & Lucas, 2002; Wlodkowski & Ginsberg, 1995) in the field of CRT/pedagogy have developed frameworks that define pedagogical practices for supporting diverse learners. For example, as it is outlined in Table 1, Gay’s (2010) framework has 4 major principles and practices: (1) creating a culturally responsive caring environment; (2) establishing cross-cultural communication; (3) designing cultural diversity in curriculum content; and (4) establishing cultural congruity in classroom teaching and learning.

### Table 1
*Culturally Responsive Pedagogical Practices (CRPPs)* (following Gay, 2010)

<table>
<thead>
<tr>
<th>Principles and practices of CRT</th>
<th>Guidelines for teacher implementation</th>
<th>Expected benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating a culturally responsive caring environment</td>
<td>Teachers should: - acquire a knowledge base about cultural diversity, - self-assess their cultural beliefs and assumptions, - develop high expectations of all students, - create awareness and respect for cultural diversity, - encourage students to care and support one another, - dialogue with students about cultural diversity, and - honour students’ diversity as assets (e.g., having students share their histories including cultural backgrounds, strengths and interests).</td>
<td>Increase in teachers’ and students’: - multicultural awareness and intercultural competence, - appreciation and accommodation of cultural diversity, - navigation of cross-cultural diversity, - interpersonal relationships (e.g., peer-peer, &amp; peer-teacher relationships), - cooperation and collaboration among students, - students’ learning engagement, and - achievement.</td>
</tr>
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<td>Guidelines for teacher implementation</td>
<td>Expected benefits</td>
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<td>Establishing cross-cultural communication</td>
<td>Teachers’ understanding and acknowledgement of diverse communication styles including: - discourse participation structures (e.g., active-participatory and passive-receptive patterns), - organization of ideas (e.g., topic-centered and topic-chaining techniques), and - creating opportunities for social interaction.</td>
<td>Increase in students’: - development of cross-cultural competence, - deeper thinking and learning, - navigation of multiple layers of cultural contexts, - engagement, and - achievement.</td>
</tr>
<tr>
<td>Designing cultural diversity in curriculum content (i.e. design stage)</td>
<td>Teachers adjusting and situating curriculum content to connect with students’ prior knowledge and lived experiences by: - involving students and parents in selecting, designing and analyzing reading material and curriculum content, and - using multicultural textbooks.</td>
<td>Increase in teachers’: - preparedness to engage all learners, - development of high expectations for all learners, - design of student-centered lesson plans, - creation of equal opportunities for students’ positive learning outcomes, and - use of culturally relevant materials. Increase in students’: - knowledge about cultural diversity, - ownership over their learning, - participatory engagement with subject matter, - capacity for active knowledge construction, and - achievement.</td>
</tr>
<tr>
<td>Establishing cultural congruity in classroom teaching and learning (i.e. implementation stage)</td>
<td>Teachers’ use of diversity as a resource for teaching and learning by: - matching class instruction with students’ prior experiences, - designing meaningful and culturally relevant activities, - encouraging students’ activation of prior experiences, - creating opportunities for class discussions, and practice of culturally relevant skills, - scaffolding and modelling students’ learning.</td>
<td>Increase in students’: - development of problem solving skills, - interest, motivation and task engagement, - self-evaluation and critical thinking, - activation of prior experiences, - deeper understanding of learning content, and - achievement.</td>
</tr>
</tbody>
</table>

**Creating a culturally responsive caring environment.** The first principle of Gay’s (2010) CRT framework advocates for the creation of learning environments where dimensions of the whole human person (e.g., emotional, intellectual, physical, and moral) are cared for. Caring as an act of
kindness and concern for others is multidimensional and action-oriented and fosters students’ effort and achievement.

The multidimensional aspect of caring requires teachers’ development and support of their own and students’ cultural competencies and intercultural consciousness. This development is necessary for the effective integration of learners’ cultural contexts into classroom content, and for both teachers’ and students’ navigation of cross-cultural diversity. Individuals can develop their cultural competencies and intercultural consciousness by interacting about cultural diversity, refining their understanding of cultural assumptions and variations, and self-assessing their own cultural beliefs in relation to others’ and how that might impact classroom teaching and learning (Gallavan & Webster-Smith, 2009; Gay, 2010).

Caring provokes actions that are geared towards addressing the diversity of students’ needs – academic, emotional, social and moral – which together support students’ learning and achievement (Gay, 2010). For example, a caring teacher has high expectations of all students, believes in their ability and competence to succeed, and develops positive attitudes towards the implementation of different ways of engaging students in active learning processes. Such teachers are patient, persistent and supportive of learners’ interests and aspirations in life.

The knowledge of cultural diversity in the classroom is the foundational element in creating a caring and supportive environment for active engagement in learning because caring fosters positive student-teacher relationships and interpersonal relationships among the students (Pang, Stein, Gomez, Matas, & Shimogori, 2011). In culturally responsive caring environments, students are valued equally as members of the same learning community where their histories are celebrated as opportunities for teaching and learning (Gay, 2013; Butler et al., 2017).

**Establishing cross-cultural communication.** The second CRT principle from Gay’s framework emphasizes cross-cultural communication. Communication is a dynamic process that
involves the use of language, both orally and in writing, in the expression of thinking during interactions (Wolters, 2010). Individuals construct and communicate their meanings about experiences with others using language. As a cultural tool for thinking and communication, language is created and influenced by the society (Gajdamaschko, 2015), and, therefore, reflects people’s cultural values. Language that is situated in a sociocultural context influences people’s way of thinking and knowing, as well as their communication of thoughts and knowledge, and shapes students’ engagement in classroom learning activities (Gay, 2010).

The understanding of diverse communication styles, both in speaking and writing, such as discourse participation structures (e.g., active-participatory and passive-receptive patterns), and organization of ideas (e.g., topic-centered and topic-chaining techniques), is critical for creating opportunities for social interaction and engagement of diverse learners in classroom discussions. For example, some ethnic groups emphasize an active-participatory style of communication that is more interactive where the speaker and listener exchange roles and construct ideas together. In contrast to an active-participatory style, a passive-receptive style involves teacher regulation of students’ turns in class discussions by controlling when and how they ask and answer questions. Similar to discursive styles, there are variations in the ways people organize their ideas and thoughts. For example, European Americans tend to endorse topic-centered discourse with a focus on one idea or issue at a time. In contrast, some ethnic and cultural groups such as African, Latino, Asia and Native Americans tend to use a topic-chaining method of communication. Topic-chaining is a kind of narrative style where time is invested in providing background information in order to create the social context for the main idea (Gay, 2010).

The understanding of the variations in communication styles among culturally diverse learners is important for the establishment of an inclusive environment that accommodates diverse methods and patterns of communication. Discourse patterns, like culture, are constantly negotiated
and can differ across persons, context and content of discussion and communication (Gay, 2010). Opportunities for negotiation of different communication styles not only support students’ development of cross-cultural competence, but also enable deeper forms of thinking. Sharing and evaluating prior discourse patterns might empower students in navigating complex, layered, multicultural contexts that interact to shape their learning engagement and achievement.

**Designing cultural diversity in curriculum content.** Another principle of CRT is the use of culturally relevant curriculum. Educators can support culturally diverse students’ learning engagement by adjusting and situating the approved curriculum content in the context of students’ everyday life experiences. Some of the sources for designing curriculum content that are meaningful for diverse learners include multicultural textbooks and mass media.

From a CRT perspective, the adjustment of curriculum content could involve the use of quality multicultural textbooks that incorporate multicultural perspectives. Multicultural textbooks allow opportunities for learning more about students’ cultural and linguistic backgrounds. The knowledge of the rich histories and perspectives of diverse learners enriches the members of other cultural groups and tends to increase intercultural competence. In addition, CRT suggests that teachers can involve students in the critical analyses of selected textbooks and decisions about curriculum content that are tailored to their interests and background experiences. Another approach is to ensure that curricula are brought to life using instructional materials that deal with cultural diversity, or discussing controversial issues like racism, hegemony and different ways of knowing (Burstein & Hutton, 2005; Gay, 2010, 2013; Ladson-Billings, 2013; Quaye & Harper, 2007), or scrutinizing how information about different cultural groups are often biased and misrepresented through the mass media (Gay, 2010).

The processes of designing culturally relevant curriculum content have potential benefits for both teachers and students (Jabbar & Mirza, 2017). For example, by adjusting the approved
curriculum content to students’ prior knowledge, teachers are better prepared to engage all learners, and thereby create equal opportunities for positive learning outcomes including student engagement. The use of multicultural textbooks can widen students’ knowledge about cultural diversity. Knowledge about others’ cultural backgrounds has the potential to increase interpersonal relationships among the students and might be helpful in enhancing their learning participation. Also, involving students in analyses and decisions about their curriculum content might empower their ownership over learning, and also increase participatory engagement and achievement. Finally, provision of culturally relevant curriculum can develop students’ capacity for active knowledge construction as they share and confront their and others’ cultural beliefs (Gay, 2010), counter misrepresentations of their values, validate culturally diverse learners’ lived experiences (Aceves & Orosco, 2014), and improve their school and academic performance (Brayboy & Castagno, 2009).

**Establishing cultural congruity in classroom teaching and learning.** In addition to bringing culturally relevant content into curriculum, Gay’s (2010) principles suggest creating cultural congruity through the use of multidimensional, CRT practices and techniques in connecting with learners’ cultural backgrounds and histories. Establishing cultural congruity in teaching and learning is beneficial to students since individuals’ engagement in learning processes is influenced by their cultural socialization (Gay, 2010) through which they internalize cultural tools as well as procedural rules associated with knowledge acquisition and demonstration (Rogoff, 2003).

CRT calls for the design and implementation of contextualized and culturally situated instruction that matches diverse learners’ experiences, values, cultural orientations, preferred ways of thinking, needs and learning engagement patterns. For example, students’ everyday experiences of mathematics knowledge, such as calculations at market places during grocery shopping, could be integrated for a meaningful teaching and learning of addition, multiplication and problem solving. Also, a social studies classroom activity might ask students to explore and discuss how they solve
social or family problems such as quarrels among siblings in their family and culture. Practices like this have potential to empower students’ activation of their personal experiences, develop their problem-solving skills, and foster self-evaluation and critical thinking.

The implementation of culturally relevant pedagogical practices and strategies might be beneficial to all students because of the interaction between culture and cognitive processes. The sociocultural system operative in individuals’ home and community has a great influence on their preferred mode of thinking, remembering, perception, relating to others and problem-solving (Ramirez & Castaneda, 1974 cited in Gay 2010). For example, African American students tend to participate more actively when working together in small groups since their culture emphasizes collaborative learning in accomplishment of tasks. Nevertheless, there are individual variations within a cultural group (Carlo, Roesch, Knight, & Koller, 2001; Gutierrez & Rogoff, 2003). To illustrate, students from the same culture can differ in the ways they are: motivated to learn, patterns of task engagement (e.g., where and how they work with others), and preferences for physical space and environments for working and studying (Ginsberg & Wlodkowski, 2015). Therefore, compatible classroom instructional techniques that honour and validate students’ cultural heritage, funds of knowledge, connect with how they learn in their communities, and accommodate their individual preferred modes of thinking and learning can trigger and sustain student task engagement.

In addition, Aceves and Orosco (2014) identify some CRT techniques and practices, such as instructional scaffolding, collaborative teaching, modelling and responsive feedback, with the capacity to foster diverse learners’ active participation, engagement and achievement. For example, Orosco and O’Connor (2014) studied how one bilingual teacher’s knowledge of culturally responsive pedagogy shaped her class reading instruction. Through observation and interview, the study found out that this teacher’s instructional approach encouraged students to relate their thoughts about the reading content with their background knowledge and prior personal experiences. Equally, she
scaffolded students’ practices of their culturally relevant skills through classroom discussions and conversations. Also, since all her 35 students were Latinos, and she spoke both English and Spanish, the teacher used the students’ native language (i.e. Spanish) in teaching reading in order to activate their background knowledge and improve their oral language skill development. Furthermore, she collaborated with the parents and families of her students, offering them supports on how to help their children. The findings of this case study identified three major themes that characterized her pedagogical practices: (1) cultural aspects of teaching reading; (2) culturally relevant skills-based instruction; and (3) collaborative agency time. The analysis of these themes showed that the teacher’s connection of classroom instructional practices and activities to the students’ lived experiences validated students’ self-worth, increased their engagement, deepened their understanding of the text, and fostered their reading achievement.

Overall, a critical review of culturally relevant pedagogy over the past two decades has shown evidence of positive benefits and positive outcomes (Howard & Rodriguez-minkoff, 2017).

**Summary: Strengths and Limitations of CRT Research**

In sum, CRT research has documented potential benefits of designing classroom instruction based on the history and resources that culturally diverse learners and others are bringing to the learning context (Gay, 2013; Ladson-Billings, 2013; Villegas & Lucas, 2002). Findings from research on CRT practices (Aceves & Orosco, 2014; Brayboy & Castagno, 2009; Elaine & Randall, 2010; Rodriguez, Jones, Pang, & Park, 2004; Thomas, Christine D; Williams, 2008) suggest they have the potential to increase student engagement, support the development of cross-cultural competence, and foster critical analysis skills helpful in the validation or reconstruction of knowledge. However, current CRT frameworks have been generated mostly based on research in the United States including limited samples, from a restricted range of cultural groups, including mainly African American and Latinos students (Kumar, Zusho & Rhonda 2018). More rigorous and in-depth
research is needed with a wider range of learners in a wider variety of cultural contexts (Ginsberg & Wlodkowski, 2015; Sleeter, 2012) to confirm the claims of benefits associated with CRPPs in enhancing culturally diverse learners’ engagement, motivation and academic achievement (Elaine & Randall, 2010).

Another challenge is that CRPP may mount pressure on teachers if they are expected to know specific cultural backgrounds of all their students and design appropriate practices for meeting their diverse needs. For example, how can a teacher of 50 students from 20 different cultural backgrounds know and connect classroom instruction to all of those students’ lived experiences? Moreover, when designing and studying CRPP, it is important to recognize how individuals’ cultural values and identities tend to change over time depending on the social and cultural context where they are living and working (Orellana & Bowman, 2003).

Finally, CRT research has focused on what teachers are doing to support learners, with less emphasis on what students are doing, or could be doing, to take up culturally responsive practices, or navigate cultural expectations. Attention to empowering students’ involvement in creating culturally relevant classrooms might be very productive in fostering their engagement. Above all, there is a need for additional, rigorous empirical research on the use of CRT principles such as creating multicultural curriculum content to ascertain their potential in supporting students’ learning engagement and achievement (Elaine & Randall, 2010; Gay, 2010).

**Student Engagement**

This study focused on the potential of combining CRT and SRL principles to foster students’ engagement. There has been an increase in research on student engagement over the past two decades because of its potential benefits in addressing educational problems. Student engagement has been associated with many positive learning outcomes including student achievement and success (Appleton, Christenson, & Michael, 2008; Fredricks, Blumenfeld, & Paris, 2004; Kahu, 2013; Reeve
Engagement has been studied in different contexts including: schools, classrooms, and learning activities (Skinner & Pitzer, 2012). Both SRL and CRT promoting practices have been associated with gains in students’ engagement (Aceves & Orosco, 2014; Brayboy & Castagno, 2009; Elaine & Randall, 2010; Wolters & Taylor, 2012).

There are variations in ways engagement has been conceptualized, defined, and studied (Appleton, Christenson, & Michael, 2008); however, researchers tend to define engagement as a multidimensional construct (Fredricks, Filsecker, & Lawson, 2016). Thus, in this study, engagement is operationalized as a multidimensional construct defining the process and the quality of a student’s active participation in a learning activity in relation to achieving task expectations (Christenson, Reschly, & Wylie, 2012; Fredricks, Blumenfeld, & Paris, 2004; Wellborn, 1991). Again, there is variation in the number or types of engagement dimensions (Fredricks & Mccolskey, 2012); however, most literature emphasizes that engagement has three interrelated but distinct dimensions. These include affective/emotional, behavioural, and cognitive engagement (Fredricks et al., 2004; Wang, Willett, & Eccles, 2011). Recently, Reeve & Tseng, (2011) proposed agentic engagement as “students’ constructive contribution into the flow of instruction they receive” (p. 258). These four dimensions of engagement have been identified to describe different aspects of students’ involvement in their learning process (Connell & Wellborn, 1991; Finn, 1989; Fredricks & Mccolskey, 2012; Reeve & Tseng, 2011). Overall, student engagement involves a range of actions that advance learning and lead to academic progress (Reeve, 2013).

**Behavioural engagement** describes students’ overt behaviour and involvement in academic tasks and learning activities. These behaviours include effort, asking and answering questions, time on task, persistence, attention, concentration, and help seeking (Fredricks et al., 2004; Sinatra, Heddy, & Lombardi, 2015). **Emotional engagement** refers to students’ feelings, attitude and reactions about classroom tasks. These feelings include expressions of anxiety, boredom, frustration,
enjoyment, interest, happiness, sadness, belonging, and perceived benefits of a task (Pekrun & Linnenbrink-Garcia, 2012; Schunk, Meece, & Pintrich, 2013). Cognitive engagement defines students’ deliberate investment of needed effort in their learning activities. This investment is inclusive of: awareness, use of cognitive strategies, self-regulation, reflection, assessment, engagement in cycles of strategic action, active use of prior knowledge, persistence in challenging tasks, and willingness to exceed the basic requirement of a task (Cleary & Zimmerman, 2012).

Cognitive and behavioural engagement tend to overlap. For example, they both involve effort. However, they can be distinguished by the nature of the effort. For example, effort that involves doing the task is more behavioural engagement than is effort that is triggered by interest and motivation to master a task or class material which is connected with cognitive engagement (Fredricks et al., 2004). Finally, Reeve (2013) defines agentic engagement as a “student-initiated pathway to a more motivationally supportive learning environment” such as active contribution to the flow of a learning activity including making suggestions and offering input (p. 581).

Most previous research has investigated a single dimension of engagement or used a single method in measuring engagement (Fredricks & Mccolskey, 2012). However, due to the interconnections and overlap between different dimensions of engagement within a given learning activity (Bingham & Okagaki, 2012), researchers have highlighted the need to examine the different forms of engagement in a study (Sinatra et al., 2015). Therefore, the current study operationalizes engagement as a multidimensional construct (i.e., agentic, behavioural, cognitive and emotional) and utilizes multiple sources of data to understand engagement as situated in context.

**Engagement and Self-Regulation of Learning**

Dimensions of engagement are also connected with motivational and/or self-regulation constructs (Sinatra et al., 2015). For example, cognitive engagement as defined above involves effort and enactment of strategies to overcome challenges and achieve learning goals (i.e., self-regulation
of learning). Researchers in the field of engagement include self-regulatory behaviours as part of engagement (e.g., cognitive and agentic engagement). On the other hand, researchers in the field of SRL have identified a reciprocal relationship between SRL and cognitive engagement (Cleary & Zimmerman, 2012; Wolters & Taylor, 2012). Similarly, scholars tend to agree that there is a relationship between engagement and motivation while at the same time identifying them as distinct constructs (Martin, 2012; Reeve, 2012).

Models of self-regulation advance our understanding about how students’ engagement in learning activities involves cognition and metacognition, motivation and emotion, and strategic action (Butler et al., 2017). Therefore, SRL cuts across all the dimensions of engagement. For instance, agentic engagement implies proactive exercise of control and ownership of learning (i.e., SRL). All the other identified dimensions of engagement are within the terrain of self-regulatory processes during learning engagement. That is, self-regulated students proactively participate in cognitive activities, and manifest the type of overt behaviours and emotions that are connected with engagement in effective forms of learning (Wolters & Taylor, 2012). Based on the interconnectivity among the different dimensions of engagement, and overlap between SRL and engagement, this study focused also specifically on engagement in SRL.

**Self-Regulated Learning Pedagogy**

One key aim of this study was to investigate the potential of classroom contexts that include SRL-promoting pedagogical practices to empower culturally diverse learners’ engagement. Thus, this section provides a general definition of self-regulation, its application to the learning context, and how to foster its development through classroom pedagogical practices. I also identify research that has been done to investigate SRL across cultural contexts.
**Self-Regulation**

Self-regulation is the process of controlling thoughts and actions in order to achieve personal goals and respond to environmental demands (Zimmerman, 2008). Butler, Schnellert, and Perry (2017) draw attention to the three main ideas underlying this definition, namely that SRL involves deliberate control, is goal directed and is contextualized. First, self-regulating individuals take *deliberate control* over their thoughts and actions while participating in activities. As proactive agents of their engagement, they assume ownership and control over their regulatory processes (Baumeister, Schmeichel, & Vohs, 2007). Second, the driving force of individual self-regulation is the *goal directed* nature of their daily engagement in activities. People regulate themselves towards the achievement of their personally-set goals, that is, their aim of engaging in an activity. The last major idea is that self-regulation is *contextualized*. Self-regulating individuals deliberately navigate their activities as presented within the context of their living and working environment. Thus, self-regulation is situated in context (Butler, Cartier, Schnellert, Gagnon, & Giammarino, 2011; Ross, Salsbury-Glennon, Guarino, & Reed, 2003).

Furthermore, self-regulation is regarded as a universal construct, describing individuals as the active agent in their regulatory processes. It is an inherent operation involving individuals' engagement in making decisions while involved successfully or less successfully in daily life activities (Heatherton & Wagner, 2011; Winne, 2015). Also, self-regulation is a process that is not limited by socio-demographic boundaries; across those, it is a valuable predictor of developmental and achievement outcomes (McClelland & Wanless, 2012; Clelland, Geldhof, Cameron, & Wanless, 2015). Self-regulation is exercised for the accomplishment of tasks in different areas of operation and learning, such as academia, health, music and sport (Zimmerman, 2015). From the foregoing, self-regulation can be understood as a process that is relevant to all humans, applicable to all activities, and used across life span.
Self-Regulated Learning

Self-regulation of learning highlights the exercise of self-regulation in a learning context or a deliberate engagement in an activity with the purpose of learning (Butler et al., 2017). Self-regulated learning (SRL) is required in both independent and social forms of learning that involve students’ capacity to control their thoughts and actions to achieve personal goals while navigating the different challenges of their environments (Zimmerman, 2008). Supporting students’ SRL can be helpful in creating an engaging context for all learners, including students from different cultural and linguistic backgrounds, within a regular classroom context.

For over 35 years, researchers have been investigating SRL from multiple theoretical backgrounds such as cognitive, socio-cognitive, behavioural, cognitive-behavioral, constructivist, socio-constructivist, or socio-cultural (McInerney, Walker, & Liem, 2011; Wolters, 2010) (Zimmerman & Schunk, 2011). In addition, SRL studies have developed and validated different self-regulation models (Boekarts, 1996; Butler & Cartier, 2004, 2018; Butler & Winne, 1995; Cartier & Butler, 2016; Greene & Azevedo, 2007; Pintrich, 2004; Winne & Hadwin, 2008; Zimmerman, 2008; Winne, 2014). Taken together, models of SRL have advanced our understanding about how different factors interact to influence individual engagement in daily activities including learning. Across them, they have identified key dimensions or aspects of SRL, that is, cognition and metacognition, motivation and emotion, and strategic actions that are regulated during learning activities (Butler et al., 2017).

Cognition and Metacognition. Both cognition and metacognition are interconnected during students’ engagement in SRL in such a way that metacognition builds on cognition. Cognition describes the mental processes including individual thinking processes towards the achievement of a set goal. All learners engage in cognitive processes to achieve task requirements, such as solving problems in mathematics or reading to summarize an idea and take notes (Butler et al., 2017). For
example, a child that is learning to read engages in cognitive processes to understand the meaning of a word (Gunning, 2010).

*Metacognition* refers to individuals’ awareness of their thinking and cognition, that is, “knowing about knowing”, and regulatory control over cognitive processes (Flavell, 1976, 2004). In addition, metacognition involves a conscious knowledge and oversight of cognitive activities or operations of strategic action including planning, enacting, monitoring, evaluating and adjusting. Students’ metacognitive knowledge includes knowledge about themselves and other learners, tasks, and the cognitive processes needed for the accomplishment of tasks. This metacognitive knowledge is manifested in what students bring and construct such as experiences, beliefs, strengths and challenges, task understanding, personal goals and strategies needed to complete a task (Pintrich, 2002). Teachers can foster students’ metacognitive knowledge by deliberately adapting classroom activities to what learners are bringing to the learning environment; such that, learners can use their metacognitive knowledge to make plans, select strategies and interpret performances (Paris & Winograd, 2003). Therefore, teachers can support learners’ engagement by fostering their metacognitive knowledge and regulatory control over the efficient use of this knowledge in negotiating multiple layers of social and cultural contexts. For example, to accomplish a task, a learner can use different strategies to construct new experiences (cognition). Also, he can articulate prior knowledge and experiences about the task by focusing attention, thinking and selecting the appropriate strategies for the achievement of the set goal (metacognition).

**Motivation and Emotion.** Other critical dimensions of SRL are motivation and emotion. *Motivation* describes the underlying reason for an individual’s voluntary behaviour and is the driving force behind students’ engagement in learning activities (Guay et al., 2010; Ryan & Deci, 2002). High motivation tends to increase learners’ deliberate choice of tasks, effort, and persistence in the face of challenging tasks which influence their SRL engagement (Zimmerman, 2011). Self-regulating
learners demonstrate motivation by paying attention to their learning progress, pursuing success and attributing learning outcomes to controllable forces. Such students do not attribute outcomes to uncontrollable forces nor decide to use inappropriate strategies such as self-handicapping ones that will hinder their learning engagement (Paris & Winograd, 2003; Winne & Perry, 2000).

*Emotion* is one of the major aspects of self-regulation that influences students’ motivation and choice of a particular goal (Boekaerts, 2011b). Emotion describes individuals’ affective responses in the face of activity (Butler, et al., 2017). Students’ emotional experiences and responses to emotion exert remarkable influence on their motivation and regulation of learning engagement. For example, students that are happy about experiencing success after spending extra time and effort on a homework assignment may be more likely to regulate their motivation towards spending extra time in accomplishing a challenging task. In contrast, students that feel bad and frustrated after experiencing failure might decide to avoid tasks that are perceived to be challenging. Supporting students’ emotion regulation is critical in SRL. For example, students can be supported to understand and control their emotional experiences and expressions. Such support can nurture their ability to modify aspects of the emotional expression especially when it interferes with the achievement of a set goal (Boekaerts, 2011).

**Strategic action.** *Strategic action* refers to the actions and processes an individual engages in while working towards the achievement of a learning goal (Zimmerman, 2001). Strategic learners select and apply from their repertoire of strategies ones they perceive to be appropriate for solving a particular problem or task (Paris & Winograd, 2003; Winne & Perry, 2000). Strategic actions, usually described as a cyclical process (Cleary, Callan, & Zimmerman, 2012; Zimmerman, 2002), include students’ interpretation of expectations, setting of personal goals, planning, enacting strategies, self-monitoring and self-assessing, and adjusting enacted strategies (Butler, & Cartier, 2018; Cartier & Butler, 2016). For example, when given a word problem in mathematics, a student...
engaged in effective forms of SRL might start by reading the question to understand, analyze, and interpret the expectations of the problem before planning specific steps and strategies to apply. During problem-solving, the student might deploy the selected strategies, monitor progress, assess the effectiveness of the strategies, and make necessary adjustments to better address the expectations of the problem. Educators can foster students’ capacity to actively engage in strategic actions and effective forms of learning by creating classroom environments with SRL-promoting practices.

**SRL-Promoting Practices**

SRL research has documented classroom features and pedagogical practices that support students’ development of and engagement in SRL (See Table 2). In SRL-promoting classrooms, students focus on big ideas, engage in active learning and are willing to take risks when they feel safe and supported in their learning environment. As is outlined in Table 2, creating a safe and supportive learning environment provides the foundational structure for developing self-regulating learners and enhancing students’ engagement. Furthermore, as Perry (2013) has identified in her over 20 years of research, practices that empower students’ ownership of academic learning engagement and achievement including designing complex meaningful tasks, providing opportunities for choice making and control over challenge, fostering self-evaluation, offering teacher support, and, providing opportunities for peer support.
Table 2

*SRL-Promoting Practices (SRLPPs)*

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<tr>
<th>Pedagogical Practices</th>
<th>Guidelines for Implementation</th>
<th>Expected Benefits</th>
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| **Creating a safe and supportive learning environment** | Teacher:  
- establishing participation structures (e.g., having clear expectations and instructions about engagement in activities and how students will interact with others; asking questions during class; and co-constructing of routines),  
- creating and fostering a community of learners (e.g., through community building activities including playing together, sharing students’ histories and celebrating their strengths and experiences), and  
- creating a non-threatening class environment (e.g., by emphasizing growth and mistakes as opportunities for learning). | Students’:  
- shared understanding of classroom routines and variation of participation structures,  
- sense of community,  
- accommodation of individual differences,  
- being valued and comfortable in taking learning risks,  
- experience of positive emotions,  
- engagement in rich forms of learning and SRL, and  
- achievement. |
| **Designing complex meaningful tasks** | Teacher designing tasks that:  
- have multiple instructional goals,  
- focus on large chunks of meaning about the learning content,  
- integrate across subject areas,  
- extend over time,  
- involve students in making meaningful choices,  
- engage students in diverse cognitive and metacognitive processes,  
- include individual and social forms of learning, and  
- allow multiple ways of demonstrating learning and knowledge. | Students’:  
- development of adaptive expertise in their use of skills,  
- ownership of their learning,  
- development of strategic learning and metacognitive knowledge,  
- development of thinking and metacognitive processes,  
- engagement, and  
- success. |
| **Providing opportunities for choice and control over challenge** | Teacher:  
- designing complex tasks with opportunities for choice and decision-making, and  
- scaffolding students’ meaningful choices and control over learning (e.g., choice of what to learn, where and who to work with, materials to use and how to demonstrate knowledge). | Students’:  
- autonomy and independent learning,  
- sustained interest,  
- motivation,  
- control and ownership of learning,  
- engagement,  
- adaptive expertise, and  
- academic achievement. |
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| **Fostering self-evaluation**      | Teacher creating opportunities for students’:  
- self-reflection,  
- self-monitoring, and  
- adjustment of learning.                                                                                                                                                                                            | Students’:  
- critical thinking,  
- learning engagement, and  
- achievement.                                                                 |
| **Offering teacher support**       | Teacher offering:  
- resources and instrumental supports (e.g., modeling and scaffolding strategies, support for connecting and transferring ideas across contexts), and  
- co-regulatory opportunities between the teacher and student(s).                                                                                             | Students’:  
- autonomy,  
- learning transfer,  
- enhancement of SRL skills strategies,  
- engagement, and  
- achievement.                                                                 |
| **Providing opportunities for peer support** | Teacher offering opportunities for peer-to-peer:  
- instrumental supports,  
- group activities,  
- co-regulation of learning, and  
- assessment.                                                                                                                                                 | Peer seeing others as:  
- learning resources,  
- co-learners,  
Peer engagement and achievement.                                                                                                                    |

**Creating a safe and supportive learning environment.** Educators can create a classroom environment with the capacity of enhancing students’ active learning, SRL and engagement by establishing participation structures, creating and fostering a community of learners, and creating a non-threatening environment. For example, teachers can establish clear and familiar *participation structures* by surfacing expectations and providing instructions about expected patterns for learning engagements, such as how to interact with others, how and when to ask questions, and how to participate in group discussions. Involvement of students in the co-construction of these structures builds their shared understanding of classroom routines, helps them in navigating their learning environments for successful learning engagement, and increases their ownership and sense of control/autonomy (Butler et al, 2017).

Educators can also provide a safe and supportive environment by creating *community of learners* where all members including teachers and students’ strengths, interests, challenges, and needs are accommodated. For example, educators can engage learners in community building activities such as playing together, sharing students’ histories, and celebrating their strengths and
experiences. In a community of learners, students engage together in making sense of big ideas (Schonenfeld, 2004). Fostering a community of learners allows opportunities for collaboration, SRL, co-regulation and socially-shared regulation that can result in high-level cognitive and metacognitive engagement (Beishuizen, 2008; Butler et al., 2017; Brown & Campione, 1996). Students are also more willing to take risks and try out new things in a *non-threatening learning environment* that stresses growth and welcomes mistakes as opportunities for learning. All these interconnected practices come together to create a safe, caring and supportive learning environment necessary for promoting SRL and engagement.

**Designing complex meaningful tasks.** Complex tasks do not mean complicated activities, but rather those activities that: (1) address multiple instructional goals (e.g., mastering subject specific content, learning/practicing reading and writing strategies, accomplishing social goals); (2) focus on large chunks of meaning about the learning content (e.g., giving students animal inquiry project that asks them to describe the animal, habitat and important facts about their animals); (3) integrate across subject areas (e.g., including hand drawing in geometry assignments); (4) extend over time (e.g., in weeks and months); (5) involve students in making meaningful choices (e.g., topic to write about, who to work with in group activities); (6) engage students in diverse cognitive (e.g. thinking, attention) and metacognitive (e.g., engagement in the cycles of strategic actions) processes; (7) include individual and social forms of learning (e.g., working alone and in groups); and (8) allow multiple ways of demonstrating learning and knowledge (e.g., writing, drawing by hand or computer, oral presentations) (Butler et al., 2017).

When students work towards achievement of multiple goals, focus on big ideas, and integrate across subject areas, they develop adaptive expertise (i.e., the ability of applying knowledge flexibly in the face of different kinds of problems). To succeed in an activity that extends over time, students need to engage in cycles of strategic action and make meaningful decisions that empower their
ownership of their learning. By so doing, complex tasks create opportunities for students’ development of strategic learning and metacognitive knowledge about their learning engagement. Complex activities with opportunities for students to work alone and collaborate with others develop their metacognitive processes.

**Providing opportunities for choice-making and control over challenge.** Choice making describes the opportunities learners are given to make meaningful decisions about their learning. Providing students with opportunities to make choices fosters their autonomy and exercise of control over their learning processes by allowing them make decisions based on their preferences and interests (Bozack, Vega, McCaslin, & Good, 2008). Students’ engagement in SRL is more likely to increase when they are given opportunities to make meaningful choices in their leaning context (McCann & Turner, 2004; McCombs, 2001; Paris & Paris, 2001; Patall, Vasquez, Steingut, Trimble, & Pituch, 2016; Perry, 2013). For example, choices with opportunities for learners to interpret task requirements in relation to their interests, strengths and challenges, can activate their metacognition and are more likely to foster learners’ SRL engagement (Perry & VandeKamp, 2000).

Control over challenge describes the opportunities learners have to adapt tasks to their ability, interests and learning needs (McCaslin et al., 2006; Perry, 2004). Choices empower students to control the level of challenge they can engage in as determined by their task perception and understanding. For example, students can control challenge by deciding on what to work on (e.g., choice of topic to write); whom to work with (e.g., peer with a similar topic); and where to work (e.g., sitting on the carpet, going to a quiet corner). Students can take ownership of their learning when given opportunities to make meaningful choices and exercise control over challenge. Students who feel ownership of their learning tend to engage more in effective forms of learning and exert extra effort to persist in challenging moments (Stefanou, Perencevich, DiCintio, & Turner, 2004).
**Fostering self-evaluation.** Self-evaluation is a process of judging one’s current performance against a set goal or standard, and the corresponding reaction to the judgment for future improvement (Schunk, 1998). Fostering self-evaluation empowers students to monitor their learning goal, engagement, and progress; and, to make changes for future engagement based on their learning outcome (Perry, Hutchinson, & Thauberger, 2008). Students’ self-evaluation is helpful in supporting their analysis of what they and others are bringing to learning context and are constructing during learning engagement. Research has shown that self-evaluation is instrumental to the improvement of learners’ engagement in SRL and achievement (Perry, 1998; Perry, Thauberger, & Hutchinson, 2010; Schunk & Zimmerman, 2008).

**Offering teacher support.** Teachers play an important role in enhancing students’ engagement and achievement by offering varied kinds of instrumental support. Teachers’ instrumental support is assistance to students towards the development of necessary metacognitive tools, strategies and skills for an independent engagement in effective forms of learning. For example, educators can scaffold students’ engagement in cognitive and metacognitive processes by modeling how to connect ideas and concepts across contexts and subjects (Bozack et al., 2008). Teacher supports could be embedded in classroom teaching activities in the form of co-regulation of learning where control over regulatory processes fluctuates between the teacher and the student for an eventual independence (Mccaslin & Burross, 2011).

Research shows that teacher support provides opportunities for learners’ development of and engagement in SRL and academic achievement (Anyichie, 2017; Perry, Phillips, & Hutchinson, 2006). A study on the effects of scaffolding the development of SRL on students’ solving of word problems in maths demonstrated that students that received scaffolding on application of SRL strategies outperformed their counterparts who did not receive the same support from their teachers (Anyichie & Onyedike, 2012; Anyichie & Butler, 2015).
Providing opportunities for peer support. Peer support describes the assistance students give and receive from other peers while serving as resources to each other both as a group and as individuals. Teachers can provide opportunities for peer-to-peer instrumental support by designing classroom activities that require students to share information, knowledge, experiences, or learning strategies, and provide help for solving a task. In this way, peer support creates an environment for interaction, help-seeking, co-regulation and socially-shared regulation (see next section) in collaborative learning that increases students’ SRL engagement (Hadwin & Järvelä, 2011). Studies have found that student-led classroom group activities can encourage peer interactions through peers’ explanatory questionings that can sustain their engagement in high-level co-regulation (Volet, Vauras, & Salonen, 2009).

Self-Regulation of Learning across Cultural Contexts

SRL and its promoting practices seem to hold some benefits including student engagement and achievement across cultural groups (Bembenutty, 2005; McClelland & Wanless, 2012; Clelland et al., 2015; Nota, Soresi, & Zimmerman, 2004). That said, cross-cultural studies document variations in students’ understanding and control of regulatory processes. For example, there are research findings of both similarities and differences across cultures in students’ conceptions and approaches to learning including use of SRL strategies and skills (Olaussen & Bråten, 1999; Purdie & Hattie, 1996, 2002; Purdie, Hattie, & Douglas, 1996; Zhu, Valcke, & Schellens, 2008), patterns of SRL processes in terms of individual and social orientations (Shi, Frederiksen, & Muis, 2013), and motivational and engagement processes (King & McInerney, 2016).

For example, in their study with Japanese and Australian secondary school students, Purdie and Hattie (1996) found out, using a survey, that students from both cultural groups used self-evaluation and environmental restructuring in regulating their learning. However, there were some cross-cultural differences in students’ patterns of strategy use as determined by their beliefs and
values. For example, although memorization is discouraged in Australian schools, high-achieving Japanese participants in this study reported using memorization because they believed that repetition aided their understanding. This finding points to the potential influence of cultural beliefs and values on the study tactics students choose; and the need to consider social, cultural and learning contexts in SRL research (Zhu et al., 2008).

In another study, Shi et al., (2013) investigated the pattern of SRL action orientations of Chinese and Canadian students who were randomly assigned to work together in pairs comprising: (1) Canadian pairs (representing an individualistic culture); (2) Chinese pairs (representing a collectivist culture); or (iii) Mixed Chinese-Canadian pairs. Video records of conversations were transcribed and then coded to identify SRL actions within each dyad either as individually or socially oriented. The study found cultural differences in orientations towards SRL processes as manifested by each dyad. For example, Chinese pairs were less likely to adopt individually-oriented actions while Canadian pairs used a higher percentage of individually-oriented SRL actions in comparison to socially-oriented SRL. Mixed Canadian-Chinese pairs were similar to Canadian pairs in the proportion of individually-oriented SRL actions relative to socially-oriented SRL actions. This pattern of SRL actions of mixed Canadian-Chinese pairs, reflecting the Canadian pairs, showed evidence of acculturation implying that people can develop multicultural identities in a multi-cultural society (McInerney, 2008). However, the individual Chinese participants in the mixed pairs, consistent with their home cultural values, regularly stressed socially-oriented SRL actions.

Consistent with previous research (e.g., Volet, Summers, & Thurman, 2009; Grau & Whitebread, 2012), Shi et al. (2013) concluded that within a collaborative learning context, learners may manifest individually- or socially-oriented SRL actions depending on their contextual goals. Nevertheless, sociocultural factors including students’ cultural expectations and values, together with the structure of their learning activity and environment, intersected in influencing their regulatory actions.
So far, the scant cross-cultural SRL studies are converging to suggest that students’ beliefs about knowledge construction and learning approaches influence their regulation of learning engagement (Bråten & Strømsø, 2005). Given the paucity of SRL research within authentic learning environments and especially among culturally diverse learners, there is need to conduct a SRL study with students from wider cultural groups (McInerney, 2011).

**Summary: Strengths and Limitations of SRL Research**

In sum, studies are converging to suggest that self-regulation cuts across demographic boundaries (McClelland & Wanless, 2012). Research also has identified classroom practices and activities that support students’ self-regulation of learning (Perry, 2013; Perry & VandeKamp, 2000). Specifically, research has shown that SRL is a precursor to student engagement and academic achievement (Wolters & Taylor, 2012; Zimmerman, 1990; Zumbrunn, Tadlock, & Roberts, 2011). However, research reports cross-cultural variations in the nature of and goals underlying students’ regulatory, motivational and engagement processes, patterns of SRL actions and use of SRL strategies during learning activities (King & McInerney, 2016; Purdie and Hattie 1996; Shi et al., 2013; Zhu et al., 2008). Different perspectives and models have described individual-context dynamic relationships with regards to students’ learning engagement, but less empirical research has been conducted on the benefits of SRLPPs in supporting students from different cultural and linguistic backgrounds. Therefore, research that considers the potential of pulling ideas together from CRT and SRL to create classroom contexts that support culturally diverse learners’ engagement is worthwhile.

**Integrating CRT and SRL Frameworks: Creating Supportive Classrooms for Culturally Diverse Learners**

The main purpose of this research was to examine the benefits and challenges of classroom environments that integrate CRPPs and SRLPPs in order to support culturally diverse learners’
engagement in learning. An overlap exists between the features of culturally responsive classrooms and SRL-pedagogical practices. For example, both CRT and SRL emphasize the influence of individual-context relationships on student engagement and share recommended pedagogical practices such as creating a safe and caring environment to foster social interaction and group learning. Although they stress different aspects of the individual-context relationship, integration of their pedagogical practices might be helpful in creating an engaging classroom in support of culturally diverse learners. Therefore, this section explores the possibility of integrating CRT and SRL frameworks to optimize all learners’ engagement in today’s multicultural classrooms. To that end, I use a sociocultural theory as a sensitizing lens for drawing ideas together. In addition, I also build from Butler and Cartier’s (2018; Cartier & Butler, 2016) situated model of SRL to examine in particular how to proactively design culturally responsive practices that blend attention to students’ SRL engagement in the classroom context.

**Sociocultural Perspectives on Learning**

Sociocultural perspectives on the study of human learning and development have advanced our conceptual understanding of culture and learning, as well as about methodologies for studying learners in context. For example, sociocultural perspectives have helped shift from the idea of assigning people to a particular fixed and distinct category of culture or ethnicity to an understanding of culture, learning and development as dynamic processes that change over time through constant interaction between the individual and their social and cultural context (Bang, 2015). Understanding of these dynamic processes involves focusing attention on how people generate meaning, ideas, and problem solving skill within the context of everyday social interaction (Nasir, Rosebery, Warren, & Lee, 2006). This shift is necessary because individual processes cannot be studied in isolation from cultural processes or the environmental context (Rogoff, 2003).
The Russian psychologist Lev Vygotsky’s (1978) sociocultural theory (SCT) of learning suggests that learning is situated in context. SCT is one of the lenses through which we can understand self-regulation of learning in a way that enables generating practices that are culturally driven and relevant to the learner’s experiences and background. According to Vygotsky, learning is a sociocultural activity that takes place within social interaction through mediational means (Kozulin, 2003). Vygotsky viewed cognition not only as an individualistic phenomenon but also as having a social, historical and cultural foundation. He focuses on how sociocultural factors such as a child’s community, parents, teachers, and peers interact with the child’s maturing functions (e.g., thinking and speech) to impact learning and development. Social interaction facilitates an “…individual’s transition from a social influence outside the individual to a social influence within the individual…” (Vygotsky, 1960, p.116 as cited in Wertsch, 1985). This transition is explained through the process of internalization (i.e., the transformation and appropriation of the social experiences in a way that is meaningful to the individual). Vygotsky, further, described how internationalization occurs within an individual’s zone of proximal development (Wertsch, 1985).

Zone of proximal development and child development. Vygotsky (1978) defined the zone of proximal development (ZPD) as “…the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers” (p. 86). The ZPD exposes immature but maturing abilities and processes that will fully develop through the assistance of a more capable person, and through collaborative actions, such as leading questions and demonstrations (Chaiklin, 2003; Tappan, 1998). Children master their behavior by collaborating with more knowledgeable or more competent others that lead to the development of higher mental functions (Gredler, 2009). This means that “what a child is able to do in collaboration today he or she will be able to do independently tomorrow” (Vygotsky, 1987, p. 211). Focusing on the ZPD
helps to identify the child’s maturing psychological functions (e.g., thinking, speech, voluntary memory, perception) that are needed for the transition from the current to the next period of the child’s development to develop functions that are needed for that change (Chaiklin, 2003).

**Social origin of self-regulation.** In this section, I examine the understanding of self-regulation as socially constructed, and cultural and environmental influences on self-regulation. At the same time, I weave in descriptions of how other researchers have tried to understand self-regulation of learning and its development especially within social contexts.

Self-regulation as described earlier involves the ability to control thoughts and behaviours to achieve a personal goal (Zimmerman, 2008). Self-regulation as a human behaviour has a social origin and influence as children develop their self-regulative capacities through their interaction with more knowledgeable others (Vygotsky, 1978; Wertsch, 2008).

**Self-regulation as socially constructed.** Drawing on sociocultural perspectives, researchers (e.g. McCaslin, 2009; McCaslin & Burross, 2011) have advanced our understanding about how regulatory processes are socially constructed during multiple interactions existing among individual, social and cultural processes, and how these interactions influence engagement as regulatory processes unfold. For instance, children’s self-regulation develops through exposure to social and cultural norms, and guided participation in the activities of their cultural communities (Rogoff, 2013). While interacting with others, children continuously develop their understanding of cultural values together with other’s expectations of them. The internalization of cultural values and expectations influences the child’s development of agency beliefs and exercise of regulatory processes (Trommsdorff, 2009). The fluctuation of regulatory control between other- and self-, during social interaction, shapes the child’s exercise of voluntary control of regulatory process. This control eventually reshapes the quality of engagement in the social interaction. In their study on students’ socially constructed motivation regulation in collaborative learning, Järvelä and Järvenoja
found out that while working with others in group activities, children made an effort to regulate their and others’ engagement by activating these socially and culturally shaped values.

Individuals exercise their agency during social interaction, but the understanding of “self” as ‘I’ or ‘we’ during the regulatory process and the reasons for the exercise of agency might differ across cultures. Priority can be given to either interdependent self, that is, the understanding of self as being in relation and connected to other, or independent self that is focused on individual’s own existence (Kitayama, 2000; Markus & Kitayama, 2010; Oyserman, 2007). The difference between prioritizing an interdependent- or independent-self accounts, in part, for the impact of the sociocultural context on the development of self-regulation. Agency might not be understood as an attribute or property of an isolated individual, but exercise by an individual in context; that is, an individual operating with mediational means provided by the sociocultural setting (Wertsch, Tulviste, & Hagstom, 1993). Thus, an individual’s exercise of agency is influenced by their sociocultural context.

**Cultural and environmental influences on self-regulation.** The different features of a child’s culture, including values, beliefs, physical situations, and customs, provide the context for the child’s learning and development (Jegede & Aikenhead, 2006; Super & Harkness, 2002) since human development is context bound, unfolding within the system of meanings generated in a specific culture (NSamenang & Lo-oh, 2010). A child engages in making meaning through interactions with multiple contexts and acting in social settings of a particular cultural context (Cole, 1996; Trommsdorff, 2009). Hence, there is a constant interaction between a sociocultural context and development of self-regulation especially during participation in group activities. This interaction is evident in the interdependence between self and social processes, and the interdependence between psychological processes (Cole et al., 1978). For example, students make decisions about their learning engagement in group activities by activating socially internalized factors such as their
perceived social status, perceptions of other students’ cognitive processes, and their perceived role and identity in the group (Anderson, Thomas, & Nashon, 2009; Nolen et al., 2015). These factors mediate learning participation as the individual transforms them into an independent tool for shaping and reshaping learning engagement within a classroom activity.

Social forms of regulation. Regulation of learning is not all about the independent forms of learning as it is often perceived, but it is also a social form of learning (Zimmerman, 2015). The understanding of learning engagement as shaped by the interaction between the individual and multiple layers of contexts (e.g., from classrooms to communities) (Butler & Cartier, 2018) is relevant in supporting student engagement in culturally diverse classrooms. To tease out the dynamic relationship between individuals and context, researchers are currently expanding inquiry to study the social aspects of self-regulated learning (Hadwin & Järvelä, 2011; Järvelä & Järvenoja, 2011; Jarvela, Volet, & Jarvenoja, 2010). For example, researchers are considering what learners are bringing into the learning context such as prior knowledge, beliefs, strengths, limitations and so on, and how those shape and influence their successful learning engagement (Anderson et al., 2009; Butler & Cartier, 2005). But these researchers are also trying to capture how the learning processes unfold within social interaction without losing the individual and collective agency and processes that shape engagement. For example, Anderson et al., (2009) studied 26 high school students’ perception of factors that influence and shape their learning processes during biology field trip. They examined three case groups based on video and audio recording of their group interactions, interviews and field notes. Their analysis of students’ participation and experiences in small group learning contexts showed that the social context in which the students were living influenced their meaningful engagement.

Learning environments can create a context with opportunities for social forms of regulation (Zachariou & Whitebread, 2017). In those contexts, students bring and share their cultural values and
experiences that constantly shape and reshape their and others’ engagement and participation in learning activities (Järvelä & Järvenoja, 2011). Social forms of regulation including co-regulation and socially shared regulation are associated with student engagement.

**Co-regulation of learning.** Drawing on SCT, researchers have used the term co-regulated learning to describe the dynamic and constant relation between participants and context (e.g. Hadwin & Järvelä, 2011; McCaslin & Burross, 2011; McCaslin & Hickey, 2001). Building on Vygotsky’s notion about the social foundation of higher mental functions and processes including thinking and language (Vygotsky, 1978; Wertch, 1991), McCaslin (2009) uses the term co-regulation to describe how an individual’s internalization of cultural influences and participation in learning activities is supported by the social environment. Co-regulation of learning involves sharing responsibility for regulatory processes between the learner and a more knowledgeable other such as a parent, teacher, coach or peer. Teachers and peers can co-regulate each other’s engagement in a learning activity. For example, immigrant students can co-regulate learning with the teacher and other peers by sharing learning strategies, ideas about restructuring class participation structures and redesigning instructional activities based on their previous learning experiences. Over time, through scaffolding in learning activities, regulatory control can be transferred from the other to the learner (Hadwin, Wozney, & Pontin, 2005). Co-regulation enhances students’ participation is group learning activities.

Volet, Summers, et al., (2009) conducted research on the nature and processes of co-regulation in collaborative learning activities. They focused attention on how high-level co-regulation emerges and is sustained in collaborative learning. They video-taped 18 science students working on a case-based project. Their exploratory qualitative analysis revealed that students’ engagement in high-level co-regulation is fostered in collaborative learning environments where students see each other as co-learners working together for co-construction of knowledge.
**Socially shared regulation** describes the process where regulatory responsibilities are shared among group members working together in a collective activity (Hadwin & Järvelä, 2011). When engaged in socially-shared regulation, group members collectively regulate their engagement through co-constructing their task understanding, setting group goals and standards, and planning and monitoring their progress together towards the achievement of their shared goals (Butler et al., 2017; Järvelä & Hadwin, 2013; Hadwin & Oshige, 2011; Volet, Vauras, & Salonen, 2009). Within socially shared regulation, multiple perspectives are negotiated, and cross-cultural ideas can be shared with a view to completion of a joint activity. Although group-level regulation is the target of socially shared regulation, research on the role of regulatory processes in collaborative learning shows evidence of both individual and group regulation that facilitate socially shared regulation (Järvelä & Hadwin, 2013). For example, Grau and Whitebread (2012) studied episodes of self and social regulation of 8 children during collaborative activities. In their multiple and embedded case study, they video-taped 5 sessions of collaborative learning of two groups of these children throughout a semester. The studies incorporated both individual and group as the unit of analysis with evidence of interaction between individual and social regulation. Through sociocultural discourse analysis of episodes of shared regulation, the study demonstrated how the participants engaged in talk and collective thinking resulting in shared understanding and regulation of their collaborative activity.

**Summary**

To summarize, sociocultural perspectives on learning describe self-regulation as a human activity that is socially constructed (Järvelä & Järvenoja, 2011), develops through social interaction, and reflects guided participation in the activities of one’s cultural communities (Rogoff, 2013). Children construct meaning through their interaction with social and cultural environments. Through internalization, individuals transform their experience of social and cultural activities into internal functions for independent meaning making processes. While working together, learners activate these
internalized social and cultural values to regulate theirs and other’s participation. Current research on social forms of regulation including co-regulation and socially shared regulation are unravelling how individual and context interactions are shaping and reshaping learners’ engagement and participation in learning activities (e.g., Hadwin & Järvelä, 2011; Hadwin & Oshige, 2011; Hadwin, Wozney, & Pontin, 2005; Järvelä & Hadwin, 2013; Järvelä & Järvenoja, 2011; Järvelä, Kirschner, et al., 2016; Järvelä, Kirschner, Panadero, & Malmberg, 2014; Mccaslin & Burross, 2011; Panadero & Järvelä, 2015; Volet, Vauras, & Salonen, 2009). Classroom activities with opportunities for social interaction, as well as activation of social and cultural values, can facilitate learners’ development and self-regulation of learning. Overall, learning environments that create opportunities for students to participate in social and cross-cultural interactions including individual and social forms of regulation, might offer greater help in supporting culturally diverse learners’ engagement in effective forms of learning.

Based on sociocultural perspectives, both CRPPs and SRLPPs connect in addressing culturally diverse learners’ needs by creating a learning environment informed by their principles and practices in response to learner-context relationships. However, to complement this analysis of theoretical convergences, we need a framework that will help in integrating CRPPs and SRLPPs in a way that can support culturally diverse learners’ active learning. Application of a SRL framework might achieve the goals of both CRT and SRL among diverse learners by fostering their deliberate control over their learning engagement and the achievement of personal and social goals as defined by their sociocultural and learning contexts.

**Framework for Integrating CRPPs and SRLPPs**

While sensitized by SCT as a theoretical lens, this study was also informed by a situated model of SRL emerging from the work of Butler and colleagues (e.g., Butler & Cartier, 2018; Cartier & Butler, 2016) to serve as the foundation for integrating SRPPs and CRPPs. I chose to rely on this
model because of the complementarity between sociocultural and situated perspectives of learning; and because of its flexibility to accommodate the overlap between CRPPs and SRLPPs.

Building on the understanding of learning as socially situated in context, sociocultural and situated perspectives of SRL both try to understand and explain individuals’ behaviour as they participate in historical, social and cultural contexts (John-Steiner & Mahn, 1996; Nolen et al., 2015 Palincsar, 1998). A sociocultural perspective focuses on interpersonal interactions within social and cultural contexts, and how the social environment supports participation in sociocultural activities (Nolen & Ward, 2008). A situated perspective foregrounding the context including school and classrooms together with task structures, other people and pedagogical designs can help to understand the interdependent relation between individual and group regulation in context (Järvenoja, Järvelä, & Malmberg, 2015; Turner & Nolen, 2015). So, just as a situated perspective emphasizes how learners’ (co-) constructed knowledge is situated within a social context, sociocultural theory emphasizes how co-constructed knowledge is shaped and mediated by social and cultural contexts. These perspectives, similar to CRT that foregrounds contextual influences on learning, complement each other in advancing knowledge about engagement and the regulatory processes in learning contexts including cultural responsive classrooms.

In addition, SCT elaborates how social and cultural contexts in which learners are living and working continually shape what they are bringing to the learning context, and how that influences their learning engagement in SRL. Similarly, Butler and Cartier’s (2018; see also Cartier & Butler, 2016) situated model of SRL helps us to understand how qualities of intersecting layers of the broader context (e.g. historical, social, cultural and community) and local context (e.g. home and classroom environment) interact in shaping learners’ engagement and knowledge construction. The next section highlights the main features of Butler and Cartier’s situated model.
A Situated Model of SRL

Butler and Cartier (2018)’s situated model (See Figure 1) describes how students’ engagement in SRL is contingent on: (1) individual-context interactions; (2) learners’ constant appraisal of the learning context as well as their emotional and motivational experiences; and (3) learners’ strategic engagement in cycles of SRL (Butler, & Cartier, 2018; Cartier & Butler, 2016). This section elaborates on these key ideas in Butler and Cartier’s situated model of SRL and how they help in pulling together CRPP and SRLPP.

Figure 1. A model of SRL as Situated in Context (Butler & Cartier, 2018; Cartier & Butler, 2016). Used with permission.
**Individual-Context Interactions**

Butler and Cartier’s situated model captures how SRL engagement emerges from the intersection between what learners are bringing to classrooms, including their histories, social and cultural experiences, and the multiple layers of context in which they are living and working. These contexts range from local to broader sociocultural environments (e.g., provincial or state curricula, expectations of parents and teachers in a particular community or school). Expanding on the local contexts, this model pinpoints two contextual influences in the school and classroom environment on SRL: (1) teaching and learning activities, such as how classroom activities are designed and how assessment practices and supports for SRL are embedded within them; and (2) educators’ dynamic supports as students’ engagement in cycles of SRL unfolds. Dynamic support for SRL could happen across multiple contextual levels such as home or school environments as in the case of homework assignments. In sum, this model stresses the influence of the dynamic relation between individuals’ histories and multiple layers of interacting contexts in shaping students’ engagement in SRL (Butler, & Cartier, 2004; 2016).

**What learners bring to a learning environment/context.** According to Butler and Cartier's (2018) situated model of SRL (see Figure 1), learners bring to classrooms their histories including prior knowledge and experiences from other learning contexts such as their home country and schools, strengths and challenges, cultural identities and beliefs, languages, metacognitive knowledge and work habits. The internalized aspects of histories grounded in students’ social and cultural contexts influence the quality of their learning engagement both while working alone or with others. By fostering a community of learners, SRLPPs aligned with those suggested by CRT, create safe and non-threatening environments that accommodate multiple zones of proximal development as represented by the student diversity, and in that manner, promote engagement in effective forms of
learning. By paying attention to the histories learners are bringing to the learning context, a situated model creates the context for addressing the needs of students from diverse cultural backgrounds.

**Contexts.** SRL is a social process that is mediated by multiple layers of social and cultural contexts (Butler & Cartier, 2015; Ginsberg & Wlodkowski, 2015). What the individual learner brings to the learning environment is always interacting with multiple features of their home, community, cultural, school and classroom contexts (Orellana & Bowman, 2003). For example, a student from a competitive culture or who has learned within a school and a classroom environment that emphasizes achievement and performance goals over learning goals might have a history of choosing simple and familiar tasks in order to gain high grades. A student with this history might engage in shallow learning and focus more on high-grade achievement as opposed to achieving a deeper level of learning and understanding. The competitive history of this student might also hinder engagement in social forms of regulation that require collaboration with other students.

Consistent with SCT that emphasizes the contextual influence on learning, Butler and Cartier’s situated model of SRL (Figure 1) describes two levels of contexts that influence learners’ engagement in learning including: (1) sociocultural, historical and community contexts, and (2) school and classroom contexts.

**Sociocultural, historical and community contexts** refer to the broader contexts in which the learner lives and works. Students encounter different values and beliefs about education and what counts as schooling in their families and communities, as well as in the broader culture in which they are living (e.g., provincial curricula). In addition, there could be intersecting communities a given learner engages in as well, from the broader sociocultural context (e.g., British Columbia and Canada) and the cultural communities in which students might participate (e.g., within a community where languages and practices are strongly rooted in home cultures).
School and classroom contexts refers to the features of school and classroom environments in which learning processes unfold. As described earlier, Butler and Cartier's situated model identifies two major features that determine the quality of local learning environments in terms of supporting SRL engagement. These include: (1) designing teaching and learning activities, and (2) dynamic forms of supports. Within these two features are located the already described SRLPPs with potentialities of meeting the goals of CRT for students.

Designing teaching and learning activities. Research has documented how SRL-promoting practices support students’ active engagement in learning and academic achievement (Wolters & Taylor, 2012). For example, as identified in Figure 1, educators can facilitate students’ engagement in SRL by designing classroom activities (e.g., a complex task) with opportunities for social interaction. Such tasks create opportunities for engagement in effective forms of SRL (Perry, 2013).

Students can engage in active learning when supports such as scaffolding and modeling of SRL strategies are woven into the class activities as co-regulatory resources for learning. The maturing functions for self-regulation develop more effectively in activities with varied forms of teacher and peer embedded supports. Class activities with assessment practices, including teacher and peer feedback, opportunities for self-assessments and evaluation, can accommodate individual differences and foster learners’ development of strategies for SRL (Perry, 2004; 2013).

Designing activities with SRLPPs has the capacity of eliciting students’ metacognition and integration of their unique histories. At the same time, from a CRT perspective, SRL-supportive activities that are situated in the context of students’ prior experiences can enhance culturally diverse learners’ interest and engagement.

Dynamic forms of support. Students’ regulation of learning is constantly influenced by the interaction between what they bring and the quality of support they receive as their learning progresses. Beyond the embedded supports woven into designed activities, Butler and Cartier’s
(2018) situated model identifies the need for a more dynamic support (e.g., feedback and assessment used formatively) across broader and local contexts as students’ SRL engagement unfolds.

**On-going Appraisals, and Experiences of Emotion and Motivation**

Within the school and classroom context, Butler and Cartier’s situated model of SRL (Figure 1) also foregrounds how students’ engagement in learning is determined by their constant *appraisals of the learning context* as well as their *experiences of emotion and motivation*. For instance, students with a successful experience of solving word problems in math with peers may over time have learned how to work well with others. In the face of a challenging new task, they might appraise the context as an opportunity for help-seeking and co-regulation to accomplish task demands.

Building on their cultural backgrounds and lived experiences, students may also interpret a learning context as either culturally relevant, caring, welcoming, supportive and safe or as threatening, segregating and competitive. This appraisal might be based on their experiences of both the previous and the current learning context. The outcome of the appraisal may impact on their emotional and motivational experiences. A culturally relevant and caring learning environment can both create conditions for effective forms of SRL, by creating a collaborative context that builds students’ self-efficacy, effort and motivation to take risks; and create culturally responsive pedagogy, by building cultural competencies necessary for self-regulation of relationships and negotiations of different cultural ideas to meet desired expectations (Butler et al., 2017). The appraisal and experience of the learning context interact in mediating students’ engagement in SRL (Butler, & Cartier, 2018). For example, a culturally diverse student whose opinions are not honoured might appraise the classroom as unwelcoming, and, therefore, withdraw from participating in class discussions. Also, a student that is bringing a history of poor performances in solving math problems, and who over time has developed learned helplessness might feel stressed when presented with a math problem homework assignment. Appraising the math homework, assessment, and classroom
learning environment as challenging his self-esteem, this student might engage in ineffective forms of regulation through self-handicapping instead of exerting time and effort for active learning engagement in the assignment.

Furthermore, students’ *experiences of emotion and motivation* shape their regulation of learning engagement. However, these experiences like cognitive processes have cultural filters and cannot be fully comprehended outside the context in which they are experienced and expressed. For example, individuals make decisions to engage in things they consider relevant and interesting (Ainley, 2012) and that connect to their cultural background, knowledge and lived experiences (Ginsberg & Wlodkowski, 2015; McInerney, Walker, & Liem, 2011). The direction of energy invested in an activity can be influenced by emotion which is socialized through one’s culture; that is, people learn from their families and environments how to react to certain situations (Ginsberg & Wlodkowski, 2015). Learning environments that are deliberately structured to foster students’ positive experiences and appraisal of learning contexts can create opportunities that support culturally diverse learners’ SRL engagement and achievement. By way of illustration, a particular student can shut down his engagement in the learning process after interpreting a teacher’s feedback in the class as threatening and frustrating. Another student might appraise the same feedback as a learning opportunity with an invitation for hard work, help-seeking and co-regulation with other students in ways that increase active engagement in the learning process. These differences suggest, therefore, that regulation of learning strategies, and experiences and expression of emotion and motivation are likely to differ across persons and sociocultural contexts. Just in time dynamic support is most likely to sustain culturally diverse learners’ engagement.

**Strategic Cycles of SRL**

Central to Butler and Cartier’s situated model of SRL is students’ engagement in cycles of strategic action; that is, interpreting tasks, setting personal goals, planning, enacting strategies, self-
monitoring and self-assessing. Successful students engage in effective forms of goal-directed, strategic action during both solo and group work. To accommodate the impact of social factors on students’ engagement in SRL, the Butler and Cartier (2018; Cartier & Butler, 2017) model highlights students’ need to navigate multiples layers of intersecting contexts of learning including their engagement in individual and social learning processes, together with their emotional and motivational experiences. The model also helps to identify where and how culturally diverse learners might experience challenges and need supports for their engagement.

Although engagement in strategic action is described in a cyclic manner, students do not necessarily follow the same sequence; and so, there are multiple entry points into the cycle. However, self-regulated learners often begin with the interpretation of expectations that is foundational stage for the later phases of the SRL cycle; because other aspects of task engagement such as effective goal setting, strategy, adjustment and adaptation, are based on the task understanding (Butler, 1998, 2002; Winne & Hadwin, 1998). Interpreting expectations involves personal interpretation and understanding of tasks and learning expectations. This step in the process is heavily influenced by what culturally diverse learners bring to the context. For example, students’ previous learning and schooling experiences in other contexts can shape their interpretation of task in ways that might not always align with teacher expectations. Inaccurate and inadequate understanding of a task and expectations (from a teacher’s point of view) can lead to poor goal setting, selection and use of inappropriate strategies (Butler & Cartier, 2004; Winne & Hadwin, 1998); accounting for lack of engagement in effective forms of learning. Fortunately, school and classroom social contexts, for example participation structures, pedagogical practices and a teacher’s expectations, also exert influence on students’ interpretation and further engagement in strategic actions (Helm & Hadwin, 2010). Thus, we can use pedagogical practices that combine SRL and CRT principles to support all learners to understand expectations.
The student’s overall interpretation of expectations as defined by their multiple intersecting contexts determines the kind of goals for meeting the expectations. By setting personal goals, a student decides on the purpose or end point of an action or activity. However, when setting goals and engaging with academic tasks, students choose their priorities as mediated by their experiences within their living and working contexts. Again, how culturally diverse learners set goals is influenced by what they are bringing to contexts. Culturally diverse learners might be more engaged if supported to set goals that are personally meaningful and relevant. For example, by blending SRLPPs and CRPPs, educators might provide choices within environments that allow students to build on their cultural backgrounds, prior experiences and daily life experiences to choose directions for their learning.

Based on personally-set goals, students can plan on the sequence of activities and processes needed for the goal attainment. Planning decisions at this stage reflect the interaction between learners’ previous planning experiences and intersecting layers of contexts. Educators can facilitate diverse students’ co- or socially-shared regulation of goal attainment during the planning stage by creating opportunities for collaboration and guided co-construction of strategies. Weaving together CRPPs and SRLPPs might set the stage for creating a collaborative learning context that not only allows for sharing of cross-cultural ideas, but also helps students to select from a repertoire of their experienced strategies those they consider appropriate for the accomplishment of tasks at hand.

When enacting strategies, students engage in the task by flexibly and adaptively taking up selected strategies as considered relevant to their personal goals and perceptions of expectations. As the strategies are being enacted, the student engages in self-monitoring and self-assessment of the work progression by evaluating the effectiveness of the strategies towards the achievement of goals (Butler & Cartier, 2004). Educators can foster these processes by creating opportunities for students to integrate feedback from teachers, peers and parents. This monitoring and assessment of learning
support students’ growth as they make decisions about *adjustments* for future engagements (Butler et al., 2017). Students’ engagement in cycles of strategic action, as described above, is influenced by the interaction between what they are bringing to the contexts and the layers of their living and working environments.

**Summary**

Butler and Cartier’s (2018) situated model of SRL provides a framework that enables thinking about how culturally diverse learners experience contexts, and how pedagogical principles from CRT and SRL can be integrated to support engagement. For example, the model is useful in that respect by highlighting how what culturally diverse learners are bringing to contexts influences their appraisals of the situation, their interpretation of expectations, the emotions and motivation they experience, and ultimately how they choose to engage in cycles of strategic action. At the same time, the model suggests how SRLPPs and CRPPs can be combined to create culturally supportive classroom environments in which all learners feel like they belong and are included, and how classroom activities, assessments and dynamic supports can be combined to empower all students to learn and be successful. The next section will look at the synergies between CRPPs and SRLPPs.

**Combining across SRL and CRT to Support Culturally Diverse Learners**

The review of literature presented here suggests theoretical and practical synergies between CRT and SRL in their understanding of learning as situated in context, and in thinking through how to generate engaging practices in response to student diversity. Building from both SCT and a situated model of SRL, Figure 2 proposes a culturally responsive (CR)-SRL framework (see also Table 3) for creating classroom learning contexts that will better benefit culturally diverse learners.
Figure 2. A Culturally Responsive Self-Regulated Learning Framework
## Table 3

*An Integrated Framework for Culturally Diverse Learners’ Engagement: Integration of CRPPs and SRLPPs using a Situated Model of SRL*

<table>
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<td><strong>Classroom foundational practices</strong></td>
<td>Creating a safe and supportive learning environment. Knowing students’ history, i.e. what students bring to the learning context including: - prior knowledge, - metacognitive knowledge, - identities, - conceptions, - experiences, - strengths, - challenges, - interests, and - work habits.</td>
<td>Knowledge of learners. Establishing safe, caring and supportive learning environments by: - building community of learners, - creating positive, non-threatening spaces for learning, and - and establishing clear classroom participation structures. Establishing cross-cultural communication.</td>
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Classroom foundational practices. Building on CRT and SRL literatures, *classroom foundational practices* are those things educators put in place while setting up the classroom context to set the stage for effective implementation of teaching and learning activities. Examples of foundational practices include: (1) fostering knowledge of learners; and (2) creating caring, safe and supportive environments.

**Knowledge of learners** describes what teachers can do to get a better understanding of their students’ histories and what they are bringing in the classroom context (e.g. prior knowledge, cultural backgrounds and daily life experiences, metacognitive knowledge, identities, conceptions, work habits, strengths and challenges); and support students’ knowledge of themselves and others (e.g., ice breakers, a know yourself game, background surveys, etc.).

**Creating caring, safe and supportive environments** describes all activities for creating an atmosphere where all learners feel welcome, belonging and ready to take risks. Creating such environment involves building a community of learners (e.g., by fostering student cohesion through group work and learning buddies); creating positive, non-threatening spaces for learning by establishing clear classroom participation structures (e.g., by co-constructing class guidelines for accountability, establishing clear expectations and working instructions, such as when and how to ask questions or access teaching and learning resources); and, accommodating cultural diversity (e.g., by sharing ideas around teacher/student cultural backgrounds, celebrations, interests including similarities and differences) (See Tables 1 & 2). Educators can also build strong supportive and inclusive learning communities by having students present something about the structure of their previous learning environment, cultural heritage such as ways of knowing, sharing stories and books about their culture, celebrations, interests, and favorite playful activities.

A safe and caring environment creates a social space for collaboration, cross-cultural communication, interrelationships, respect for individuals’ perspectives, appreciation of multicultural
awareness and celebration of diversity as opportunity for learning (Gay, 2013). The sense of belongingness experienced within a learning community elicits learners’ motivation and willingness to engage in classroom discussions (Ginsberg & Wlodkowski, 2015), facilitates their engagement in social forms of learning, and supports their development of SRL strategies (Beishuizen, 2008). Culturally diverse learners are likely to feel welcomed, connected and motivated to learn in an environment that acknowledges their histories, ways of being and represents their cultural elements, artifacts, and symbols. For example, schools can have students’ national flags and religious symbols in school premises, include students in translating the school’s motto into different languages, and include samples of students’ cultural artifacts on the class walls.

Classroom foundational practices (Table 3), as described above, are beneficial for both teachers and students. These practices create the background for teachers and students to become more aware of their and each other’s cultural backgrounds, learning approaches and beliefs about education (Gay, 2010) which are critical for self-management and the self-regulation of relationships (Butler et al., 2017). This metacognitive knowledge of differences in cultural beliefs and expressions tends to reduce cultural tensions, helps students in navigating multiple layers of cultural contexts, and increases social interaction as well as diverse learners’ active participation in the learning process, especially during collaborative learning activities. Culturally diverse learners can thrive in a classroom environment that allows their creation of cultural practices and tools that shape their engagement with the learning environment.

**Designing CR-SRL Pedagogical Practices.** CR-SRL pedagogical practices describe a hybrid or an integration of culturally responsive pedagogical practices (CRPPs) and SRL-promoting practices (SRLPPs). These practices are at the hub of this framework. SRLPPs including task that are “complex” in design (e.g., an inquiry-based project) allow opportunities to build in practices informed by CRT and SRL principles; and can foster deeper learning engagement in both personal
and social forms of learning. To accomplish a SRL-supportive complex task, students have varied opportunities to engage in meaningful connections between their prior knowledge and experiences about the topic and to integrate their cultural perspectives in ways that can advance their knowledge (co)-construction. For instance, an animal research project (e.g., on animal habitation or adaptation) that provides students with choices to pick an animal to research, collaborate with peers or not, consult or ask someone within their cultural community to participate, and about how to demonstrate their knowledge can offer multiple opportunities and embedded support for regulation of learning engagement. In this animal project, a culturally diverse student can easily integrate prior knowledge and cultural experiences about an animal of interest while navigating multiple layers of intersecting contexts. The choice of making decisions involved in completing a complex task enables culturally diverse learners to exercise control over the level of challenge, access their cultural tools, and engage in critical thinking and evaluation as suited in their context.

Complex tasks can develop culturally diverse students’ capacity for voluntary control in the use of their socio-culturally acquired tools in directing their learning behaviours towards the achievement of personal and social goals; and, thereby, responding to environmental demands and expectations. In the same token, the implementation of CRT principles can increase all learners’ cultural competence and metacognitive knowledge of the cultural tools they are bringing to the learning context. Depending on how SRL unfolds, cross-cultural knowledge has the potential to accommodate student diversity by creating opportunities for independent and interdependent learning activities; and, with supports for students’ regulation of interpersonal interactions during group tasks engagement (Butler et al, 2017).

In sum, designing teaching and learning practices including CRPPs and SRLPPs can empower all learners to take ownership of their learning by creating opportunities for the integration of student’s interests, voice, collaboration and cross-cultural competence. Students’ autonomous
motivation and engagement is increased when they feel the sense of having a voice and control of their learning experiences (Butler et al. 2017; Toshalis & Nakkula, 2012). Finally, a deliberately designed integrated CR-SRL activity (e.g., an inquiry project) might bridge the gaps between the classroom culture and students’ home cultures, thereby, increasing students’ sense of belonging, cultural competency and engagement (Ladson-Billings, 2001; Lawrence-Pine, 2015). Such activities might help teachers to access and generate social and cultural information about how to offer dynamic support to forestall breakdowns in learning engagement.

**Dynamic supportive practices.** These practices describe those supports that are offered to students while their learning unfolds (Butler & Cartier, 2018; Cartier & Butler, 2016). Dynamic support practices include: support for SRL and social forms of regulation (e.g., scaffolding, modelling, co-regulating); emotional support; formative assessments including feedback from peers, teachers and parents (e.g., pointing out what can be added to improve an on-going project) and evaluations (e.g., completing self and peer assessment forms based on rubrics).

Teachers can empower learners’ ownership and enhance their engagement by co-regulating students’ SRL engagement (Butler, et. al., 2017). By modelling and scaffolding students’ engagement in SRL (Azevedo & Hadwin, 2005; Shih, Chen, Chang, & Kao, 2010), in ways that accommodate diverse students’ ZPDs, educators can empower students’ control over the dynamic interaction between their histories and different layers of their living and working contexts. For example, teachers can co-regulate culturally diverse learners’ SRL engagement by facilitating their making connections between task requirements and their cultural backgrounds and interest.

Furthermore, providing opportunities for assessment and feedback is helpful in developing students’ mental functions and metacognitive knowledge about how to push their learning forward (Butler, & Cartier, 2018). During task engagement, students generate internal feedback as part of self-monitoring and self-assessment processes. However, educators can facilitate students’ deeper
self-regulation of performance and engagement through external feedback and other supports from teacher (e.g., emotional support), peers and parents (Lam et al., 2016; Nicol & Macfarlane-Dick, 2006). For example, parents’ involvement in students’ homework can influence students’ engagement and adaptive achievement beliefs (Bempechat & Shernoff, 2012). Parents can foster students’ internalization of cultural tools for the regulation of their independent learning by scaffolding learning strategies and problem-solving techniques with and for them. Learners can succeed effectively if they are supported to connect classroom activities to their daily life experiences and personal interests.

The application of multidimensional feedback and formative assessment practices can also enhance culturally diverse learners’ engagement. Assessment measures such as interviews and observations that consider learners’ broader context (e.g. sociocultural background and experiences) and local context (e.g. school and classroom practices and activities) have opportunities to increase students’ reflection about their learning engagement (Butler & Cartier 2018; Cartier & Butler, 2016; Rhodes, Ochoa, & Ortiz, 2005). For example, diverse learners’ inquiry-based projects could also be assessed by asking them to reflect on the meaningfulness and relevance of their work in relation to their interests, their beliefs and the values of home and community environments. Parents and relevant cultural experts from the community environment could be involved in assessment and feedback processes.

The teacher can further engage culturally diverse learners in conversations about designing their learning activities, the relationship between school and their home culture and how that can be improved to support their learning. Involving learners in the formative assessment processes, such as co-construction of assessment criteria; self-assessment; personalization of the criteria; and providing feedback on learning processes and progress, content and outcomes is a powerful way of supporting students’ active learning and engagement.
Finally, a classroom environment that builds on CR-SRL framework has benefits for teachers in developing practices to address the challenges of their culturally diverse learners. Designing and supporting SRL-promoting pedagogical practices with attention to the students’ sociocultural contexts has potentials of supporting these learners’ motivation, engagement and achievement.

Summary

The problems of culturally diverse students including lack of engagement and active learning in regular classrooms in Canada poses a great challenge to both educators and students. To address this problem, I examined both the CRT and SRL literatures to identify potential benefits and connections across their pedagogical approaches in terms of meeting the needs of culturally diverse learners. Building on both SCT and a situated model of SRL as theoretical lenses, I identified how both pedagogies have conceptual and practical convergences. Conceptually, both pedagogies perceive learning as a process involving a dynamic interaction between the individual and context. In practice, they converge in developing and implementing pedagogical practices based on the relation between learners’ histories and their learning context. Building on these convergences, I proposed a Culturally Responsive Self-Regulated Learning Framework designed to build research-based SRL-promoting practices into a culturally responsive environment. For example, classroom practices, such as SRL-promoting practices can be culturally responsive when they are situated within the sociocultural context of diverse learners’ interests, prior knowledge and lived experiences. The outcome of this literature review provided the sensitizing background for a preliminary case study on the benefits and challenges of CRPPs and SRLPPs in supporting teachers and culturally diverse learners in the classroom context.
Preliminary Research

To try out this framework with teachers, I conducted a first, small study (Spring – Summer, 2017) at Queens\(^1\) elementary school located in a multicultural district in British Columbia (BC), a western province in Canada (Anyichie & Butler, 2018a, b). The participants included Ms. Venus (classroom teacher), Mrs. Pauline (teacher candidate), and six out of her 22 students (i.e., those that provided parent consents and assented to participate) in a combined grade 5, 6 and 7 classroom. These six students were diverse in their grades (e.g., each grade had two participants), sex (2 boys and 4 girls), and cultural and linguistic backgrounds (e.g., their first spoken languages include English =3, Korean =1, Spanish =1, and Malayalam =1). Overall, they were fairly reflective of the cultural and linguistic diversity in Ms. Venus’ classroom overall.

Building on “A Culturally Responsive Self-Regulated Learning Framework” (Anyichie & Butler, 2017), as described earlier, Ms. Venus and I co-designed CRPPs and SRLPPs including a CR-SRL inquiry-based learning context (see Appendix A). These practices were designed to connect with students’ cultural backgrounds and experiences, foster their agency and enhance their engagement. I gathered multiple sources of evidence, within a case study design, to address the same three research questions that guided the present study.

Analyses resulted in three major findings. First, results from classroom observations, teachers’ and students’ debriefing interviews, teacher and student final interviews, and a review of project instructions indicated that both Ms. Venus and Mrs. Pauline enacted practices informed by SRL and CRT principles to support culturally diverse students. Nevertheless, the degree to which they enacted practices varied across subjects. Also, findings showed that, especially in the inquiry project, Ms. Venus wove in practices from each of the three main categories of the CR-SRL

\(^1\) All names of schools, teachers and students are Pseudonyms
framework. Second, Ms. Venus described benefits associated with enacting practices in terms of becoming more comfortable in navigating cross-cultural diversity, designing the CR-SRL inquiry-based project, and supporting culturally diverse learners’ outcomes. Nevertheless, she described challenges in: (1) designing CRPPs and SRLPPs across subjects especially in Math based on her class demographics because of the mixed grade of students; (2) implementing the CR-SRL inquiry-based project because of its being complex in design; and, (3) establishing and fostering cultural congruity in classroom teaching and learning because of her students’ young age, which made it more difficult for them to understand and bring their cultural backgrounds to learning contexts. Third, results from an end of study survey, students’ reflections through the inquiry project, and observations of students’ engagement over time showed that culturally diverse students’ engagement was associated with the CRPPs and SRLPPs enacted by their teachers. Also, their engagement was associated with their motivational perceptions; that is, their perceptions of the inquiry project as interesting, enjoyable and important (Anyichie & Butler, 2018 a, b).

Limitations of, and experiences with, this first study shaped the different aspects of methodology chosen for this dissertation. For example, the small sample size (i.e., one classroom and 6 students) did not provide opportunity for cross-contextual analysis. So, I needed to conduct another study with additional classroom and students. Overall, I built on and refined all approaches within the first study that were helpful in documenting teacher practices and relating the practices to students’ participation in those contexts to see their engagement as it unfolded over time.

**Study Context and Focus**

In this study, I collaborated with two teachers to look at how CRPPs and SRLPPs (see Table 3) could be built into a culturally diverse classroom (see Figure 3 below). I focused attention on the overall classroom context, and on one complex task in each classroom (i.e., an inquiry-based project).
In relation to what I have described in this chapter, I was interested, not in analyzing the specific interactions of students and teachers as they engaged in social forms of regulation, but rather in examining: (1) how teachers were building the three kinds of practices identified in the CR-SRL framework (e.g., classroom foundational practices) into a culturally diverse classroom (research question 1), (2) teachers’ perceptions of benefits and challenges associated with enacting CRPPs and SRLPPs (e.g., whether the practices helped them in meeting the needs of diverse learners) (research question 2); and (3) associations between teachers’ practices, students’ perceptions of contextual features (e.g., as challenging, important, or interesting), and engagement (research question 3).
Chapter Three: Methodology

Introduction and Study Overview

The goal of my study was to collaborate with teachers in designing classroom environments supportive of culturally diverse learners’ engagement through the integration of culturally responsive pedagogical practices (CRPPs) and SRL-promoting practices (SRLPPs) and to examine the benefits and challenges an integrated approach might offer for both teachers and students. I used a multiple case study design in addressing the research questions because case study designs allow for an in-depth examination of social phenomena as they unfold in real time (Yin, 2014), and have the potential to advance understanding about how and why contextualized pedagogical practices can create opportunities and supports for students’ engagement and learning performances (Butler, & Cartier, 2018). To this end, building on measures adapted and refined from my previous research (e.g., Anyichie & Butler, 2018a, b), I used mixed methods embedded into a multiple case study design to answer the following questions:

1. What practices, including CRPPs and SRLPPs, did teachers enact to create a supporting learning environment for culturally diverse learners?

2. What benefits and challenges of those CRPPs and SRLPPs did teachers perceive in addressing the needs of culturally diverse learners?

3. How could student engagement in classroom contexts be associated with CRPPs and SRLPPs for culturally diverse learners?

In this study, I conducted two parallel case studies at the classroom level to understand how classroom environments might be created combining CRPPs and SRLPPs, and how those practices might be taken up by students. Figure 4 presents how each classroom level case study included a teacher and all students in the classroom. It also illustrates how I focused particular attention on how the teacher and students in each classroom engaged in one culturally responsive, complex task.
Finally, at the greatest level of specificity, I examined most closely the engagement of a smaller set of students in the complex task.

Figure 4. Classroom Level Case Studies with an Activity as an Embedded Unit of Analysis

To further explain how mixed methods were combined within a multiple parallel case study design to address my three research questions, this chapter begins by discussing the researcher role in the research, including my positionality and ethical commitments. Next, I describe my rationale for using a multiple case study design. Finally, I describe how I conducted the study, including two classroom level case studies, including descriptions of participants, activities, data collection, methods of analysis employed, and establishment of rigour in this study.

**Researcher and Research Positioning**

A better understanding of this study depends on knowledge of the researcher and what I brought into the study. First, I brought to this study the influences of my home culture as shaped by my community, by my grandfather and parents who were all elementary school head teachers, and by the supportive roles played by my siblings. I was born and raised in Eastern part of Nigeria that
traditionally emphasizes the powerful effects of working and learning together in group activities. Children are socialized into the community culture by participating in social and cultural activities. Being a child of classroom teachers, I grew up in a home where school activities were integrated into home activities with my parents creating learning opportunities for personal and group activities among my siblings and cousins. Elder siblings were encouraged to use familial and cultural experiences in helping younger ones in completing homework assignments and understanding other topics of discussion. I experienced great success by engaging in both personal and group homework activities as created and supported by my parents and siblings. It is this experience that influenced my interest in creating learning environments that might provide supportive opportunities for students to connect with cultural backgrounds, interests, and prior experiences.

Second, this study had been informed by my prior academic and professional experiences. As a catholic priest and a classroom teacher, I have experiences of teaching (both in formal and informal settings) and learning in culturally diverse environments. I have formally taught in a high school with students from different ethnic backgrounds in Nigeria where I was also the Dean of Studies. In my capacity as a catholic priest, I have also taught and worked with people from different cultural backgrounds and with diverse experiences not only in Nigeria but also in the UK and Canada. I learned from my experiences in these contexts how social and cultural environments can influence human thinking and behaviours, as well as create potentialities and constraints to learning. In addition, as an international student in multicultural classrooms in Canada, I have experienced disconnects between classroom activities and my prior knowledge, cultural background, and interests leading to my own occasional struggles for an active learning engagement. My perception of disconnects have been a result of differences in teaching and learning structures between my previous learning experiences and what I have encountered, teachers’ presumptions of students’ understanding of classroom and task expectations, and the use of culturally limited resources (e.g.,
use of research articles that are limited to European and North American contexts and experiences). I learned, through my experiences of different cultures, how meaning making processes are socially constructed and context dependent. All these experiences have shaped how I approached my research topic and considered questions about how to support all learners by creating a culturally proactive, relevant, situated and responsive classroom environment drawing from CRPPs and SRLPPs.

The integrated CR-SRL framework as described in Chapter Two is based on my bringing sociocultural and situated perspectives to bear to understand learning, combined with my recognition of the need to understand individual and social processes of learning as situated in context. These theoretical perspectives are also evident in my design, methods of data collection, and approach to analysis. With these personal, professional, and theoretical lenses in mind, I investigated whether and how all learners in culturally diverse environments can be supported in classrooms that allow for individual and group activities and create opportunities for students to connect classroom learning with their cultural backgrounds, culturally driven prior knowledge, interests and experiences.

**Research Ethics**

The proposal for this study was reviewed and received ethical approval from the Behavioural Research Ethics Board (BREB) at the University of British Columbia (UBC), Vancouver. This study followed all the protocols of ethical considerations and approval as established by UBC, and the school districts of the participants (that is, teachers and their students) to ensure that their rights were protected before, during and after conducting this study. The major protocols for consideration, including consent and assent forms (see appendices) were developed to ensure confidentiality and prevention from potential harm for all participants. For example, to forestall the vulnerability of the student participants, I provided one consent and one assent form written in accessible language. For students whose parents/guardians granted consent, they also completed and signed the assent forms.
During the studies in Fall 2017 (i.e., September 2017 – December 2017), all students in each classroom participated in activities as part of their curriculum. As part of my data collection, I gathered evidence based on that classroom work, but only for those with parental or guardian consent. I was very sensitive during my classroom observations to avoid hindering students’ participation in learning activities. Similarly, students were not pressured during interviews to answer questions they were not willing to. I was meticulous in observing the protocols of these ethical considerations to ensure that participants did not experience any harm in this study. To assure participants’ confidentiality, names on all study materials were only seen by the researcher, and participants’ names were later matched with pseudonyms while sharing any information about the study. The processes involved in this research had very minimal risk for the participants as it was primarily conducted within the normal daily class activities (all data collection except for the interviews, which were conducted during breaks and at the corner of the class).

**Case Study Design**

This study employed a multiple parallel case study design involving two teachers’ classrooms as cases to explore the potential and challenges of CRPPs and SRLPPs from both teachers’ and students’ perspectives. Yin (2014) describes a case study as “an empirical inquiry that: (1) investigates a contemporary phenomenon (the “case”) in depth and within its real-world context; especially when (2) the boundaries between phenomenon and context may not be clearly evident” (p. 16). He adds that a case study “relies on multiple sources of evidence” (p. 17). The “case” can be an individual person (e.g., a teacher, a student), an event (e.g., classroom teaching and learning), a classroom (e.g., a grade 1, 2, or 5 class), a practice (e.g., CRPPs and SRLPPs) and so on. Case study is appropriate as a methodological framework for this study because my goal was to explore contextualized, complex phenomena and processes (Butler, 2011; Merriam, 1998; Yin, 2014). Case studies have the potential to address the kinds of complex and dynamic relationships among
individual, social and contextual processes (Butler, 2011, 2016) that were the focus of investigation in this study.

Case study design was also an appropriate choice for this research because of my goal to investigate the processes of implementing CRPPs and SRLPPs and the corresponding outcomes. Researchers in both the CRT (e.g., Aguirre & Zavala, 2013; Harding-DeKam & Ben-Peretz, 2014; Hramiak & Huang, 2015; Orosco & O’Connor, 2013; Gay, 2010) and SRL (e.g., Butler, Schnellert, & Cartier, 2013; Butler, Beckingham, & Lauscher, 2005; Özdemir & Pape, 2012; Ndlovu, Malan, & Engelbrecht, 2014) fields have advanced understanding about pedagogical practices and associated outcomes using case study designs. Case study is valuable for CRT research in gaining an in-depth understanding of how and why students’ backgrounds interact with classroom practices in shaping students’ learning engagement processes and achievement. Similarly, case studies have been employed in SRL research to: (1) explore how and why learners’ histories interact with multiple layers of social and cultural contexts in which they live and learn (e.g., classroom, school, community, home) to influence students’ engagement in SRL; and (2) investigate how contextualized pedagogical practices can enhance learners’ engagement in effective forms of learning (Butler & Cartier, 2018).

Overall, case studies were useful for this study because they allowed me to gather multiple kinds of evidence to answer my research questions. Specifically, doing a case study with the two teachers that designed combined CRPPs and SRLPPs differently in this study enabled me to trace and show the direct links between the quality of students’ engagement and teachers’ activities within a specific context in each of the two classrooms. In addition, having two classes as cases helped me to compare the two teachers’ practices and how those were connected with students’ engagement between classrooms.
Methods

This study used mixed methods integrated through a multiple case study research design. A mixed methods approach describes the deliberate collection of both quantitative and qualitative data in one study to gain a better understanding of a research problem (Creswell, 2009; Creswell, Klassen, Plano Clark, & Smith, 2011). In addition to the acknowledgement of qualitative and quantitative research designs, mixed methods research creates a “third research paradigm” that integrates both qualitative and quantitative epistemologies, as well as their respective techniques for data collection, analysis, and drawing inferences (Johnson, Onwuegbuzie, & Turner, 2007). The rationale for using a mixed methods approach in this study was to allow me the opportunity of drawing from the strengths of both methods to examine the potential benefits and challenges of CRPPs and SRLPPs from both teachers’ and students’ perspectives.

Classroom - Level Case Studies

Parallel case studies of two teachers’ classrooms (see Figure 5 below) were conducted in this research. To conduct the classroom level case studies, I collaborated with two upper-elementary classroom teachers from multicultural schools in BC to create two culturally relevant classroom contexts informed by CRT and SRL pedagogical practices. By working with these teachers, I had an opportunity to understand the potential benefits and challenges of integrating and implementing CRPPs and SRLPPs from the perspectives of the teachers. The classroom level case studies enabled me to observe and document how the teachers enacted practices, and correspondingly, the experiences and perspectives of students in taking up those opportunities for learning. By investigating classroom conditions in relation to students’ engagement and learning, particularly in the context of one culturally responsive complex task in each class, I was able to identify how contextual features related to students’ perceptions and engagement.
Within each classroom, I worked with teachers to design one culturally-responsive (CR) complex task (i.e., an inquiry project) as an embedded unit of analysis. These tasks were designed to integrate CRT and SRL principles. For example, the teachers and I deliberately designed the activities to include opportunities for learners to connect with their prior knowledge, interests, lived experiences, and cultural backgrounds (CRPP) (Gay, 2013). In addition, the tasks were designed to allow learners’ regulation of learning including making choices, exercising control over challenge, self-evaluation, working towards multiple goals, focusing on large chunks of meaning, and engaging over time in individual and social forms of learning (SRLPP) (Perry, 2013). These CR-complex tasks had the potential to act as an ideal context for combining SRL and CRT practices.

**Participants**

I recruited two volunteer teachers (i.e., Joseph and Matthias) and students in their upper elementary school classes (grades 4 and 5 respectively) in schools identified as having multicultural
and multilingual student populations in British Columbia, Canada. The choice of upper elementary classes was to include students with the maturity to articulate their cultural backgrounds and learning experiences. Prior to this study, I was already collaborating with these two volunteer teachers in supporting culturally diverse learners in their classrooms. Prior to data collection in Fall 2017, I explained all the collection measures and processes to both teachers and formally invited them as participants. I provided them with consent/assent forms for themselves, their students’ parents/guardians, and their students (see Appendix F for consent and assent forms). I explained to the students that my study was to investigate with their teachers on how best to support their learning. I then invited all of them to participate and explained that they were free to choose whether or not to participate, and to withdraw from the study at any time without any consequence. Thus, I emphasized that participation was on a voluntary basis.

**Remunerations for teachers.** I gave the teachers a thank you card and $50 gift cards each in appreciation for their participation in this study.

**Teachers’ backgrounds.** Joseph, a 5th Generation (Western European) teacher, between 55 – 60 years of age, had a bachelor’s degree in Education. He had been teaching for the past 25 years including 19 years at St Mary’s elementary. He had taught grades 4 -12. While at St Mary’s he had been teaching grade 4 for the past 9 years.

Matthias, a Caucasian (Western European) teacher, between 40 - 50 years of age, had a bachelor’s degree in Education, and a bachelor’s degree in Arts in English Literature. He had been teaching for 8 years, all of which were at St Victor’s elementary school. Although, he had previously taught K-7, he had been teaching grade 5 for the past 5 ½ years.

In relation to this study, note that both teachers did not have any formal knowledge and experience with designing CRPPs and SRLPPs. In addition, Joseph was experienced with designing an inquiry project, but Matthias had not designed an inquiry project in his class prior to this study.
**Joseph’s classroom.** Joseph’s Grade 4 classroom was situated in St. Mary’s Elementary School (i.e., an independent school) located in a multicultural urban centre in BC. Table 4.1 shows that Joseph’s 31 grade 4 classroom students were between the ages of 8 and 9 and came from linguistically and culturally diverse backgrounds. In this classroom, while 83.9% of the students had English as their first language, 16.1% had first language other than English; and 29% had a home language other than English. Fifty-four percent (54%) of the class had both parents as born in Canada and 45.2% had at least one parent who was not born in Canada. Table 4.2 shows the diversity of student identified first and home languages, countries and ethnicities, and that of their parents.

**Student participants in Joseph’s classroom.** To support identifying links between practices and engagement for the whole class, all students in Joseph’s classroom (n = 31) were invited to participate in the research. The teacher distributed parent consent and student assent forms to the students approximately two weeks prior to data collection. Ultimately 18 students volunteered to participate in the study (i.e., they submitted back their signed assent and parent/guardian's’ consent form). Tables 4.1 and 4.2 show that these participants reflected the linguistic and cultural diversity in the whole class.
### Table 4.1

**Student Demographics in Joseph’s Classroom**

<table>
<thead>
<tr>
<th>Grade 4 Students</th>
<th>Total # of students</th>
<th>M</th>
<th>F</th>
<th>Ages (Years)</th>
<th>First language as English # (%)</th>
<th>First language other than English # (%)</th>
<th>Home language other than English # (%)</th>
<th>Both parents are born in Canada # (%)</th>
<th>Either or both parents are not born in Canada # (%)</th>
<th>Special needs designation # (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Class</td>
<td>31</td>
<td>18</td>
<td>13</td>
<td>8 (9) - 9 (8)</td>
<td>26 (83.9%)</td>
<td>5 (16.1%)</td>
<td>9 (29%)</td>
<td>17 (54.8%)</td>
<td>14 (45.2%)</td>
<td>3 (9.7%)</td>
</tr>
<tr>
<td>Participants</td>
<td>18</td>
<td>11</td>
<td>7</td>
<td>8 (10) - 9 (8)</td>
<td>15 (83.3%)</td>
<td>3 (16.7%)</td>
<td>5 (27.8%)</td>
<td>10 (55.6%)</td>
<td>8 (44.4%)</td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Selected</td>
<td>12</td>
<td>8</td>
<td>4</td>
<td>8 (10) - 9 (7)</td>
<td>10 (83.3%)</td>
<td>2 (16.7%)</td>
<td>4 (33.3%)</td>
<td>6 (50%)</td>
<td>6 (50%)</td>
<td>1 (7.7%)</td>
</tr>
</tbody>
</table>

### Table 4.2

**Students’ Linguistic and Cultural Diversity in Joseph’s Classroom**

<table>
<thead>
<tr>
<th>Grade 4 Students</th>
<th>First language other than English (# of languages)</th>
<th>Home language other than English (# of languages)</th>
<th>Countries of parent(s) born outside of Canada (# of countries)</th>
<th>Ethnicity/or countries of origin (# of ethnicity/countries)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Class</td>
<td>Spanish, Croatian, Portuguese, and Greek. (4)</td>
<td>Italian, Portuguese, Croatian, Greek, and Spanish. (5)</td>
<td>Philippines, Croatian, Italy, Yugoslavia, Greece, Germany, Portuguese, El Salvador, Mexico, Guatemala, and Columbia. (11)</td>
<td>Caucasian, African, Latino, Italian, Southeast Asian, Australian, Scottish, and Trinidad. (8)</td>
</tr>
<tr>
<td>Participants</td>
<td>Portuguese, Greek, and Spanish. (3)</td>
<td>Italian, Portuguese, Greek, and Colombian. (4)</td>
<td>Philippines, Italy, Greece, Germany, Portugal, and El Salvador. (6)</td>
<td>Caucasian/ Canadian, southeast Asian, Italian, African, Latino, and Trinidad. (7)</td>
</tr>
<tr>
<td>Selected</td>
<td>Portuguese and Greek. (2)</td>
<td>Italian, Portuguese, and Greek. (3)</td>
<td>Philippines, Italy, Greece, Germany, and Portugal. (5)</td>
<td>Caucasian, African, Italian, and Southeast Asian. (4)</td>
</tr>
</tbody>
</table>
Selected students in Joseph’s classroom. To gain an in-depth understanding of the students’ learning experiences in the context of a CR-complex activity, we also recruited 12 students, from among the 18 participants, through purposeful sampling. Purposeful sampling involves the deliberate selection and identification of individual(s) who can provide rich information that will allow for a better understanding of the phenomenon and problem of interest in a study (Creswell, 2009; Creswell & Plano Clark, 2010; Palinkas et al., 2015; Stake, 2006). This subset of students was identified through their teacher’s professional judgments as experiencing different levels of engagement (i.e., low, medium and high-level). The teacher’s judgement might be limited by bias and lack of full knowledge of students’ levels of engagement at the beginning of the academic year. The selection of students at different levels of engagement was not meant to provide pre-post comparisons; however, it provided a rough indicator of their engagement, offered an opportunity to consider possible changes and patterns of their engagement in the CR-complex task, and supported cross-case analysis. Again, Tables 4.1 and 4.2 show that these selected students reflected the linguistic and cultural diversity of the class as a whole and the full set of participants.

Matthias’ classroom. Matthias’ Grade 5 classroom was in St. Victor’s Elementary School, an independent school located in an urban centre in BC. Table 5.1 shows that Matthias’ 31 Grade 5 classroom students were between the ages of 9 and 10 and came from linguistically and culturally diverse backgrounds. For example, while 90.3% of the students had English as their first language, 9.7% had a first language other than English.

Many of the students (41.9%) had home languages other than English, 38.7% of the class had parents who were born in Canada, and 58.1% had either or both of their parents born outside of Canada. Table 5.2 shows the diversity of students’ identified first and home languages, countries and ethnicities, and that of their parents.
Table 5.1

*Student Demographics in Mathias’ Classroom*

<table>
<thead>
<tr>
<th>Grade 5 Students</th>
<th>Total # of students</th>
<th>M</th>
<th>F</th>
<th>Ages Years (Months)</th>
<th>First language as English # (%)</th>
<th>First language other than English # (%)</th>
<th>Home language other than English # (%)</th>
<th>Both parents are born in Canada # (%)</th>
<th>Either or both parents are not born in Canada # (%)</th>
<th>Special needs designation # (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole class</td>
<td>31</td>
<td>16</td>
<td>15</td>
<td>9 (10) - 10 (8)</td>
<td>28 (90.3%)</td>
<td>3 (9.7%)</td>
<td>12 (41.9%)</td>
<td>13 (38.7%)</td>
<td>18 (58.1%)</td>
<td>2 (6.45%)</td>
</tr>
<tr>
<td>Participants</td>
<td>25</td>
<td>15</td>
<td>10</td>
<td>9 (10) - 10 (8)</td>
<td>22 (88%)</td>
<td>3 (12%)</td>
<td>11 (44%)</td>
<td>8 (32%)</td>
<td>17 (68%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Selected</td>
<td>14</td>
<td>7</td>
<td>7</td>
<td>9 (10) - 10 (7)</td>
<td>11 (78.6)</td>
<td>3 (21.4%)</td>
<td>5 (35.7%)</td>
<td>4 (28.6%)</td>
<td>10 (71.4%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

Table 5.1

*Students’ Linguistic and Cultural Diversity in Matthias’ Classroom*

<table>
<thead>
<tr>
<th>Grade 5 Students</th>
<th>First language other than English (# of languages)</th>
<th>Home language other than English (# of languages)</th>
<th>Countries of parent(s) born outside of Canada (# of countries)</th>
<th>Ethnicity/or countries of origin (# of ethnicity/countries)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected</td>
<td>Polish, Korean and Chinese (3)</td>
<td>Italian, Korean, Polish, Chinese, and Tagalog. (5)</td>
<td>East India, Africa, Korea, Taiwan, Philippines, Italy, Poland, and China. (8)</td>
<td>Indian, Italian, Philippines, Caucasian/Canadian, Korean, Chinese, Philippines, and Polish. (8)</td>
</tr>
</tbody>
</table>
**Participants in Matthias’ classroom.** The same process used in Joseph’s class (see above) was also employed in recruiting participants in Matthias class \( n = 31 \). Twenty-five students provided parental consent and assent to participate in the study. Tables 5.1 and 5.2 show that these participants were between the ages 9 and 10 and reflected the linguistic and cultural diversity in the class as a whole.

**Selected students in Matthias’ classroom.** Again, to gain an in-depth understanding of the students’ learning experiences in the context of a CR-complex activity, we recruited 14 students who had been rated by their teacher as experiencing different levels of engagement. Tables 5.1 and 5.2 also show that these selected students reflected the linguistic and cultural diversity of the participants.

**Teachers’ roles in the case study classrooms.** Joseph and Matthias’ classrooms with their students constituted participants in each class-level case study. To launch the study, I met with these two interested teachers (September 2017) and discussed my research interest and their individual goals for their students (see Appendix E for meeting guidelines). We clarified our individual goals and how to link those into shared goals that guided classroom teaching and practices. As part of early conversations, I identified all proposed research procedures, but then made modifications based on our negotiation of goals and processes. After all ethical procedures were undertaken, I worked with teachers to implement the study design.

During the early meetings with each of the teachers, we discussed the CR-SRL framework (Anyichie & Butler, 2017) to enhance culturally diverse students’ learning outcomes, as summarized in Chapter Two, with a specific focus on how CRPPs and SRLPPs can be integrated to nurture engagement. Based on this framework and our shared goals, we co-designed activities that integrated CR-SRL principles and had the capacity to create an engaging classroom context for all learners. Within each classroom, we co-designed one CR-complex task, that is, an inquiry project as a learning context. Specifically, based on the curriculum, what the teachers were already doing and comfortable
with trying out in relation to designing an integrated pedagogy, each teacher designed for their own class an inquiry-based project of their choice. They shared that with me through Google Drive and/or during our occasional individual meetings. In either platform, we worked together in refining the activities in a way that best accommodated the qualities of complex activities (Table 2) while attending to the provisions of CR-SRL principles. As students’ learning unfolded, the participating teachers refined their practices as it fitted the dynamism of their respective classes.

The co-designed CR-SRL inquiry-based project in Joseph’s class. The inquiry project “Understanding Animal and Human Adaptations to the Land” co-designed for students in Joseph’s class was designed to cut across subject areas, and so was situated in the context of both Social Studies and Science lessons. The project was divided into three major interconnected sections: (1) animal adaptations; (2) First Nations’ adaptations to the land; and (3) my adaptation to school. The first section asked the students to conduct research on senses and the adaptation of any insect of their choice from the “Bug Wars Playlist” posted on the class website designed by the teacher for this project. Instructions for this section included: (i) make a best copy of a scientific drawing after viewing “Austin’s Butterfly”\(^2\); (ii) create a multimedia book using the “Book Creator” app; and, (iii) share and present your project online. Building on what the students were learning in the first section, the second section focused on human adaptation with attention on the First Nations peoples. Section two required the students to each research one of the Aboriginal peoples in Canada (e.g., Inuit, Metes and First Nations). This section also asked the students to compare their findings with their own daily lives by responding to questions, including: “What is the biggest difference? What is most surprising when I think of my life? If I was a First Nation person my age, what would I enjoy

\(^2\) Austin Butterfly if a video of models, critique and constructive feedback. (https://www.youtube.com/watch?v=E_6PsKE3zfQ)
The most?“ and in groups to record their thoughts and impressions of a field trip to Museum of Anthropology in a podcast. The third section asked the students to build on what they were learning about animal adaptations, First Nations’ challenges and adaptation, and research on their personal challenges in school and generate possible strategies for their own adaptations. As part of the third section, the project ended by asking the students to gather in their small groups, discuss their common challenges and adaption strategies, and present their ideas through a role play (see Appendix C for detailed instructions). Overall, Joseph’s inquiry project included all the features of a complex task as described in Chapter two, such as integrating different subject areas (e.g., Science and Social Studies), extending over time, allowing students multiple ways of demonstrating learning and knowledge (e.g., through a multimedia book, podcast and role play), focusing on large chunks of meaning about the learning content (e.g., conducting a research) and multiple instructional goals, involving students in making meaningful choices (e.g., what they are sharing about themselves) and engaging them in diverse cognitive and metacognitive processes (e.g., relating what they were learning about the First Nations to their personal lives), individual and social forms of learning and extended overtime.

The co-designed CR-SRL inquiry-based project in Matthias’ class. The inquiry project “Understanding your Personal and Cultural Identity” co-designed for Matthias’ students asked them to reflect and respond to specific questions about: (1) their relationships and cultural context including how their culture shaped their identities and choices (e.g., by answering questions such as: “How do you choose your friends? Do you base friendship on interests, age, cultural background, appearance, gender, religion, or other qualities?); (2) personal values and choices including how their values could be influenced by their cultures (e.g., by asking them to “list 5 things that are important to you/that you value in life, explain why each of them is important to you?”); and (3) personal strengths and abilities (e.g., by answering questions such as: “What would you say are some of your
challenges and weaknesses? How are you using your strengths in your family, school, and relationships?“). Part of the project also asked the students to make a collage of images and words that described them culturally. The final part of the project asked them to meet in their small groups and share their similarities and differences and present their findings to the class (See Appendix D for the complete instructions on the project). Because this was Matthias’ first experience with designing an inquiry project, he chose to “start small” and weave in just some of the features of complex tasks. Ultimately, Matthias’ project focused on one subject area (i.e., Social Studies) and included just five features of a complex task, including extending over time, individual and social forms of learning, involving students in making choices, and focusing on large chunks of meaning. Unlike Joseph’s which enabled students to conduct research and represent their learning in multiple ways, Matthias’ project included a series of similar tasks in which students were asked to answer short answer questions.

**Researcher role in the case study classroom.** I was responsible for research processes including ethics, recruitment and data collection. To conduct the classroom-level case studies, I assumed the role of collaborator in facilitating individual meetings with the participating teachers. Specifically, I built on a collaborative inquiry framework that involves teachers in the unfolding processes of identifying goals, planning and enacting practices to achieve their goals in relation to their professional development and students’ success to guide our collaborative work (Butler & Schnellert, 2012; Timperly, Kaser & Halbert, 2014). During the meetings (Fall, 2017), I collaborated with each teacher to share ideas about relevant practices and develop a culturally responsive complex task (i.e., an inquiry project) building on the teacher’s experience and goals. In that context, I shared the framework I had developed for creating supportive classroom environments using integrated CRT and SRL pedagogical practices. As a collaborator and facilitator of the meetings, I also gathered information from the teachers about their experience and current practice (e.g., neither teacher had
formal knowledge about CRPPs and SRLPPs) and offered needed support for the effective implementation of pedagogical practices that were relevant to the uniqueness of their respective classes. Finally, I observed and collected data about the participating teachers’ implementation, and students’ experiences, of the CRPPs and SRLPPs.

**Data Collection**

In this study, I adapted refined measures used in my previous research. Thus, I used a mixed method approach in collection of data with focus on gathering information about: (1) classroom practices; (2) benefits and challenges for teachers; (3) how CRPPs and SRLPPs were integrated into focus activities; and (4) student engagement and perception of contextual features. Table 6 presents a summary of my data collection strategies, including what I assessed in the context of this study (among all possible processes and outcomes), and the corresponding sources of evidence collected.

**Data Collected and Methods**

I used multiple methods of data collection including observations, document review, interviews, an experience sampling method (the ESRF), and a Student Inquiry Engagement Instrument (SIEI).

**Classroom Observation.** I conducted classroom observations using a *Classroom Observation Protocol* (Appendix G) adapted from Perry’s (1998) work. The classroom observation instrument was divided into three sections including a section for demographics, a running record, and a set of contextual and conceptual categories to focus observation and organize data. Firstly, the demographics section consisted of information about the teacher, class, school, date, time of the observation, and the activity observed. Secondly, the running record included descriptions of classroom events including CRPPs and SRLPPs and students’ responses to them. Thirdly, I focused attention to particular qualities of contexts by creating a framework to guide observations and coding
during data analysis. In this section, I focused particular attention on teachers’ enacted CRPPs and SRLPPs and students’ engagement in them.
Table 6
The Focus, what I looked for, and Sources of Evidence

<table>
<thead>
<tr>
<th>FOCUS</th>
<th>WHAT I “LOOKED FOR”</th>
<th>SOURCES OF EVIDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enacted Classroom Practices</td>
<td>Classroom foundational practices:</td>
<td>- observations/ field notes,</td>
</tr>
<tr>
<td></td>
<td>- knowledge of learners,</td>
<td>- student background survey,</td>
</tr>
<tr>
<td></td>
<td>- establishing clear classroom participation structures, and</td>
<td>- post-observation debriefs, and final interviews,</td>
</tr>
<tr>
<td></td>
<td>- accommodation of student diversity.</td>
<td>- teacher lesson plans,</td>
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<td></td>
<td>Culturally responsive pedagogical practices (CRPPs) and SRL-promoting practices</td>
<td>- inquiry-based assignment instructions,</td>
</tr>
<tr>
<td></td>
<td>(SRLPPs):</td>
<td>- collection of artifacts (e.g., lesson notes/plans), and</td>
</tr>
<tr>
<td></td>
<td>- complex tasks (e.g., Inquiry-based project) with embedded opportunities for</td>
<td>- student work samples.</td>
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<tr>
<td></td>
<td>students’: choice and control over challenge, self-assessment, and</td>
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<td></td>
<td>opportunities for: embedded support for SRL and social forms of regulation, and</td>
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<td></td>
<td>cultural congruity.</td>
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<td>Dynamic supportive practices:</td>
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<tr>
<td></td>
<td>- Opportunities for feedback and formative assessment (e.g., teacher, peer and</td>
<td></td>
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<td></td>
<td>parents).</td>
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<tr>
<td></td>
<td>- Teacher instructional support (e.g., scaffolding, modelling, co-regulating).</td>
<td></td>
</tr>
<tr>
<td>Benefits and Challenges for</td>
<td>Teachers’ perceptions of benefits and challenges associated with building and</td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>implementing CRPPs and SRLPPs.</td>
<td>- meetings with teachers,</td>
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<tr>
<td></td>
<td>Whether they feel:</td>
<td>- post-observation debriefs, and final interview.</td>
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<tr>
<td></td>
<td>- prepared to support culturally diverse learners,</td>
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<tr>
<td></td>
<td>- equipped to create equal opportunities for students’ outcomes by blending</td>
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</tr>
<tr>
<td></td>
<td>CRPPs and SRLPPs,</td>
<td></td>
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<td></td>
<td>- comfortable in navigating cross-cultural diversity, and</td>
<td></td>
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<tr>
<td></td>
<td>- confident in designing culturally responsive student-centred lesson plans.</td>
<td></td>
</tr>
<tr>
<td>FOCUS</td>
<td>WHAT I “LOOKED FOR”</td>
<td>SOURCES OF EVIDENCE</td>
</tr>
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</tr>
</tbody>
</table>
| Student Perceptions and Engagements | Engagement and Perceptions.  
(I) For all students:  
(1) Engagement:  
- agentic (e.g., making suggestions and offering input),  
- behavioural (e.g., time on task, effort, persistence, concentration, and help seeking),  
- cognitive (e.g., self-regulation, reflection, assessment, engagement in cycles of strategic action, and active use of prior knowledge), and  
- emotional (e.g., expression of anxiety, frustration, boredom, interest, happiness, sadness, and belonging).  
(II) For selected students:  
(1) Students’ perception of CRPPs and SRLPPs whether they were:  
- challenging,  
- interesting,  
- enjoyable, and  
- important.  
(2) Engagement:  
- same as all students above. | For all students:  
- observations,  
- short debriefings/on the spot interviews,  
- Experience Sampling and Reflection Form (ESRF), and  
- Student Inquiry Engagement Instrument (SIEI).  
For selected students:  
- observations,  
- samples of students’ inquiry-based project,  
- short debriefings/on the spot informal interviews,  
- final interviews,  
- Experience Sampling and Reflection Form (ESRF), and  
- Student Inquiry Engagement Instrument (SIEI). |
Through the Fall 2017, I chose to observe Science and Social Studies in both classes because the teachers had designed inquiry projects that included one or both subjects (see Appendices I and J). Joseph’s inquiry project, as noted earlier, integrated Science and Social Studies subject areas. Mathias started off with planning a Science project but later switched over to a Social Studies inquiry project. Sometimes, I observed the students during Science or Social Studies lessons to get a sense of how the class operated as a whole. In addition, I made sure to observe whenever students were working on their inquiry project (see Appendices I and J). I included all participants when focusing on classroom practices overall (e.g., in a lesson on Science). When observing students’ engagement in the CR- complex task, I particularly focused on the selected students (see Tables 4.1 and 5.1) to gain an in-depth understanding of their experiences within that context.

Ultimately, I conducted 16 observations of instructional episodes (i.e., lessons and activities) across 11 days in Joseph’s classroom, and 8 observations across 7 days in Matthias’ classroom. Generally, each of the observations lasted for about 30-80 minutes (except two that lasted 15 min. and 20 min.). Note that the total number of observations I conducted in each classroom was determined by the number of days the teachers and students were working on the inquiry project as well as the times the teachers invited me to observe their classes. Still, I had opportunities to observe the students in both classrooms at different class periods (e.g., morning, and afternoon), and days of the week. Observing the same students across different activities and contexts (i.e., across different subjects, individual and group work, different times of the day and week) provided an opportunity to understand their engagement as related to the specific features of the context in which they were working.

During each classroom observation, I created a running record of what I observed, including teacher and student talk (for participating students only). In those records, I tried to capture all actions “verbatim” as much as I could during student activities. Some of the observations were
video-taped, during overall class activities and students’ independent work time, when it was possible to capture only students who consented to participate. Those video-taped observations supported me in gathering contextual information, and better understanding and interpreting behaviour including non-verbal cues. Occasionally, I debriefed with only the participating students as I circulated during an observation, and with the teachers after each observation to clarify what was happening as related to engagement and observed practices respectively. I recognized that, consistent with SRLPPs, the debriefing helped the teachers and students reflect more on what they were doing.

After the observation, I re-read the running record, and replayed some segments of the video to add any details that were not recorded during the observation. Focusing on CRPPs and SRLPPs, I then read the running record a second time, noting any examples of the enacted practices and students’ responses to them.

**Document Review.** I reviewed my field notes, samples of teachers’ lesson plans, and inquiry-based assignment plan and instructions. I documented my meetings and conversations with the teachers that allowed me to understand their experiences while designing and implementing the CRPPs and SRLPPs. After each observation, I requested a copy of each teacher’s lesson plan (when possible it was uploaded on our common google drive folder) to clarify observed practices. In addition to teachers’ lesson plans, I also collected a sample of instructions for inquiry-based projects on the day they were assigned to the students (shared on google drive). This sample helped me investigate the practices that were built into the activity (Table 6, row 2). Overall, the review of these documents helped to focus attention during observations on how students were participating in relation to specific contextual features (e.g., SRL-promoting practices, such as opportunities for choice and self-evaluation; and CRT practices including opportunities for students to bring ideas from lived experiences).
**Student work samples.** During the observations, as students worked on their inquiry-based project, I photographed samples of participants’ work. I sometimes took pictures of draft copies in their work folders. These pictures helped to see how students were participating in the inquiry-based project over time, and to trace their engagement as related to specific features of the project.

**Interviews.** I used semi-structured interviews throughout this study to gain perceptions of the benefits and challenges of CRPPs and SRLPPs for both teachers and culturally diverse learners.

**Teacher debriefings and interviews.** I debriefed with the two teachers in this study after most of the classroom observations and interviewed them at the end of the study. After some of the classroom observations, I used the protocol for *Post Observation Debrief with Teachers* (Appendix K) adapted from Perry’s work to hear their perceptions of observed enacted classroom practices, and their students’ responses to them for about 5 -10 minutes. Examples of questions included: “Was this a typical activity in your classroom or were you trying something new?” “What opportunities for SRL and CRT did you want to present to students?” “And what about students’ participation? What did you notice? Was that typical too?” At the end of the study, I used the *Teacher Interview Protocol* (Appendix L) to gain insight into their perceptions about designing and implementing CR-SRL classroom practices. Example questions included, “What CR-SRL classroom practices did you design and implement to support your students, especially culturally diverse learners in your multicultural classroom? Why did you choose those practices?” This final interview took between 45-60 minutes in the teachers’ schools at a time and place that was most convenient and conducive for each of them. Again, these debriefings and interviews facilitated teachers’ thinking about their classroom practices.

**Student debriefing and interviews.** I debriefed with some of the students that participated in this study after most of the classroom observations and interviewed all of the selected students at the end of the study using *Student Interview Protocols* (Appendix M). First, during observations, I used
short debriefing/on the spot informal interviews to probe students’ perceptions of the CRPPs and SRLPPs enacted (Table 6, row 3) in ways that did not interfere with what they were working on. Examples of questions included: “What project are you working on? What is it asking you to do? Is it challenging, interesting, enjoyable and important?” While students were working on the inquiry-based project, I asked short debriefing questions to clarify their perceptions of the indicators of engagement as they manifested in that context (Table 6, row 3). For example, when I saw a student thinking aloud, I asked her few moments after that, “I noticed you were talking to yourself few moments ago, can you tell me what you were saying then?” These short debriefing interviews were conducted in a low tone as not to disrupt another students’ attention.

At the end of the study, I sat with each of the selected students in a private area of the class for about 10 -15 minutes and asked them questions about their experiences and perceptions of the classroom practices including the enacted CRPPs and SRLPPs (Table 5, row 1). Examples of questions included: “How do you feel about being a member of this class?” and “What are the things your teacher and classmates did in this class that helped you to learn best? And which was less useful?” and “If I asked you to work together with a student from another country for your project, how would you feel about it? Why will you feel that way?” In addition, I also probed their responses to the Student Experience Sampling and Reflection Form (see appendices), and Student Inquiry Engagement Instrument (see appendices). The interview time did not conflict with their regular class activities. Again, these debriefings and interviews facilitated students’ thinking about their learning experiences.

**Experience Sampling Method (ESM).** This method involves repeated measures used to examine an individual’s experiences including thoughts and actions in situ (Csikszentmihalyi, & Larson,1987; Zirkel, Garcia, & Murphy, 2015). This study utilized an event-focused sampling approach for an ESM (see Bolger & Laurenceau, 2013 for review) using an Experience Sampling
and Reflection Form (ESRF). The ESRF (see Appendix N), adapted from Csikszentmihalyi and Larson (1987) was used to gather students’ self-reports of their in-the-moment experiences of participating in the inquiry-based project. This form asked questions about students’: (1) *feelings* (i.e., How did you feel about working on this activity today?); (2) *concentration* (i.e., How well did you concentrate while working on this activity/project today?); (3) *perceptions of challenge* (i.e., Was this activity challenging for you? If so, what made it challenging?), What did you do about the challenge?); (4) *perceptions of importance* (i.e., How important is this activity?); (5) *perceptions of enjoyment* (i.e., Did you enjoy what you worked on today?); and (6) *perceptions of interest* (i.e., Was this activity interesting?). Students rated their responses on a five-point scale: 0 = *not at all*, 1 = *slightly*, 2 = *somewhat*, 3 = *much*; to 4 = *very much*; and, explained the reason for their rating by responding to a follow-up “why”? Students were asked by their teacher to fill in this form each time they worked on their inquiry project, as part of classroom activities. I accessed all the participants’ self-reports; and reviewed the reports on the days I observed their classroom to complement my observations; and followed-up with debriefing when needed to clarify their reports. Having students reflect and report their experiences immediately helped them recall their experiences as situated in a specific context. The ESM increases the accuracy of students’ reports about their experiences and reduces retrospective bias (Kahneman & Krueger, 2006; Zirkel, Garcia, & Murphy, 2015). In addition, this repeated measure helped me to understand students’ real-time experiences over time and supported students’ thinking about their learning engagement.

**Student Inquiry Engagement Instrument (SIEI).** The Student Inquiry Engagement Instrument (SIEI) is a self-report questionnaire designed for this study to gather information about students’ overall experiences of the classroom practices, with particular reference to the inquiry-based project. The SIEI has 20 questions with 5 questions on each of the different dimensions of engagement (see Appendix O): *agentic engagement* (e.g., “I let my teacher know what I’m interested
in working”); **behavioral engagement** (e.g., “I take time to work on my project”); **cognitive engagement** (e.g., “I try to connect my work to things I already know”); and **emotional engagement** (e.g., “working on this project is fun for me”). The questions for the cognitive and agentic engagement subscales were adapted from Pintrich and DeGroot’s (1990) and Reeve’s (2013) works, respectively. Each dimension of engagement has one reverse worded question to reduce possible inattention of the respondents. SIEI uses a 5-point Likert-type scale ranging from 0 = strongly disagree to 4 = strongly agree. A 5-point scale was used to capture wide variations in students’ experiences.

The SIEI was administered to all the students in their classroom once, at the end of the study. The completion of the SIEI was part of the class activity and did not disrupt students’ regular class time. I only accessed copies of the SIEI for study participants.

**Summary: Research Questions in Relation to Evidence**

Overall, I drew on multiple sources of evidence to examine the three research questions in this study. The research questions asked about the classroom practices designed and implemented by the participating teachers, together with potential benefits and challenges for teachers; and how student engagement could be associated with teacher practices. As is summarized in Table 7, I used multiple forms of evidence to gain a deeper understanding of my research questions (Creswell, 2009; Creswell, Klassen, Plano Clark, & Smith, 2011).
Table 7

The Research Questions and Multiple Sources of Evidence

<table>
<thead>
<tr>
<th>Research Question</th>
<th>1. Teacher enacted practices?</th>
<th>2. Teachers’ perceptions of benefits and challenges?</th>
<th>3. Associations between students’ perceptions, engagement, and teacher practices?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meetings with Teachers.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Teacher lesson plans and samples of inquiry-based project assignment instructions.</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Classroom observations, videos, and field notes.</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post observation debriefs with teachers.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Debriefing/on the spot informal conversations with students.</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Teacher interviews.</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Student interviews.</td>
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<tr>
<td>Student inquiry project samples.</td>
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<td>✓</td>
</tr>
<tr>
<td>Experience Sampling and Reflection Form (ESRF).</td>
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<td>✓</td>
</tr>
<tr>
<td>Student Inquiry Engagement Instrument (SIEI).</td>
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<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

My first research question asked about the kinds of practices, including CRPPs and SRLPPs, the participating teachers enacted to create a supporting learning environment for all learners in a culturally diverse classroom. To address this question that focused on contextual influences, I documented information during our individual meetings that reflected enacted practices; collected teachers’ lesson plans and instructions for inquiry-based project assignments; and examined classroom observation records and field notes to see their designed practices. Post observation debriefs and final interviews with teachers helped me to confirm and expand on the practices that were not explicit during the classroom observation.

The second research question asked about the benefits and challenges of CRPPs and SRLPPs from the perspective of teachers. For this question, I focused mainly on teachers’ generated
information. For example, I gathered data through meetings with teachers during activity design and implementation. In addition to occasional debriefings after classroom observations, I also interviewed the participating teachers to gain an understanding of their personal experiences of designing and implementing the CRPPs and SRLPPs.

For my third research question, I tried to understand how students’ engagement and perceptions of contextual features could have been associated with each other and with teachers’ enacted practices. To trace students’ engagement, I relied on a combination of classroom observations, copies of their inquiry-based projects (i.e., work samples), and survey tools including the ESRF and SIEI. Figure 6 shows how I captured different types/dimensions of engagement. In addition, I relied on evidence generated through debriefing/on the spot informal conversations, reflective explanations in ESRF and, final interviews with selected students to assess their perceptions as situated in the context of culturally relevant complex tasks. I then coordinated what students were reporting with evidence I had collected about enacted practices in particular contexts on particular days (as described earlier). Through data triangulations, these methods were helpful in linking student engagement and perceptions with teacher practices.
In sum, I collected multiple sources of data to answer each of the three research questions. These multiple sources of evidence enabled me to triangulate data across classroom practices including one complex activity, in relation to both teachers’ and students’ experiences of enacted classroom practices. This body of evidence formed the foundation for the analysis and interpretation of data.

**Data Analyses and Interpretation**

My analyses were designed to interpret and juxtapose a combination of qualitative (e.g., classroom observations, interviews, documents and student work samples) and quantitative (e.g., based on student self-reports on the ESRF and SIEI) data corresponding to the mixed-methods approach of this research methodology (Creswell & Plano Clark, 2010). Overall, the qualitative analysis started during data collection. I started by reviewing and familiarizing myself with the collected data including field notes, transcriptions of interviews, and documents. Through reading and rereading of my data, I cleaned up my data and filled any gaps through future data collection. I
used Nvivo 11 to support my qualitative analysis including data management, coding and finding patterns. I started by importing my data into the software and attaching codes. Then I looked for patterns in relation to each case (that is, a teacher’s classroom, teachers, students) and my research questions (see Table 7 above).

**Coding of Teachers’ Activities**

Video-taped classroom observations, debriefings and semi-structured teacher and student interviews were transcribed. Documents (e.g., project instructions, lesson plans) and student work samples were reviewed. A priori categories derived from CR-SRL framework (see Anyichie & Butler, 2017 for detailed review) were used for coding while being open to new practices. There were two levels of coding. First, a chronological list of all practices enacted in each lesson was developed. I started coding by looking at each practice from an SRL point of view, flagging any practice consistent with SRLPPs. Next, the full list of practices was reviewed with a CRT lens, flagging any practice clearly linked with CRPPs. The result was a chronological list of practices flagged as SRLPPs, CRPPs, both, or neither. This approach to coding enabled me to identify overlap of CRPPs and SRLPPs within each lesson (see Appendix for P sample coding).

At a second level, once all lessons and activities were coded, I categorized the observed practices in relation to the three main categories of practices identified in the CR-SRL framework (i.e., foundational, pedagogical and supportive practices; Table 6, row 1). This lens enabled me to interpret how the practices enacted by teachers did (or did not) reflect the main kinds of practices most frequently identified across the SRL and CRT literatures. Finally, documents and field notes were mined for confirming or disconfirming evidence.

**Coding of SRL-promoting practices (SRLPPs).** Teacher practices were coded as supportive of SRL if there was evidence of the teacher: (1) creating a safe and supportive learning environment (e.g., by establishing participation structures, fostering a community of learners,
creating a non-threatening classroom environment); (2) designing a complex meaningful task (e.g., a task with multiple instructional goals and a focus on large chunks of meaning about the learning context, and that integrated across subject areas, extended over time, engaged students in diverse cognitive and metacognitive processes, included individuals and social forms of learning, and allowed multiple ways of demonstrating learning and knowledge); (3) providing opportunities for choice and control over challenge (e.g., allowing students’ choice and decision making, scaffolding students’ meaningful choices, and supporting control over learning); (4) fostering self-assessment (e.g., by creating opportunities for students’ self-reflection, self-monitoring, and adjusting of learning); (5) offering teacher support (e.g., by providing resources and instrumental supports, and co-regulatory opportunities between the teacher and student(s)); and/or (6) providing opportunities for peer support (e.g., offering opportunities for peer-to-peer support group activities, co-regulation of learning, and assessment).

Coding of CRT pedagogical practices (CRPPs). Teacher practices were coded as CRPP when there was evidence of the teacher: (1) creating a culturally responsive and caring environment (e.g., having students share their histories including cultural backgrounds, strengths and interests); (2) establishing cross-cultural communication (e.g., creating opportunities for social interactions about personal or cultural issues); (3) designing cultural diversity in curriculum content (e.g., adjusting and situating curriculum content to connect with students’ prior knowledge and lived experiences by using multicultural textbooks); and/or (4) establishing cultural congruity in classroom teaching and learning (e.g., matching class instruction with students’ prior experiences and cultural background).

Note that, because I reviewed each practice twice, some practices were coded under both SRLPPs and CRPPs. For example, creating a safe and supportive learning environment was coded as
SRLPP and CRPP when the teacher created the environment in a culturally responsive way (e.g., by having students share their cultural backgrounds and experiences).

**Coding of Students’ Engagement**

I analyzed and interpreted students’ engagement based on three sources of data: (1) the end of study survey (SIEI); (2) students’ reflections through the inquiry project (using the ESRF); and (3) observations of students’ engagement over time.

I analyzed the SIEI by calculating descriptive statistics (i.e., Mean, Standard Deviations, Minimum, Maximum) to understand student engagement in overall classroom activities. Means were calculated first for each student for each type of engagement (i.e., across the five questions on each dimension). Then cross-student means were calculated. These descriptive statistics were helpful in seeing patterns of engagement and its dimensions (i.e., agentic, behavioural, cognitive and emotional), as self-reported at the end of the study. To examine the relationships among the different dimensions of engagement, I conducted a correlation analysis.

For the ESRF, I started by creating a display of each student’s ratings on concentration (as an indicator of engagement), perception of challenge and the three motivationally-related self-reports (i.e., perceptions of enjoyment, importance, and interest). Then, I calculated descriptive statistics, and constructed displays to help me see how students’ perceptions about the project shifted across days and were related to their self-reported concentration. To examine if variations in students’ self-reported perceptions and engagement were reliable within and across days, I conducted one-way analysis of variance. Furthermore, to gain more understanding of the possible relationships between students’ perceptions of, and engagement in the inquiry-based project, I conducted correlational analyses.
To support identifying patterns, quantitative data from the ESRF and SIEI were roughly interpreted as follows: $\lessapprox 2 = \text{low engagement}$, $2 > < 2.5 = \text{medium or moderate engagement}$, and $2.5 > 4 = \text{high engagement}$.

To code observational data on students’ engagement in specific contexts (e.g., different subjects, the inquiry-based project), I reviewed field notes from observations and transcripts of debriefs to describe student activities and identify instances of their participation in specific contexts (i.e., engagement in general without reference to different dimensions). Student activities were coded as engagement when there was evidence of students’ participation and direct involvement in learning activities including asking and answering questions, listening, note taking, making suggestions and offering input in class. Behaviours that do not directly reflect involvement in a learning activity (e.g., arranging seats and gathering textbooks in preparation for lessons) were not coded as engagement in learning. Whenever I flagged a link between teachers’ practices and engagement in my displays, I then accessed other forms of data to look for patterns to understand how particular practices may have facilitated different students’ engagement in specific contexts.

**Associations between Teachers’ Practices and Students’ Engagement**

To see patterns between enacted practices and students’ participation in them, I created data displays cross-referencing teachers’ practices and students’ interactions in specific contexts (Miles, Huberman, & Saldaña, 2013) using matrix coding queries in Nvivo 11 software. Students’ profiles across different data sources were cross-analyzed for recurring patterns. I also created displays that showed teachers’ practices in relation to selected students’ self-reported engagement on different days, based on both observations and their narrative descriptions on the ESRF.

Theoretical perspectives described earlier in Chapter Two informed my data interpretation. Overall, I employed the described methods of data collection, analysis, and interpretation with an eye to sociocultural and situated perspectives in order to understand how it might be possible to: design
and implement CRPPs and SRLPPs for culturally diverse learners, gain in-depth knowledge about its benefits and challenges for teachers, and understand how students’ engagement is situated within specific contexts. As I paid attention to how my findings were either similar or different from previous research and the emerging themes, I looked out for new patterns and unexpected alternatives. Being open to conforming and non-conforming evidence created opportunities for advancing research and theory (e.g., it allowed understanding of SRL as situated within social and cultural contexts and how the context shapes learning engagement). To generate interpretations (findings), I worked to establish relationships among findings and themes, and identify explanations or causes and theoretical constructs (Miles, Huberman, and Saldaña, 2014).

**Rigour of Study**

To establish rigour and trustworthiness in my research study, I followed the four criteria Lincoln and Buba (1985) developed for addressing issues of rigour in qualitative research including case study research. The criteria include credibility, dependability, confirmability and transferability.

**Credibility**

I established *credibility* of my research through prolonged engagement, peer debriefing, triangulation and member checks (Creswell & Miller, 2000; Lincoln & Buba, 1985).

**Prolonged engagement.** I spent sufficient amount of time in the research field to understand the culture of each class, and phenomena of interest, including teacher practices and student engagement (Creswell & Miller, 2000). For example, prior to conducting my studies, I had a relationship with all the schools and classrooms as a volunteer resource person. I collaborated with teachers in designing research-based activities for supporting student engagement. My collaborations with teachers, and school visits, helped me in understanding the school and classroom cultures (e.g., I observed the classes multiple times, joined the teachers and students at least once during break times), and established trusting relationships with the staff and students. For instance, a teacher in
Queens’ elementary invited me to their cultural day celebrations where I talked about my culture, how and why I came to Canada. Also, I participated in some of the religious activities of St. Mary’s and St. Victor’s schools. My prolonged presence in the research fields and multiple observations allowed me to rise above my preconceptions, and co-construct meanings with participants leading to confirmation of consistency of emerging themes.

**Peer debriefing.** I constantly debriefed with my supervisor to probe the logic of my study process including coding and analysis (Graneheim & Lundman, 2004). For example, we discussed, among other things: (1) my experiences and challenges that helped in uncovering biases in my data collection processes; (2) emerging ideas through multiple lenses including sociocultural and situated perspectives to learning, CRT and SRL theories; and (3) coding and analysis of data in relation to my research questions. Also, I debriefed each stage of my research with my supervisory committee and received oral and written feedback as well. I presented my framework and research findings at national and international conferences, and received peer feedback that challenged my assumptions, and helped refine my methods and design. These experiences were helpful in assuring that my analysis is grounded in my data.

**Triangulation.** Following Yin (2014)’s suggestion of adopting established research methods in the area of study, I employed a case study approach that allowed me to gather multiple perspectives using different sources of evidence (Houghton, Casey, Shaw, & Murphy, 2013). I compared my data across multiple sources to confirm the consistency of information. For example, I compared data generated from observations of students’ engagement in specific contexts with what students said about their engagement in semi-structured interviews, the ESRF and the SIEI.

**Member check.** I conducted ‘member checks’ as I did in my preliminary study, by sharing my raw data and some of my interpretations with corresponding participants to ensure that variety of opinions, experiences, similarities and dissimilarities were considered (Brink, 1993).
my preliminary study, during a language art reading task, I once observed few students drawing things (e.g., their cell phone, textbooks) that were disconnected with the reading and topic of the lesson. I later checked-in with the teacher who explained that those students had permission to engage in hands-on activities as strategies for sustaining their attention span. Ordinarily, I would have conceived such activity as an indicator of disengagement, but my debriefing with the teacher clarified my misconception. Also, I e-mailed the teachers copies of transcribed interviews to comment on their accuracy. They affirmed the documented information as correct.

**Dependability and Confirmability**

To confirm and establish the consistency of my data, I documented the processes involved in this research, as they have been described in this chapter (Lincoln & Guba, 1985; Houghton, Casey, Shaw, & Murphy, 2013). For example, I provided full description of the research design, implementation and analysis including coding and data displays of patterns. There were documentations of contextual backgrounds of collected data and rationale behind the methodological decisions (Ryan-Nicholls & Will, 2009). Some of these rationales are documented in my reflections on the preliminary study section. I used the “query tool” including coding and matrix queries in Nvivo to search evidences of findings and emerging themes across sources of data; and, participants to solidify my conclusions. My audit trail traces how the interpretations in this research were not only dependent on, but also derived from the data I generated from the participants (Koch, 2006). These provisions will allow my readers to confirm meanings and conclusions I made in this dissertation.

**Transferability**

Transferability here does not imply generalizing the findings of this study to a population, but rather refers to the degree to which the results could be transferred to similar contexts. I addressed this criteria by providing a thick description of the study context and phenomenon under investigation including engagement and integration of CRPPs and SRLPPs (see Chapter Two).
Chapter Three, I presented the boundaries of my research, such as school locations and demographic information, recruitment process, number of participants, method of data collection, the duration of data collection in terms of number and length of times for each session. This information will help my readers to make the transfer depending on how my study fits into their new context (Lincoln & Guba, 1985). Finally, as I present the findings, I create links between evidence (e.g., by quoting participants’ exact words) and my interpretations; and I discuss my interpretations in relation to previous findings in similar areas and contexts (see Chapter Six).
Chapter Four

Case Study One: Joseph’s Grade 4 Classroom

Chapters Four and Five in this dissertation present the findings from the two case studies. The results are presented as two cases, first for Joseph’s classroom (Chapter Four), and then for Matthias’ classroom (Chapter Five). In each chapter, I structure my report of findings around my three research questions:

1. What practices, including CRPPs and SRLPPs, did teachers enact to create a supporting learning environment for culturally diverse learners?

2. What benefits and challenges of those CRPPs and SRLPPs did teachers perceive in addressing the needs of culturally diverse learners?

3. How could student engagement in classroom contexts be associated with CRPPs and SRLPPs for culturally diverse learners?

What Practices did Joseph Enact?

Joseph’s classroom as already described (see Chapter Three) had 31 students out of which 18 consented to participate. The first research question involved the identification of observed practices Joseph enacted including CRPPs and SRLPPs to create a supportive learning environment for his culturally diverse learners. To address this question, I looked at the teacher’s practices both in the classroom context as a whole, and specifically as embedded into the inquiry-based project. I also built on the three main categories derived from my framework (see Table 3, Chapter Two) to interpret coded observations. I cross-checked teachers’ and students’ debriefings and interviews, lesson plans and project instructions, and student work samples to warrant my interpretations about observed practices.
Teacher Practices in the Overall Classroom Context

**Classroom foundational practices.** One major finding in the overall classroom context was that Joseph enacted *classroom foundational practices* that combined SRLPPs and CRPPs. He proactively built from these practices to gain both knowledge about his students and create a caring, safe, and supportive environment. For example, to learn more about his students, at the beginning of the academic year, he asked them to write their names, and draw things that represented them (e.g., what they like, colour of their country’s flag) on a card. These cards were posted on the students’ lockers. He also designed a small project, “My Life in Wire,” that asked students to come up with a metaphor that best described them, craft their metaphor with a wire, and explain those metaphors in a short essay. To facilitate his students’ knowledge about themselves and others, Joseph had them share their projects through oral presentations, and hung those artifacts in the class for a month (see below).

Figure 7. My Life in Wire Project
He explained how he had them share their projects:

I did the “My life in Wire Project” because in the early part of the first week of school I wanted them to complete a creative activity that would tell them and me something about themselves [Interview, 18/12/2017].

Through this project, Joseph created opportunities for students’ self-reflection, metacognitive knowledge and choice of a personal metaphor (SRLPP) while drawing ideas from their personal experiences and background (CRPP).

As part of his creating a caring, safe and supportive environment, Joseph designed group and collaborative work, and scaffolded students’ caring for one another and their environment. For example, he described how he built from their school’s theme for the year, “Caring for Everyone in our Common Home,” to provide models of caring for others (e.g., using St. Mother Teresa of Calcutta, and Terry Fox of Canada):

So, we watched segments of a video on Mother Teresa … talking about her work with the poor, the disadvantaged, and lonely… We viewed the video. Then, they did a short, just a short piece of writing on reflections about Mother Teresa … I didn’t show the video for very long without stopping and getting them to think about what they saw. I wanted to give them … this sense of empathy, caring for others. “Caring for Everyone in Our Common Home”- that’s our school theme for this year in the Catholic schools [Interview, 18/12/2017].

By designing group work with opportunities for sharing students’ histories and peer support (SRLPP and CRPP), Joseph created and fostered a community of learners (SRLPP) where students saw each other as resources for learning. The student participants narrated experiences of working in a safe, caring and supportive environment. For example, they explained that: “… if I’m stuck on a question and ask for help, my classmates will always help me …” (S1, Interview, 08/12/2017); “… If
I’m stuck and when I’m in a group, they help me” (S2, Interview, 08/12/2017); “… everyone cares about everyone in our class …” (S3, Interview, 08/12/2017).

Joseph also co-constructed classroom participation structures with the students including class guiding rules, values and social contracts that were posted on the class entrance door (SRLPP). These included: In Grade 4 we “include others and share”, “encourage and cheer up others”, “pray for others”, and “we believe in ourselves and others!” Each student signed their names against their suggested ideas on the class rules. I was not present to observe Joseph and his students co-construct their class participation structures and routines (SRLPP). However, during class discussions and instructions, I observed students raising their hands before asking or answering a question and clapping in response to the teacher’s clap while focusing their attention. Similarly, each time the teacher said, “hands on top”, the students in response placed their hands on their head saying, “that means don’t talk.” In Joseph’s class, every student, without gaining approval from anybody, signed in and out of the class if they needed to go out (e.g., to the washroom), especially when teaching was going on. These findings suggest that the students had a shared understanding of their class participation structures and controlled their actions accordingly.

The above findings, taken together, also indicate that Joseph deliberately combined CRPPs and SRLPPs in developing and enacting classroom foundational practices. For example, the “My Life in Wire” project involved the students in self-reflection and choice making (SRLPP) of metaphors that were situated in their culture and lived experiences (CRPP).

Culturally responsive SRL practices. Secondly, Joseph designed culturally responsive SRL practices. These practices were evident in the inquiry project, “Understanding Animal and Human Adaptations to the Land,” (see Appendix C for detailed description and review). To illustrate, his instructions asked students to:

Research on one of the Aboriginal People (e.g., Inuit, Metes and First Nations). Compare your
findings about the First Nations and our daily living by responding to these questions: What is the biggest difference? What is most surprising when I think of my life? If I was a First Nation person my age, what would I enjoy the most?

In the above instructions, Joseph supported his students’ learning about Aboriginal people (CRPP). Specifically, he provided an opportunity for independent research while focusing attention on chunks of meaning about their learning about Aboriginal peoples (SRLPP) and comparing research findings with their personal life experiences (CRPP and SRLPP).

As part of their inquiry project, students attended a field trip to the University of British Columbia Museum of Anthropology to see exhibitions of the Aboriginal peoples (especially the First Nations). After the trip, Joseph asked the students to reflect on their learning and personal experiences by completing a worksheet with some guiding questions (e.g., “Find 3 things that helped the First Nation peoples in their daily lives, provide a drawing, a brief description”; “How is this object/thing different from what you use in your life”; “How is my life changed after I have seen these exhibits”?). Students were asked to share their small group’s learning through a podcast. This example illustrates how Joseph created opportunities for students to connect this classroom activity with their sociocultural context through the field trip (CRPP), and their personal experiences (CRPP and SRLPP) through self-reflection (SRLPP).

Overall, the Animal and Human Adaptations inquiry project was complex by design including different subject areas (e.g., Science and Social Studies); sections that required a range of products, such as research reports, podcasts and role plays; and multiple ways of demonstrating learning and knowledge (SRL). Across sections, Joseph wove together both SRLPPs and CRPPs. For example, the first part of the research section asked students to independently complete a KWL chart about their assigned Aboriginal group. The chart asked them: what I know, what I want to know, and what I learned. In their small groups, they were asked to compare the lives of different Aboriginal groups
using a Venn diagram. In the subsequent section, the students compared what they were learning about the Aboriginal peoples to their own lives. This finding suggests that Joseph scaffolded the students’ engagement in inquiry processes (i.e., generating ideas) (SRPP), activated their prior knowledge in a way that supported students’ connection of class activities to their lived experiences (CRPP), and created opportunities for their self-reflection, self-monitoring and peer support (SRPP).

In addition to the project, I observed Joseph support his students’ SRL by constantly communicating learning expectations, creating opportunities for self-reflection through students’ daily journals, organizing group activities and peer support, and scaffolding different ways of demonstrating knowledge (e.g., in a book creator app, podcast, or role play). The teacher facilitated a “Zones of Regulation Activity” where the students were presented with different case scenarios that could trigger negative emotions. In each case, the students were asked to generate relevant emotion regulatory strategies (SRPP) based on their prior experiences of a successful emotional regulation at home (CRPP) and act out a scenario where they used the strategies [Lesson Plan and Debriefings, 06/10/2017]. This example shows how Joseph adjusted his class curriculum to support students’ SRL and connect with their prior knowledge and lived experiences.

**Dynamic supportive practices.** Thirdly, Joseph enacted *dynamic supportive practices*. He created opportunities for peer feedback while students’ participation in the inquiry project unfolded. For example, students watched and discussed the “Austin’s Butterfly” video about how to generate peer constructive feedback. Joseph highlighted some of the qualities of good feedback (e.g., being specific with examples) that were used by some of the students in the “Austin’s Butterfly” video. Based on his observations of what the students learned from the video, Joseph created opportunities for them to offer peer feedback on their class scientific drawings and writing [Teacher Debriefing, 05/10/2017]. In addition, he offered the students both individualized and group feedback (SRL), as
can be seen in the following excerpt from my running record from a class observation (Day 10; T=teacher; SS=students):

T. Ok, look at how detailed these are [reads samples of some of the students’ work]. SS. Listening and looking at him. T. I think you guys really thought about all these. All I’m gonna do today, [I] ‘m gonna hand back your learning challenges. Some are really good and detailed … Some people have not written a good challenge. Some people say, “My challenge is math” but why? What are the things that I can do to overcome the challenge? One person wrote, “My challenge is math because I really believe I can do it …” That is personal challenge [T. narrates his own experience of not being good at Math; he hands back students’ works for them to consider if they really have written a specific challenge. He gave examples of specific challenges from other students work samples. E.g., “My challenge is that I need to take my time. I rush my work”]. Those who have got challenges can go on to Adaptations and Challenges.

The above excerpt shows that Joseph generated feedback to support his students’ learning by sharing their writing and providing specific examples of how they could improve. Further, to assess and generate feedback on students’ moment-to-moment engagement, Joseph had students fill in the ESRF most times they worked on the inquiry project.

Some practices and activities, such as brainstorming exercises and the use of technology (e.g., ipads, a creator app and the class website) were not coded as either SRLPP or CRPP as they did not directly support SRL or CRT. Nonetheless, across activities, Joseph integrated CRPPs and SRLPPs with other practices (e.g., active learning activities) to create a learning environment including lessons that were both SRL-supportive and culturally responsive. For example, he created a grade 4 website where he shared information with his students (e.g., about learning expectations and resources), class assignments and homework, rubrics and work samples to support their independent learning (SRPP) and connect with their parents (CRPP). The parents not only accessed their
children’s work samples shared via the class website, but also provided feedback [Debriefings, 07/11/2017].

In sum, triangulation of data (e.g., classroom observations, teachers’ and students’ debriefing/final interviews, and a review of lesson plan and project instructions) showed that Joseph enacted SRLPPs and CRPPs to support his students. These findings also showed that the practices he enacted aligned with the three main categories of the CR-SRL framework.

What Were the Benefits and Challenges of Enacted Classroom Practices for Joseph?

To answer this second research question, focused on Joseph’s experiences and perceptions about designing and implementing CRPPs and SRLPPs to support culturally diverse learners, I coded his responses to the semi-structured interview and debriefing questions.

Benefits of Designing and Implementing Classroom Practices for Joseph

Analysis of Joseph’s perceived benefits of designing and implementing classroom practices suggests that he felt prepared in: (1) addressing student cultural and learning diversities; (2) designing an inquiry-based project; and (3) supporting culturally diverse learners’ engagement and motivation.

Addressing student cultural and learning diversities. Joseph described how the foundational practices he enacted (e.g., the My Life in Wire project) were beneficial in advancing his knowledge about his students, such as seeing their thinking, learning, and work habits: “This project was very successful because I saw their thinking, their writing, and other work habits in the first week of school.” Also, he described how this knowledge allowed his use of different strategies including multiple ways of demonstrating knowledge in creating an inclusive classroom that built on students’ strengths and talents to address their cultural and learning diversities:

I think in having and supporting a culturally diverse class, the teacher has to allow for many different types of strategies that will help different students of different backgrounds and
different cultures to have success … The diversity in the class is well served by students who have dramatic ability, are good at technology, are good leaders, and are good artists …, you need to give them opportunities to exercise their talent … Both having the drama and the Podcasts did work out very well [Interview, 18/12/2017].

This finding suggests that the foundational practices Joseph enacted were helpful in building his capacity to design supportive and inclusive classroom that addressed cultural and learning diversities in his classroom.

**Designing an inquiry-based project.** Joseph remarked that he enjoyed designing an inquiry-based project that allowed building in engaging practices:

[I]… enjoy designing this kind of curriculum because it demands that the teacher be very creative and have to be able to stand back, look at what has to be taught and to see how using the resources I have. I can teach something that is engaging and allows for inquiry in the process … I enjoy designing these practices … because it is a great help to me if students are engaged in their learning [Interview, 18/12/2017].

Moreover, he declared his intention to build on his experiences with our co-constructed CR-SRL inquiry project to improve on his teaching practices with attention to cooperative learning:

I definitely will be using all the things that I learned, working hard on cooperative learning structures, building structure into inquiry learning processes and planning for it … It is the way we are supposed to be teaching and I do hope to continue with some of the things I’ve learned this term … We are obliged in my school system to have extensive written plans for everything we teach. So, this was useful because I have new planning completed [Interview, 18/12/2017].

The above findings indicate that Joseph felt prepared and confident to design an inquiry-based project with SRL practices in his future class activities. Contrary to my expectation, he did not make
reference to building CRPPs into the project. However, he did see the project as creating an inclusive context for addressing all learners’ needs.

**Supporting culturally diverse learners’ engagement and motivation.** Joseph described how CRPPs and SRLPPs including active learning strategies (e.g., use of technology, talking sticks, brainstorming activities, podcasts, drama, group work, constructive feedback, field trips) were helpful in supporting his students’ engagement and motivation. He perceived the co-constructed CR-SRL inquiry project as a motivationally supportive context for the students’ learning. Thus, he described observing his students’ active engagement in the project, especially when offered the opportunity to connect to their lived experiences in small groups:

I found in this project that having students relate what they learned to their self … was very effective and had a high-level of engagement. Some students in their group thought about the past times and hobbies of the First Nation people, and compared this to their own soccer clubs, computer games etc. There was quite a discussion in this little group about the differences. I felt this group was excited to talk about this topic from my observation. I did not see evidence of students sitting back waiting for others to come up with ideas. I saw them talking and sharing with each other [Interview, 18/12/2017].

Additionally, he described how the inquiry project that included working on a podcast created opportunities for cooperative work that facilitated students’ motivation and engagement:

They have to work cooperatively, they have to help each other with what they say. I set it up so everyone gets equal airtime in the podcast. I think it’s wonderful, it’s very motivating for students. It’s very engaging because they enjoy showing it to their parents for one thing and it, just, is a great thing [Interview, 18/12/2017].

Furthermore, when describing the impact of scaffolding peer constructive feedback, Joseph observed multiple benefits: “It’s a great social skill building to have them give constructive criticism
to each other and also realize that they have to use many drafts to get it right … It, also, makes students aware of other gifts that other students have so it’s good to do it with Writing and Art, to do it across a couple of different subjects” [Interview, 18/12/2017]. In addition, he noted that the ESRF facilitated his students’ engagement in reflection while improving the quality of their daily journaling [Debriefing]

These findings indicate that Joseph had positive experiences with designing CRPPs and SRLPPs. Overall, he described how his enacted practices, especially SRL-promoting practices, helped in addressing students’ cultural and learning diversities; designing an inquiry-based project; and supporting culturally diverse learners’ engagement and motivation. He planned to enact these practices in other subject areas.

**Challenges of Designing and Implementing Classroom Practices for Joseph**

Notwithstanding the benefits that were associated with Joseph’s integrating combined CRPPs and SRLPPs into his classroom, he experienced some challenges in designing and implementing the CR-SRL inquiry-based project.

**Designing the CR-SRL inquiry-based project.** Joseph associated his challenges in designing the inquiry-based project with its structure (i.e., being complex by design), including supporting students’ engagement with large chunks of meaning (SRLPP) and building in cooperative learning (CRPP). For example, he commented that:

The part that is challenging for me is the design … I come with a lot of great ideas in advance. I have to be sure that everything is broken down into very easily assimilated pieces so that students will have success. My type of thinking as a teacher, I tend to have big ideas. It’s later I have to bring it down into very concrete chunks that the students can learn. For instance, a graphic organizer, a worksheet that has everything broken down into steps, that type of thing [Interview, 18/12/2017].
Reflecting on how to address some of his challenges in future projects, he explained: “I would give a little bit more background in some of the content before we start the large project. … I would like to go a little bit deeper into cooperative learning structures, structures to have children working together in our self regulated fashion” [Interview, 18/12/2017]. This finding shows that the challenges Joseph experienced in designing the inquiry project inspired his plans on how to address them and improve on his teaching in the future.

**Implementing CR-SRL inquiry-based project.** Joseph seemed to connect his challenges in implementing the project to difficulties in supporting students’ self-reflection, peer feedback and monitoring, and the project being extended over time (i.e., SRLPP). For example, he explained that:

Students are used to handing in and then producing something new, and handing it in, working quickly so they don’t have homework. So, the challenge was getting everybody to slow down and work at it to receive input, to think about what they are doing more and try to perfect it more. Some students found it hard, but it’s just a process that needs to be taught by the teacher. It needs to be directed well by any teacher [Interview, 18/12/2017].

This finding indicates that Joseph found it challenging to empower his students’ take up of opportunities created by SRLPPs.

Further, he commented on his experiences of time constraints in meeting the demands of the project and other commitments: “Another thing that I found difficult was time restraints. The time it took to properly do these projects was a difficulty because of deadlines with report cards, interruptions with the provincial FSA [Foundation Skill Assessment] testing, making it a little squeezed for time. But, on the other hand, I have deadlines and commitments … and [that] can be quite stressful” [Interview, 18/12/2017]. This finding indicates that time was a challenge for Joseph’s implementation of the inquiry project.
In sum, Joseph perceived his experiences of designing and implementing CRPPs and SRLPPs to be both beneficial and challenging. He found these practices beneficial in addressing student cultural and learning diversities; designing an inquiry-based project; and supporting culturally diverse learners’ engagement and motivation. Simultaneously, he experienced some difficulties when designing and implementing a combination of both CRPPs and SRLPPs in the inquiry-based project, particularly in fostering students’ take up of opportunities created by enacted SRL practices. Based on challenges he experienced with the inquiry-based project, he plans to restructure the project in the future, break big topics down into smaller chunks of meaning, and build in more opportunities for cooperative learning.

How Could Students’ Engagement be Associated with Joseph’s Practices?

Research question 3 focused on the links between student engagement and the classroom practices Joseph enacted. In this section, I focus first on the quality of students’ engagement, then on links between students’ engagement and Joseph’s practices.

Students’ Engagement

To start addressing this question, I identified students’ engagement in both the overall classroom context, and then more specifically in their inquiry-based project.

Students’ engagement in the overall CR-SRL classroom context. To examine students’ experiences of engagement as reported at the end of the inquiry project, I calculated descriptive statistics based on 15 students’ (i.e., those that submitted back their SIEI) perceptions overall, including of both the classroom environment and the inquiry-based activity within it. Table 8 shows that students’ ratings of overall engagement in classroom activities (on a scale from 0 to 4) were, on average, above the “medium” level on the five-point scale ($M = 3.03, SD = 1.05; Min = 2.3, Max = 3.8$). Examination of the four dimensions of engagement (i.e., agentic, cognitive, behavioral and emotional) showed that students’ self-reported engagement was also above the mid-point on each
dimension. This result indicates that students in this class experienced high-levels of engagement in their overall classroom activities. At the same time, descriptive statistics showed that, during overall classroom activities, students experienced some dimensions of engagement at different levels as shown by their reported means (See Table 8). For example, the findings in Table 8 suggested that students reported experiencing lower levels of agentic engagement and higher levels of emotional engagement.

Table 8

<table>
<thead>
<tr>
<th>Participants’ Self-Reported Engagement in the Classroom Overall</th>
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<tbody>
<tr>
<td>Descriptive Statistics (N = 15)</td>
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<td># of items</td>
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<td>Mean</td>
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<td>Scale</td>
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*Note.* Rating and Coding Scheme is based on the SIEI Scale: 0 = strongly disagree 1 = disagree, 2 = medium, 3 = agree to 4 = strongly agree.

Observational data also suggested that most of the participants in Joseph’s classroom were highly engaged in the inquiry project. For example, on one day (Day 11), some of the students were observed in small groups negotiating ideas while prepping a role play about their group learning challenges and how they could address them by seeking the help they needed. Below is an excerpt from one of the group’s conversations (S=student):

3 Students are identified in different ways throughout this document. The teacher pre-selected students (see Chapter Three) are identified with their engagement level “HE, ME, LE”. When the selected students are chosen as a case study, they are personalized with a pseudonym and description of their backgrounds. However, during group activities that occasionally involve both selected and non-selected students, the students are identified/numbered according to their sitting position or the
1:45 pm S3. says to S1. you will be a Dad.
S2. maybe I’ll be a teacher and pretend I’m writing on the board.
S3. says, I will say I need help with Math.
S3. writes in her journal [I need help]; and, says, what is your name? [S3. asking S2 what name she will assume in the role play- they all chose a name].
1:47 pm S3. says, let’s rehearse; and asks S2. what is your name?
S2. says Mrs. Kate.
S3 writes Mrs. Kate in her journal.
S2. [acting like a teacher] walks to the board [the group are sitting close to the class white board] and says, “I will be writing on the board”
S3. [shouting and smiling] “I need help”
The above excerpt from a running record suggests that the students were co-constructing ideas about their role play (cognitive engagement); suggesting ideas of what they could do better (agency engagement); and writing, acting, and rehearsing while shouting and smiling (behavioural and emotional engagement). Note that in this example, it was possible to link students’ experiences with different dimensions of engagement. But overall it was difficult to map observations of students’ activities cleanly onto forms of engagement because they seemed to be highly interconnected.
Similarly, in their self-reports of engagement on the SIEI, these dimensions were also correlated. For example, there was a positive relationship between agentic and cognitive engagement \( r (14) = .64, p < .01 \); and, between cognitive and emotional engagement \( r (14) = .66, p < .01 \). Thus, in the rest of this dissertation, I focus more on overall levels of engagement as suggested by evidence from surveys, interviews, and observations.

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order of their conversations. This reference style is to help be consistent and create links throughout the document.
Students’ engagement in the inquiry-based project. To understand students’ in-the-moment perceptions during this inquiry project, as it unfolded across days, I examined ESRF reports of both (1) students’ self-reported concentration (as an indicator of engagement); and (2) whether they perceived the project on each day as challenging, interesting, important, and/or enjoyable (as an indicator of situated motivation). Figure 8 and Table 9 combine to show that, consistent with their SIEI reports, students who participated in the CR-SRL inquiry-based project across the five days experienced high-levels of engagement (concentration, $M = 3.20$, $SD = 0.74$). They also perceived the inquiry project to be highly important ($M = 3.53$, $SD = 0.87$), interesting ($M = 3.36$, $SD = 1.18$), and not very challenging ($M = 0.74$, $SD = 0.90$). Their perceptions of the project as highly important and interesting reflected in high-levels of motivation ($M = 3.50$, $SD = 0.80$).

To find out if the differences in student mean ratings were reliable across days, I ran an Analysis of Variance on each of concentration, importance and interest. The results of the one-way ANOVAs showed that there were no significant differences at the $p < .05$ level for student ratings on concentration [$F (4, 71) = 1.193$, $p = .32$]; and on importance [$F (4, 66) = 1.732$, $p = .153$]. However, there were statistically significant differences across days in the student ratings on interest [$F (4, 63) = 6.814$, $p < .001$]. Results from Tukey’s HSD pairwise comparisons indicated three significant differences: the students perceived the inquiry project as significantly more interesting on Day 5 ($M = 3.83$) than on Day 10 ($M = 2.40$, $p < .01$); on Day 9 ($M = 3.63$) as compared to Day 10 ($M = 2.40$, $p < .001$); and on Day 11 ($M = 4.00$) as compared to Day 10 ($M = 2.40$, $p < .001$). The other comparisons were not significant ($ps > .10$). These findings suggest that, overall, the students perceived the contextual features of the CR-SRL inquiry-based project to be highly important and interesting and were very engaged in it across days. That said, students’ perceived interest in the project varied across days.
Figure 8. Participants’ Self-Reported Engagement, Perceptions of Challenge, Importance and Interest During the Inquiry-Based Project Across Days
Table 9

**ESRF: Mean Values and Standard Deviation for Students’ Experiences of Engagement, Perceptions of Challenge and Motivation During the Inquiry-Based Project Across Days**

<table>
<thead>
<tr>
<th>Day*</th>
<th># of participants</th>
<th># of ESRF</th>
<th>Engagement Concentration M (SD)</th>
<th>Perceptions of Challenge M (SD)</th>
<th>Important M (SD)</th>
<th>Interesting M (SD)</th>
<th>Overall Motivation M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>18</td>
<td>16</td>
<td>3.19 (0.63)</td>
<td>0.94 (0.75)</td>
<td>3.77 (0.42)</td>
<td>3.83 (0.55)</td>
<td>3.81 (0.31)</td>
</tr>
<tr>
<td>8</td>
<td>18</td>
<td>15</td>
<td>2.87 (0.96)</td>
<td>0.87 (1.09)</td>
<td>3.33 (0.94)</td>
<td>3.00 (1.57)</td>
<td>3.10 (1.07)</td>
</tr>
<tr>
<td>9</td>
<td>18</td>
<td>17</td>
<td>3.44 (0.60)</td>
<td>0.50 (0.76)</td>
<td>3.63 (0.70)</td>
<td>3.88 (0.48)</td>
<td>3.81 (0.34)</td>
</tr>
<tr>
<td>10</td>
<td>18</td>
<td>16</td>
<td>3.19 (0.73)</td>
<td>0.88 (0.93)</td>
<td>3.19 (1.24)</td>
<td>2.40 (1.25)</td>
<td>2.84 (1.03)</td>
</tr>
<tr>
<td>11</td>
<td>18</td>
<td>13</td>
<td>3.33 (0.62)</td>
<td>0.58 (0.86)</td>
<td>3.83 (0.37)</td>
<td>4.00 (0.00)</td>
<td>3.92 (0.19)</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>18</td>
<td>3.20 (0.74)</td>
<td>0.74 (0.90)</td>
<td>3.53 (0.87)</td>
<td>3.36 (1.18)</td>
<td>3.50 (0.80)</td>
</tr>
</tbody>
</table>

Note. * = Day with self-report on ESRF. The rating and coding schemes are based on data from the ESRF: Scale: 0 = Not at all, 1 = slightly, 2 = somewhat, 3 = much, 4 = Very Much. There are five days of data instead of 6 because many students did not complete the ESRF on one of the days. ESRF of that day is excluded.

Table 10

**ESRF: Selected Students’ Engagement, Perceptions of Challenge and Motivation During the Inquiry-Based Project Across Days**

<table>
<thead>
<tr>
<th>Days</th>
<th># of selected</th>
<th># of ESRF</th>
<th>Engagement Concentration M (SD)</th>
<th>Perception of Challenge M (SD)</th>
<th>Important M (SD)</th>
<th>Interesting M (SD)</th>
<th>Overall M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>12</td>
<td>12</td>
<td>3.25 (0.72)</td>
<td>1.17 (0.69)</td>
<td>3.91(0.29)</td>
<td>3.82 (0.57)</td>
<td>3.86 (0.46)</td>
</tr>
<tr>
<td>8</td>
<td>12</td>
<td>12</td>
<td>2.75 (0.92)</td>
<td>0.83 (0.99)</td>
<td>3.58 (0.86)</td>
<td>2.92 (1.61)</td>
<td>3.25 (1.33)</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>12</td>
<td>3.58 (0.49)</td>
<td>0.50 (0.50)</td>
<td>3.82 (0.39)</td>
<td>4.00 (0.00)</td>
<td>3.91 (0.29)</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>12</td>
<td>3.33 (0.75)</td>
<td>0.67 (0.85)</td>
<td>3.33 (1.31)</td>
<td>2.67 (1.37)</td>
<td>3.00 (1.38)</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>6</td>
<td>3.33 (0.75)</td>
<td>1.00 (1.00)</td>
<td>3.80 (0.40)</td>
<td>4.00 (0.00)</td>
<td>3.88 (0.33)</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>12</td>
<td>3.24 (0.79)</td>
<td>0.81 (0.84)</td>
<td>3.67 (083)</td>
<td>3.37 (1.22)</td>
<td>3.53 (0.88)</td>
</tr>
</tbody>
</table>
Selected students’ engagement in the inquiry-based project. Similar to the ESRF results for all participants, Table 10 and Figure 9 combine to show that selected students who participated in the project across the five days experienced high-levels of engagement. Across days, similar to all the participants, they perceived the inquiry project to be highly important, and interesting; and not very challenging.

Figure 9. Selected Students’ Engagement, Perceptions of Challenge, Importance and Interest During the Inquiry-Based Project.

Links between Student Engagement and Teacher Practices

To examine links between students’ engagement and teacher practices, this section presents findings in two ways. First, I provide in-depth case examples of how practices could be connected to student engagement on two days (Days 8 and 9). Then, I consider how selected students, who had been identified as having different entering levels of engagement, perceived and engaged in the inquiry project.
**Case examples: Days 8 and 9.** To gain more insight into the links between students’ engagement during the inquiry-based learning project, I begin this section by presenting in-depth descriptions of Joseph’s practices, in relation to students’ engagement, for Days 8 and 9. I chose these days because they were the ones with the highest (Day 9) and lowest (Day 8) levels of reported engagement (see Table 9). To construct these case descriptions, I coordinated evidence of Joseph’s practices (e.g., from inquiry project instructions) with evidence of engagement from students’ reflections on the ESRF, observations, and student work samples.

**Case example: Day 8.** In Joseph’s classroom, students’ self-reported engagement and motivational perceptions were lowest and varied most on Day 8 (see Table 9). Prior to Day 8, Joseph had asked the students to conduct independent research on the First Nations’ ways of life and share their findings in small groups. On Day 8, they focused on how the First Nations adapted to the land and compared their research findings about the First Nations’ life and their individual lives. Joseph had two connected activities in his lesson: brainstorming and completing a worksheet both individually and in small groups (See Table 11, Column 1).

During the inquiry project on Day 8, Joseph enacted both SRLPPs and CRPPs (See Table 11, Column 2). For example, he spent the first 10 minutes of this lesson facilitating a brainstorming activity about how the First Nations lived and adapted to their land, and how that might be similar or different from today’s way of life. He supported students’ thinking about the First Nations’ ways of life through guided questions (SRLPP), expanding on students’ responses (e.g., Joseph explained how the First Nations made things out of their environment to survive including making clothes out of the fur), and retention of generated ideas by writing all their responses on the white board. Next, he asked the students to individually complete a first worksheet “First Nations and the Challenges of the Land” with a web of how the First Nation people adapted to the land (see Figure 10).
Table 11
Classroom Learning Contexts (Days 8 and 9), Teacher Practices and Samples of Students’ Comments

<table>
<thead>
<tr>
<th>Days</th>
<th>Learning Context</th>
<th>Teacher Practices</th>
<th>Sample of Students’ Comments (ESRF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Lesson Activity One: Teacher and students were brainstorming and sharing students’ research findings about Aboriginal groups</td>
<td>- scaffolded student thinking through brainstorming and questioning (SRLPP); - offered support on making connections between class activities and personal lives (SRLPP &amp; CRPP); and, instructional support (SRLPP).</td>
<td>HE S1: “I felt bored because we didn’t use the ipads”; HE S3: “I like the First Nations people”; ME S1: “because we compare our differences, I get to learn about First Nations”; ME S2: “I’m not a fan of First Nations”; ME S3: “It was fun writing about First Nations Life”; LE S1: “I did not feel like working”; LE S2: “Some human beings [peers] are a little mean”; LE S3: “I like knowing about First Nations”; LE S6: “You get to learn about people that came before us”.</td>
</tr>
<tr>
<td></td>
<td>Lesson Activity Two: Students were independently and in groups comparing independent research findings about aboriginal groups and their own personal lives</td>
<td>- scaffolded how to compare the First Nations’ life with the students’ lives through metacognitive questions (SRLPP &amp; CRPP), - provided opportunity for choice making (SRLPP); and offered emotional support.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Lesson Activity One: Students were completing their independent reflection worksheets on their visit to UBC Museum of Anthropology.</td>
<td>Provided: - conducive working environment, - scaffolds and modelling (SRLPP) - resources for self-evaluation and reflection (SRLPP &amp; CRPP)</td>
<td>HE S3: “I’ve never been to the museum; There is old stuff in the museum”; ME S3: “The First Nation people made all that clothing and all the things; It is about the First Nation people”; ME S1: “We went on a field trip and learned more about first nation people”; ME S2: “The art was outstanding”; LE S1: “We saw beautiful carvings”; LE S2: “Because we learn about the First Nations”.</td>
</tr>
<tr>
<td></td>
<td>Lesson Activity Two: Students were in small groups prepping and recording podcasts</td>
<td>- participation structure (SRLPP), - opportunity for social interaction (CRPP &amp; SRLPP), and choice making (SRLPP). Offered: - instructional support and feedback (SRLPP), - support on making connections between class activities and personal lives (SRLPP &amp; CRPP), - emotional support, and - facilitate student learning activities</td>
<td></td>
</tr>
</tbody>
</table>

*Note: On each of Day 8 and Day 9, the students reported their experiences of both lesson activities in one ESRF.*
During this lesson, I observed that most of the students were actively engaged. During the brainstorming activity, the students asked and answered questions, and updated their notes. For example, a student asked: “How do they [First Nations] get clothes”? and a fellow student happily chimed in immediately that “they made them”. As these conversations were going on, the students were actively engaged, looking at the board and writing ideas they were discussing in their notes. They generated ideas including that the First Nations made buckets to get water, stayed clean by having shower at the rivers, made tools for hunting for food, and fire to keep warm in winter. After the brainstorming activities, as the students were collecting their “adaptation” worksheets from the teacher and transitioning to do their independent work, I approached a student who explained that: “The brainstorming activity is helpful because it helps to learn information about people you have not met before and compare”.

Later, the students spent some time thinking and independently completing the “adaptation” worksheet. Figure 10 shows two examples of how students were engaged in this part of the activity. What you can see here is how students were building from class discussions to complete their worksheets. This example shows how the open-ended questions Joseph posed to them during the brainstorming exercise, while recording their responses on the board, as well as the “adaptation” worksheet he designed to scaffold their learning, facilitated their thinking during their independent activity.
The second activity asked the students to work in groups to compare their own life experiences with that of the First Nations by generating at least 3 similarities and differences (CRPP). Joseph supported students’ completion of this activity through a second structured worksheet to be completed together by the group. Also, while scaffolding students’ strategic thinking about this activity, he instructed them to: “… think about the most dramatic differences you come up with, most important to the least important” [Running Record]. He also gave them choices about how and where to work saying: “It’s lot more of individual work, but you can work with your partner to get at least 3 similarities and differences, and at any corner of the class or at the Resource room” (a room adjacent to their class) [Running Record] (SRLPP). As the students completed their group
worksheets, Joseph circulated from group to group and answered questions. Occasionally, he scanned through their worksheets and offered emotional support by saying “good, good”. At one point, after visiting a group, he shared an idea from S5: “he says that the First Nations people hunted for food; but, we hunt for sport. Yet, we get food from it; but, have it for sport.” In this way, he offered instructional support by sharing an idea from a student and by facilitating conversations around it (SRLPP).

As noted above, prior to the group activity, the students had an opportunity to make choices about how and where they could stay to work most effectively. Given that choice, some students decided to remain at their desks, others gathered and sat at the corners of the class and the hallway in front of the class, and still others went to the resource room that was located adjacent to their classroom. These students where able to exercise control over their learning environment because of the opportunity Joseph gave them to decide where and how to work.

During the group activity, I observed a group of three students who were sitting at their desks in a single row. What I noticed was that the students in this group were actively engaged in comparing their lives with that of the First Nations, as well as negotiating ideas (e.g., whether to include education as part of their similarities or differences with the First Nations). For example, during their interaction, they started by mentioning the similarities they had in their individual worksheets one after the other and writing whatever they all agreed upon in their main group worksheet. Scanning her group members’ worksheets, S1 asked them to include “education” as part of the similarities between them and the First Nations. But, S3 disagreed saying that the First Nations do not have education and S2 in a strong voice said: “no they have!!!”. They argued and later decided to include education as part of what they share with the First Nations. However, they noted that while they learn in the school from their teachers, the First Nations learn from their elders. In response to S3 question about “what else” they need to do, S2 said that they need to complete the section on
similarities. While writing “fire” in the column for similarities in his own worksheet, S2 commented, “so we need to think about more similarities not just one”. I observed this kind of negotiation among some of the other groups as well. This level of involvement in co-construction of ideas could be associated with the opportunity Joseph created for their independent thinking before collaborating with others in the group activity that supported their group thinking and completing a structured worksheet he designed for the activity.

Although I observed students to be very engaged during these lesson activities, examination of their reflections on ESRF showed mixed and contradictory reports about their interest in the learning context (see Table 11, Column 3). Their comments, that could be associated with relatively higher variations in their self-reported engagement, could be attributed to individual differences and preferences in relation to the activities assigned (e.g., liking or not liking the content, or lack of access to technology; feeling excited, bored and disengaged). The wide variations in students’ engagement on Day 8 could be described in the following case examples.

Afonso. Afonso had been identified by his teacher as having low levels of engagement prior to the study (he is LE, S4 in Table 12 below). Still, he was one of the two preselected students with the highest level of engagement on Day 8 (i.e., with a “4” rating on concentration). Afonso, an African boy whose parents were both born in Canada, was nine years old at the time of this study. Although he spoke Portuguese at home as his first language, he also spoke English and Spanish. During the brainstorming activity, I observed that Afonso was very engaged in generating ideas and responding to the teacher’s questions. For example, while explaining why the students should learn about the First Nations, he said that, “We [students] have a lot to learn from them”. Consistent with my observation, the examination of his ESRF showed that Afonso was highly motivated by the lesson activity because he perceived his learning about the First Nations to be very important and interesting saying that, “I like First Nations”; correspondingly, he reported high-levels of
concentration on the project. Afonso perceived the activity to be moderately challenging; nevertheless, he was happy working in the group activity because “First Nations is [are] so cool” and “I have the best partner”. During the interview, he re-affirmed his perceptions in relation to learning about the First Nations saying that “I really liked it, other than that, it was really difficult. I really liked it” and “Yes, it was really interesting”. Afonso’s perception of the learning context, that is, the task on First Nations to be highly important and interesting including his partner, seemed to have facilitated his increased engagement even when he found it challenging.

Francesco. Francesco had been identified as having “medium” levels of engagement by his teacher prior to this study (he is ME, S2 in Table 12 below). Contrary to Afonso’s experiences, Francesco was one of the two preselected students with the lowest level of engagement on Day 8 (i.e., with a “1” rating on concentration). Unlike Afonso, Francesco was a Caucasian nine-year-old boy at the time of this study whose parents were both born in Canada. In addition to speaking English as a first language, Francesco also spoke Italian and Greek. Like Afonso, I did not observe him specifically during the group activity; however, the examination of his ESRF showed that he perceived his learning context as very important. Overall, he did not perceive the activity to be challenging. Still, he did not find the learning activity interesting and was bored because “I’m [he’s] not a fan of First Nations”. Since he did not find it interesting learning about the First Nations, he did not pay attention, saying instead that, “I was laughing so much” during the activity. The cases of Afonso and Francesco highlight how students’ perceptions and interests in the same learning context can facilitate different levels of engagement.

Overall, the reported findings show that student engagement was related to the CRPPs and SRLPPs Joseph enacted. Table 11, combined with the case descriptions of Afonso and Francesco also show how variations in students’ levels of engagement on Day 8 could be linked to their individual differences and preferences.
**Case example: Day 9.** On Day 9 all of the students who submitted their ESRFs reported high-levels of engagement. I also observed high levels of engagement on this day. For this case study example, I focus in particular on how Joseph’s practices could be linked to students’ engagement in self-regulating their learning.

Prior to Day 9, the students had attended a field trip to the UBC Museum of Anthropology. This Museum, among other things, contains many artifacts of the Aboriginal groups especially First Nations’ peoples, and other cultural communities in BC, Canada. On Day 9, they focused on producing a podcast of their museum learning experiences. Joseph had designed two interdependent activities for the students: (1) independent completion of a booklet; and (2) group prepping and recording of a podcast (see Table 11, Column 1 above). Joseph started the lesson of Day 9 by reminding the students about their deadline to finish the podcast4 of their learning experiences about the museum.

Joseph instructed the students to use the first 10 minutes to individually complete the “Museum of Anthropology Booklet” he had designed as a resource for this activity (SRLPP). This 6-paged booklet had 3 sections (i.e., Totem Poles in the Great Hall, First Nation Fact Finding, and Museum Podcast Planning). He provided opportunities for the students to make connections between what they were learning in the class (e.g., research about the First Nations) with life experiences including the field trip to the Museum (CRPP) through the guiding open-ended questions in each section of the booklet. To illustrate, the section “Totem Poles in the Great Hall” asked the students to “Look carefully at the poles in the Great Hall and choose three. Read the plaques below them and record the name of the First Nations community it came from…” [Instructions] (SRLPP). Through

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4 This class records podcasts that are aired to the school almost every week. They have a small room “Grade 4 World Wide Radio” in their class that function as their studio. So, most of the students have taken turn in recording a podcast before this project.
this instruction, Joseph offered both opportunities for, and support in, their choice making. In the section on “Museum Podcast Planning” he asked students to reflect and record: (1) “Something that surprised you; (2) Something that makes you respect the First Nations people; and, (3) How is my life changed after I have seen these exhibits”. Through the CRPPs and SRLPPs woven into this booklet, Joseph offered instrumental support for his students’ learning.

During this independent activity, I observed the students sitting at their desks, and independently completing the reflection booklet about their field trip to the Museum of Anthropology. They were engaged in choice making, writing, drawing, colouring their worksheets, and thinking and reflecting about their learning experiences at the museum. Examination of the student work samples showed that they made decisions across the different sections of their booklets about what they were learning and sharing about the First Nations as well as themselves. For instance, in the section “Totem Poles in the Great Hall”, they made choices of the Totem Poles they were interested in knowing more about, such as “Wuikinuxv House-Front Pole in the Great Hall” (HE S2); “Dlidlam Interior House Post” (LE S3); “Memorial Pole of Skim” (LE S4). You will notice that they chose different Totem Poles and colours for their drawings (see Figure 11). The students’ choice making, I observed in this activity, could be related to opportunities Joseph offered them in the different sections of the booklet. Taking up this opportunity, the students exercised control and ownership over their learning through their choices (SRL).
Findings also showed that, in the context of this activity, students were engaging in self-reflection (SRL). In the section “Museum Podcast Planning” their task was to report on what they were learning about the First Nations, and how those impacted their lives. For example, HE S3 noted that what makes him respect the First Nations people is that “they had to make all of their tools, boats and weapons by hand.” Also, LE S3 reported: “my life has changed by seeing a lot of Totem Poles, maybe I should start carving wood when I’m older”. Figure 12 presents two examples of students’ work while planning their podcast, illustrating how the students reflected about their learning experiences at the museum. Here it is evidence how students’ engagement in reflective processes (SRL) could be associated with opportunities Joseph created for student thinking about their field trip (SRLPP) and connecting what they were learning with their personal lives (CRPP). Through guiding questions, Joseph provided scaffolds for his students’ self-reflection.
In preparation for the group podcast activity, Joseph communicated learning expectations: to share ideas, group thoughts and record their impressions about the Museum of Anthropology. Next, he announced the members and leaders of the small groups he created for this activity (i.e., 5 groups of 6 students). Before the students assembled in their groups, he asked them to highlight their top two main ideas on the section “Museum Podcast Planning” (SRLPP). In addition, he offered emotional support by appreciating the students’ efforts and knowledge about recording a formal podcast. Then, he invited and encouraged his students to demonstrate their learning through a podcast. He scaffolded their participation in developing an informal and conversational podcast by asking the students to generate transitional phrases: “What I like about the First Nations was…” He also encouraged them to acknowledge the previous speaker’s ideas before adding a new idea, for example by saying: “I thought that was a good idea S1”; “Waooh, that was interesting S3”. Finally, Joseph and his students
generated some transitional phrases that he recorded on the board. During this transitional activity, I observed that the students were actively engaged in listening to the teacher’s instructions. Also, they were engaged in choosing and highlighting the two main ideas they would share with their groups about their experiences at the Museum (see Figure 12 above), generating and writing transitional phrases in their booklets as they discussed examples with Joseph, and making decisions about where to stay for their group activities.

During the group podcast prepping activity, Joseph circulated among the groups, answered their questions, offered feedback, checked on them, and maintained a good working environment (e.g., through classroom management) (SRLPP). For example, during the prepping stage, he provided feedback to a group about using transitional phrases: “…it has to sound super natural. I want that done smoothly and very informal”. As groups worked together on their informal conversational podcasts, evidence combined to show how students were engaged in cycles of strategic actions including planning, enacting strategies, monitoring and adjusting their plans. For example, I observed Group One [i.e., one of the four groups working in the classroom] negotiating ideas about how to introduce and end their conversation (e.g., mentioning their names, grade and school). They took turns in reading their highlighted ideas from the booklet and sharing what they learned especially what surprised them about the First Nations. They did a double round of acknowledging each other’s ideas using transitional phrases, such as “Fantastic thoughts S6…” (S1); “Good ideas S1…” (S2); “Great thought S2…” (S3); “Waoh [high pitch] S3, Waoh S3 [low pitch] …” (S4); “Amazing idea… S4” (S5); “I didn’t think about that S5…” (S6). Their involvement in these strategic actions could be related to the preparatory support Joseph built into the activities.

Furthermore, the students supported their peers, while prepping their group podcast, by supporting each other’s task interpretation and understanding (e.g., explaining what happened and what was needed to students that did not attend the field trip); accommodating individual differences
(e.g., allowing time for peers that were struggling with reading to practice their podcast session); and making sure that each person’s reflection was recorded very well. For example, when S3 and S5 in Group One (described above) were finding it difficult maintaining the flow of the conversation (they had just returned back from Mexico and the Philippines, respectively), some of the group members sitting next to them helped them to articulate their ideas and practice how to include transitional phrases. Again, during their three rounds of practice, the students generated group and individual feedback on how to improve their group work, monitored their progress, and adjusted their plans about the sequence of their conversation. For example, I observed S1 in Group One offering feedback to his group members:

S1. [says to the group members] read your Podcast planning [i.e., what they have under the “Museum Podcast Planning” section]. SS. [take turns reading].
S6. (Group Leader) We have to say our names first.
S1. says, we are [mentions their names] grade 4 students of St. Mary’s School.
SS. yes, and
S1. says to S6 “do yours first”.
S6. reads [Museum podcast planning].
S1. no, you have to start from [points to the “something that surprised you” in S6 booklet].
S6. says something that surprised me was the totem pole because their totem pole was extremely hard to draw then….;
S1. fantastic thought S6, something that surprised me was that they put special dead people in boxes, called funeral boxes, and they leave them in the woods and come back in 2 years to find a skeleton then they burry it.
S3. Something that surprised me was that the first nations was… [noise in the class].
S1. [talks to S3] you have to say something like fantastic thought S2 and then start talking, then we do that and start all over again [Running Record of Observation].

The above running record shows that, although S1 was not the group leader, he supported his group members. He facilitated their participation, structuring the flow of their discussion for a successful
podcast recording (co-regulation). It also shows students’ productive interactions and strategic engagement in their group activity.

The support students offered to each other could be related to the opportunities Joseph provided for group activity, collaboration and social interaction (SRLPP). For example, he created mixed groups of boys and girls with diverse abilities, achievement and engagement levels [Debriefing, 9/11/2017], and communicated participation structures and expectations by appointing group leaders with the instructions that: “…You all are all leaders and responsible for one another, but the leader will come to me to collect your Ipad, direct the conversation etc.” [Running Record of Observation] (SRLPP). Joseph’s instruction may have inspired S1 in this Group One to exercise his agency by co-regulating his group members’ participation.

Following the group’s podcast preparations, the students took turns in practising and recording their final podcast. In that context, they were again engaged in strategic actions including making decisions about the structure of their recording (e.g., how to introduce and end their conversation, sound tracks to add, how many rounds they would do of practice recording), receiving and offering peer support including feedback. For example, I observed Group Two in the recording room standing in a circle and facing the table where the recording ipad is placed. They were strategically engaged in practising how to record their final podcast by first introducing themselves and their grade, saying what surprised them about First Nations in the order they were standing and how their lives have changed after visiting the Museum. Like Group One, they supported one another. For example, when one of the group members struggled with reading off his worksheet, the student standing next to him pointed at the line he was reading until he completed his own voice recording. The transcribed recording of one of the groups showed that they decided on who and how they introduced their podcast recording: “S6. This is grade four world wide radio. Did you miss us? Well, if you did well, we have another podcast today. Its about our [all the members shouted
excitedly] ‘Museum of Anthropologyyyyyy’.” After the first round of recording, one student said, “let’s listen to it” and another student disabled the recording button.

Also, Group Two was engaged in monitoring their progress during their voice recording. I observed this group doing multiple recordings. Occasionally, they stopped after each round, generated feedback and adjusted their presentation. For example,

SS. [play and listen to their recording, laughing].

S6. Let’s cut that part, how do we cut that part [it didn’t flow well]? S1. Nooooo.

S4. Let’s keep on going.

S1. That is Ok [record still playing].

SS. [Listening and laughing at the end of each speaker].

S3. Waooh. What do we do? Noo we’ve screed it out.

S5. Actually, we should cut if out.

S2. cut it out!!

S3. This is serious!

S1. ok let’s try it again; and, let’s see where we can go from there.

S4. I know why it didn’t take it out.

S6. [pointing at button] says you have to press this.

S5. cut it off.

S3. go back go back.

S2. cut it off [Running Record of Observation].

The above running record shows that all the members of this group were involved in generating feedback for themselves (shared-regulation) that guided their podcast editing. In this group (and others), the students were engaged in multiple recordings before being satisfied with a final version.
Students’ engagement during the podcast recording could be related to opportunities Joseph created for them in that context. For example, he allowed time for the students to enact their strategies, monitor and adjust their learning engagement before the final version of their recordings. Through guided questions, feedback and instruction (SRLPP), Joseph supported his students’ engagement in strategic actions. In addition, as students were engaged in this recording practice, similar to prepping time, Joseph offered dynamic support by facilitating students’ self-monitoring by offering both group and individual feedback. For example, I observed him in the recording room telling the members of Group Two to keep the conversation going when they make mistakes in live recording instead of stopping. He informed S5 in this group that: “you have a little bit of a soft voice … if you don’t say it loud enough it [ipad record volume is] sets at automatic. Ok, this is a good experience. You gonna try it once again”.

At the end of Day 9 activities, similar to other days, the students were engaged in assessing and reflecting on their participation (e.g., concentration, interest) by completing the ESRF, which was an activity integrated into the inquiry project by their teacher. ESRFs were also structured to ask for reflective explanations of their self-reported ratings (See Table 11, Column 3 above). Students comments in the ESRF showed that the ESRF facilitated their awareness of what they learned (SRL) and connecting class teaching and their lived experience, that is, visit to the museum (CRPPs). Overall, analysis of the observational data, student work samples, and responses on the ESRF on Day 9 combined to show that the students were engaged in behaviours associated with SRL, such as choice making, self-evaluation, offering and receiving peer support, and self-monitoring; and social regulation of learning including co- and socially shared regulation. As described in the above sections, students’ active engagement in regulatory processes could be linked to supportive practices Joseph embedded into the activities of Day 9.
How selected students perceived and engaged in the Inquiry Project. When choosing participants to focus on more closely (i.e., the selected students), Joseph identified students he perceived to be engaging at different levels: high (HE), medium (ME), and low (LE). Again, these judgments were made globally, so they were only a rough indicator of students’ engagement in other contexts and activities. Still, a key question in this study concerned how the inquiry project, as a particular learning context, fostered students’ motivation and engagement. So, I examined data to see whether and how the inquiry project supported learners, whatever their previous patterns of engagement, to participate fully. To that end, I examined how students with different entering levels of engagement perceived and participated in the inquiry-based project each day. The ratings for selected students are presented in Table 12.
Table 12

Selected Students’ Engagement, Perceived Challenge and Motivation Profiles on ESRF During the Inquiry-Based Project Across Days

<table>
<thead>
<tr>
<th>Engagement Levels</th>
<th>Students/ Days</th>
<th>Concentration</th>
<th>Perception of Challenge</th>
<th>Motivation Importance</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5  8  9  10  11</td>
<td>5  8  9  10  11</td>
<td>5  8  9  10  11</td>
<td>5  8  9  10  11</td>
</tr>
<tr>
<td>HE</td>
<td>S1</td>
<td>4  3  4  4  3</td>
<td>1  1  1  1  1</td>
<td>4  4  4  4  4</td>
<td>4  2  4  0  X</td>
</tr>
<tr>
<td></td>
<td>S2</td>
<td>3  3  4  4  3</td>
<td>1  1  0  0  X</td>
<td>4  4  4  4  X</td>
<td>4  4  4  4  X</td>
</tr>
<tr>
<td></td>
<td>S3</td>
<td>3  3  3  3  X</td>
<td>2  2  1  2  X</td>
<td>4  4  4  4  X</td>
<td>4  4  4  4  X</td>
</tr>
<tr>
<td>ME</td>
<td>S1</td>
<td>3  3  3  4  4</td>
<td>1  1  1  1  0</td>
<td>4  3  3  4  X</td>
<td>2  1  4  3  4</td>
</tr>
<tr>
<td></td>
<td>S2</td>
<td>2  1  4  3  X</td>
<td>0  0  0  2  X</td>
<td>4  4  4  4  X</td>
<td>4  0  4  2  X</td>
</tr>
<tr>
<td></td>
<td>S3</td>
<td>4  3  4  4  4</td>
<td>2  0  1  0  1</td>
<td>4  4  4  4  3</td>
<td>4  4  4  4  4</td>
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<tr>
<td>LE</td>
<td>S1</td>
<td>4  1  3  3  X</td>
<td>1  0  0  0  X</td>
<td>X  1  4  0  X</td>
<td>X  0  4  2  X</td>
</tr>
<tr>
<td></td>
<td>S2</td>
<td>2  2  3  3  3</td>
<td>1  3  0  0  3</td>
<td>4  3  4  4  4</td>
<td>4  4  4  3  X</td>
</tr>
<tr>
<td></td>
<td>S3</td>
<td>3  3  3  2  2</td>
<td>0  0  0  0  2</td>
<td>3  4  3  1  3</td>
<td>4  4  4  1  X</td>
</tr>
<tr>
<td></td>
<td>S4</td>
<td>3  4  4  4  X</td>
<td>2  2  1  2  X</td>
<td>4  4  X  4  X</td>
<td>4  4  X  4  X</td>
</tr>
<tr>
<td></td>
<td>S5</td>
<td>4  3  4  4  4</td>
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<td>4  4  4  4  4</td>
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</tr>
<tr>
<td></td>
<td>S6</td>
<td>4  4  4  2  X</td>
<td>1  0  0  0  X</td>
<td>4  4  4  3  X</td>
<td>4  4  4  1  X</td>
</tr>
</tbody>
</table>

Note. HE = High-Engaged; ME = Medium-Engaged; LE = Low-Engaged (i.e., based on the teacher’s judgement before the studies). The shaded columns are the days on which the students reported concentration, interest, or importance at least (3). X = Days particular student did not submit ESRF.
Overall, findings suggest that all of the pre-selected students in Joseph’s classroom, whatever their “entering” engagement, had high-level engagement in the inquiry project, at least on some days. More specifically, the shaded columns in Table 12 show that, consistent with teacher’s reports prior to the study, HE students ($N = 3$) all reported high-levels of concentration during the inquiry project each day. Two of the three students who the teacher had judged at the start to be somewhat engaged (ME students) ($N = 3$) also reported high-levels of concentration across all days. The exception was ME, S2, whose concentration varied from low (1 on Day 5) moderate (2 on Day 8) to high (3 or 4 on Days 9 and 10). Most significant was that, contrary to teacher’s prior experiences with the LE students ($N = 6$), these students were very often engaged during the inquiry project. All LE students were highly engaged on at least 3 of the 4 or 5 days on which they reported their concentration. While four of the LE’s engagement varied across days, two LE students (S4 and S5) reported high levels of engagement throughout the inquiry project.

To better understand why these students’ engagement might have varied across days, I looked at how students’ self-reported concentration was linked to their perceptions of the inquiry project. First, observational data, combined with interviews and ESRF ratings and comments, suggested how individuals’ engagement was linked to their experiences and perceptions of the inquiry project. One example is that of Francesco (already described above).

I chose Francesco again to illustrate patterns of variation of student engagement across days in my findings because he had the widest range of variation ranging from low (Day 8) to moderate (Day 5) and high (Days 9 and 10). His case, therefore, provided an opportunity to demonstrate how students’ personal experiences, perceptions, and engagement could be linked to their classroom learning contexts on particular days. Table 13 shows that on the four days he responded to the ESRF, Francesco worked on different sections of the project. Overall, he perceived these sections of the project to be highly important; but, not challenging except on Day 10 when he found it
moderately challenging.

Table 13.

Francesco’s Perception and Engagement in the Inquiry Project

<table>
<thead>
<tr>
<th>ESRF Days</th>
<th>Inquiry Context</th>
<th>Engagement</th>
<th>Perception of Challenge</th>
<th>Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Concentration</td>
<td>Challenge</td>
<td>Importance</td>
</tr>
<tr>
<td>Day 5</td>
<td>Animal Adaptation</td>
<td>2</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Day 8</td>
<td>First Nations</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Day 9</td>
<td>Museum of Anthropology</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Day 10</td>
<td>All about My Learning</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Day 11*</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

*Note. *= The day he did not complete/submit the ESRF

As already discussed, Francesco had the lowest level on engagement on Day 8, which was the only day he found the project as not interesting at all (see descriptions under Day 8 case example and Table 13 above). However, he found his project very important and interesting on Day 5. Talking about his interest in relation to animal adaptations, he remarked that: “What was fun was the scientific drawing that we did, and you get to watch videos and take screen shots so that made it fun” [Interview, 08/12/2017]. But, then, he was moderately engaged on Day 5 because “I [He] was a bit distracted” and it was his birthday. Note that this class celebrates their peer’s birthdays at the end of the class. Francesco may have been thinking about his birthday celebration as well as compliments from his peers that likely increased his distractions leading to moderate level of engagement.

In contrast, Francesco was very engaged in the inquiry project on the remaining days (Days 9 and 10). His highest level of engagement on Day 9 could be associated with the opportunity he had to visit the Museum, reflect on his personal experiences (SRLPP), relate what he was learning in that context to his life (CRPPs), and demonstrate his learning through writing, drawing and group podcast. It is interesting to note that on Day 8, Francesco reported not finding it interesting learning about the First nations because “I’m not a fan of First Nations”. However, after the museum trip, while reflecting upon his experiences about the First Nations, he noted that: “I [He] was very
interested” because “the art was outstanding”. Examination of his work sample (i.e., Museum of Anthropology booklet) showed that he concentrated and was engaged in his descriptions of what he learned from the Museum trip (see Figure 13).

Figure 13. Francesco’s Work Sample

Observational data also revealed that he was actively involved in the podcast recording activity. For example, when he became aware of his mistake during his voice recording, he immediately paused the recording button to correct his part. Again, when his group [i.e., Group Two] had problems with their recording, Francesco spoke up on their behalf to Joseph saying: “We made a new one and then like we stopped it, then the other one that we made is still there.” This finding shows how creating multiple opportunities of learning the same topic in different contexts, connecting classroom activities to real-life experiences (e.g., field trip to the Museum), and different ways of demonstrating learning could shape students’ positive perceptions, experiences and enrich their engagement.
Francesco also experienced high levels of engagement on Day 10 when they were asked to think about their challenges and strategies they need to adapt to school. He explained that “I had a rough morning”, but “I tried to concentrate.” His high level of engagement on Day 10 could be related to his perception of the context to be highly important and moderately interesting. It should be noted that the two days he experienced high levels of engagement (i.e., Days 9 and 10) more than other days, included multiple opportunities to connect classroom learning to his personal life and lived experiences (SRLPPs and CRPPs), engage in both individual and group activities and demonstrate his learning in different ways.

The above findings of Francesco’s variations in his level of engagement across days (Days, 5, 8, 9 and 10), as indicated by his concentration ratings, and his perceptions of the learning context (i.e., the project) in relation to being interesting and important, could be linked to the different ways in which Joseph embedded CRPPs and SRLPPs into the inquiry project.

To test whether students’ motivational perceptions of the inquiry project were connected to engagement in the class overall, I computed Pearson correlation coefficients among the three variables of concentration, interest, and importance (see Table 14). Results indicated that all three variables were positively and significantly correlated, suggesting a relationship between students’ engagement and their motivational perceptions. But nuances in this overall pattern are evident in the “shading” visible in Table 12. Here it is evident how, parallel to their high-levels of engagement, most students reported high interest, importance, and concentration across days, including HE, ME, and LE students. In addition, the days with the least concentration did seem to be somewhat (if not perfectly) associated with lower ratings of interest or importance (e.g., see LE S3 on Day 10 and Francesco on Day 8). While this overall pattern was robust, there were still exceptions. For example, as described above, Francesco perceived the project to be highly interesting and important on Day 5 but reported moderate level of concentration.
Table 14.

Bi-variate Correlations among Concentration, Importance and Interest

<table>
<thead>
<tr>
<th>Variables</th>
<th>Concentration</th>
<th>Interest</th>
<th>Importance</th>
<th>M</th>
<th>SD</th>
<th>N^+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration</td>
<td>1</td>
<td></td>
<td></td>
<td>3.18</td>
<td>0.78</td>
<td>62</td>
</tr>
<tr>
<td>Interest</td>
<td>0.491*</td>
<td>1</td>
<td></td>
<td>3.34</td>
<td>1.2</td>
<td>62</td>
</tr>
<tr>
<td>Importance</td>
<td>0.321*</td>
<td>0.399*</td>
<td>1</td>
<td>3.56</td>
<td>0.86</td>
<td>62</td>
</tr>
</tbody>
</table>

Note. ^+, Total valid number (listwise) of responses from the participants. *Correlation is significant at the 0.05 level (2-tailed).

Linking back to my earlier case study examples of Afonso and Francesco, it is worth noting that all the pre-selected students perceived the inquiry project to be highly important and interesting on Day 9, suggesting that there were contextual qualities that all students perceived similarly on that day. Further, all students perceived the inquiry project to be interesting and important overall, at least at some point, whatever their “entry” engagement, suggesting some common benefits across students in the project. But then some students’ perceptions on some days (e.g., Day 8) were low, suggesting that not all students responded to the context in the same way (e.g., Francesco). This suggests again that it might be students’ perceptions of the context that are key in predicting engagement, and also that individual students may experience the same contexts differently (individual/context interactions).

Pulling it All Together

In sum, findings from Joseph’s class show that the students were generally very engaged in the CR-SRL inquiry-based project (see Table 9). This finding was true even for students the teacher had identified having generally lower levels of engagement prior to the start of the study (see Table 12). Nevertheless, there were variations in students’ concentration and motivation, related likely to a combination of activities (e.g., Day 9 activities were very engaging for all learners), and personal perceptions of the context and preferences (e.g., see variations on Day 8). It appeared that students’ perceptions of interest and importance were associated with self-reported levels of concentration (see correlational data; see Tables 9 and 12). Finally, student engagement levels on Day 8 and
engagement in SRL on Day 9, could be linked to the kinds of CRPPs and SRLPPs Joseph built into his classroom.
Chapter Five

Case Study Two: Matthias’ Grade 5 Classroom

Matthias’ classroom as already described (see Chapter Three) had 31 students, 25 out of whom consented to participate in this study. In this chapter, I again describe findings related to my three research questions, and in relation to evidence collected in Matthias’ classroom. In addition, this section compares findings from Matthias’ class with that of Joseph’s class.

What Practices did Matthias Enact to Support his Students?

To address the first research question, I looked at the practices Matthias enacted both in the overall classroom context, and then more specifically, through the inquiry-based project. I also built on the three main categories derived from my framework (see Table 3, Chapter Two) to interpret coded observations. The teacher’s and students’ debriefing and interviews, project instructions, and student work samples were cross-checked to confirm observed practices.

Teacher Practices in the Overall Classroom Context

Classroom foundational practices. One of the major findings in the overall classroom context was that, like Joseph, Matthias enacted classroom foundational practices. He built practices across SRL and CRT principles to gain knowledge about his students, foster their knowledge about themselves, and create a caring, safe, and supportive environment. For example, to learn more about his students, at the beginning of the academic year, he designed a reflective form, “What’s Your Story,” with some guiding questions: “If you have a middle name, what is it?” “Do you have nickname, and if so, who calls you by this name?” “Are you in any extra curricular activities …?” And do you have a favourite book or series?” Other questions asked about students’ hobbies, things that excite them and the things they were most looking forward to in the year [Debriefing and Assignment Sheet]. Using guiding questions, Matthias created opportunities for students to develop
metacognitive knowledge about themselves by reflecting on their personal experiences, interests and aspirations (SRLPP and CRPP).

As part of his creating a caring, safe and supportive environment, just as in Joseph’s classroom, Matthias provided opportunities for collaboration and worked to develop a community of learners (SRLPP). For instance, he occasionally designed group activities, and re-shuffled students’ sitting positions every couple of weeks to help the students connect and bond with one another [Debriefing and Observation]. I sometimes observed the students working together and supporting each other. Similar to the students in Joseph’s class, Matthias’ students also described experiences of feeling welcomed, belonging, and working in a safe, caring and supportive environment. Specifically, pre-selected students explained how: “I felt excited, happy and welcomed to be in the class … Because, first is the teacher, [Matthias], is really nice and always understands. And also, my classmates, they’re also very nice. And my friends they keep me company” (LE 3, Interview 18/12/2017); “… he [Matthias] just does a lot of things that makes everyone comfortable in the classroom and shows that he loves all of us … Well, he plans party for us; like this Thursday we’re doing a Christmas party” (HE S4, Interview); “They [students] help me when I’m stuck, and I’d help them. They play with me at recess all the time and we have playdates” (HE S1, Interview 18/12/2017).

The routines and activities in Matthias’ classroom, unlike Joseph’s, were very structured. For example, they had specific times for prayers including at the beginning and end of the classes and before lunch (CRPP). Still, Matthias, like Joseph, also seemed to have co-constructed classroom participation structures with his students including class guiding rules and expectations (SRLPP). Like in Joseph’s class, I was not present to observe Matthias and his students co-construct their class participation structures. I observed a routine, however, where the students on entering the classroom in the morning hung up their jackets, took down all the chairs including those of the students that
were not yet in the class, and chose a novel and read. In addition, during class discussions and instructions, students raised their hands before asking or answering a question and, during work times, they queued up in line to seek help from the teacher.

The inquiry project Matthias designed also included classroom foundational practices, some of which focused on gaining knowledge of learners. For instance, two of the sections of the project, the “Culture Collage” and “Personal Values and Choices”, created opportunities for students to reflect and share information about their background histories (SRLPP and CRPP). Taken together, these findings indicate that Matthias built across CRT and SRL principles in developing and enacting classroom foundational practices.

Culturally responsive-SRL practices. Secondly, just as Joseph had done, Matthias designed culturally responsive-SRL practices. A review of the inquiry project’s instructions showed how he integrated CRPPs and SRLPPs into the project “Understanding Your Personal and Cultural Identity” (See Appendix D for a detailed description). For example, in the section on “Personal Values and Choices,” his instructions asked students to: (1) List 5 things that are important to you/that you value in life; (2) Explain why each of them is important to you; (3) Consider “What do you hope to be in the future, and why?”; and (4) Reflect on “How is this hope affected/influenced by your values or your cultural background? If it isn’t, what affects/influences your hope and why?” Through these instructions, Matthias offered opportunities for students to make connections between class activities and their personal lives (CRPP), make choices and control the information they were sharing (SRLPP), and reflect on how their values and choices in life might be influenced by their culture (SRLPP and CRPP).

Overall, whereas Joseph’s inquiry project tended to advance his students’ understanding of classroom topics by situating them in their lived experiences and cultural backgrounds, Matthias’ project focused in a more limited way on developing his own, as well as his students’ awareness and
understanding of their cultural backgrounds and identities (e.g., by creating a collage). Joseph’s inquiry project had all the features of a “complex task”. Matthias’ project also had many features of a “complex task”: it extended overtime, had different sections with specific products, and involved students in both independent and group learning processes (SRLPPs). While the inquiry project activities in Joseph’s project were highly interdependent and integrated, Matthias’ project included a series of short, related tasks in a survey format; and, the activities included in it were mostly open-ended questions, and built only from Social Studies. Matthias’ project also created limited opportunities for student to demonstrate learning in a variety of ways. Still, across sections, Matthias like Joseph did weave together both CRPPs and SRLPPs. For example, the section on “Culture Collage” asked students to “make a collage of images and words that describe and represent you culturally; …use the space below [in the worksheet] to brainstorm ideas that you can apply to your final collage” [Inquiry Project Instructions]. This finding suggests that Matthias created opportunities for students’ strategic action and self-monitoring (SRLPP) and surfacing home and life experiences within classroom activities (CRPP).

**Dynamic supportive practices.** Thirdly, just as was the case in Joseph’s class, I observed dynamic supportive practices in Matthias’ class as students’ participation in their learning activities unfolded. For example, Matthias encouraged his students to clarify some of the information they were generating for their inquiry project (CRPP) with their parents. Like Joseph, to assess and generate feedback on students’ moment-to-moment engagement experiences, Matthias had students complete the ESRF most times they worked on the inquiry project (SRLPP). Also, he fostered peer evaluation, assessment and feedback during their science project through a “Teammate Evaluation Form” (SRLPP). This form asked the students on a 4-point Likert scale to rate their teammates in terms of how they offered creative or helpful ideas, stayed focused, contributed an equal or fair share on the group work, and completed their individual part of the work on time. Additionally, I
observed Matthias offering scaffolds for students’ design of their collages as they were trying to think about and represent their cultural background (SRLPP and CRPP). For instance, he brainstormed with the students on how to complete the responses to the culturally situated open-ended questions of the project.

Nevertheless, building on my a priori coding scheme, not every specific practice was directly coded as either SRLPP or CRPP in my displays, just as I had observed in Joseph’s class. But, looking across an activity or lesson as a whole, I could see how Matthias, like Joseph, wove together different classroom practices including CRPPs and SRLPPs to create an inclusive learning context that was, overall, SRL-supportive and culturally responsive.

In sum, triangulation of data from the classroom observations, the teacher’s and students’ final interviews, and a review of project instructions, showed that Matthias, as Joseph, enacted SRLPPs and CRPPs practices in the three main categories of the CR-SRL framework. Finally, he differed from Joseph in that he had not taken advantage of some opportunities that could have been built into the inquiry project as a “complex task” to support culturally diverse students.

**What Were the Benefits and Challenges of Enacted Classroom Practices for Matthias?**

I addressed this second research question by identifying and coding Matthias’ perceptions about the practices he enacted based on his responses to his semi-structured interview and debriefing questions.

**Benefits of Designing and Implementing CRPPs and SRLPPs for Matthias**

Matthias’ perceptions of benefits of enacted practices were closely related to those of Joseph. The analysis of Matthias’ perceptions about his enacted CRPPs and SRLPPs suggests that he also found them beneficial in addressing student diverse learning needs, designing the CR-SRL inquiry-based project and supporting culturally diverse students’ learning processes.
**Addressing students’ diverse learning needs.** Matthias explained how the foundational practices he enacted, especially as part of the CR-SRL inquiry-based project, provided opportunities for gaining a deeper knowledge of his students including their interests:

I learned more about my students than I knew before doing the project. We usually don’t go as deep into detail with this type of work as we did with this particular project … I read very often from their reflections that they liked to talk about themselves, and to discuss things they are good at and what they like [Interview, 19/12/2017].

Like Joseph’s perceptions of his enacted foundational practices, Matthias explained how his knowledge of his students allowed him to employ different approaches in creating an inclusive classroom as a way of addressing students’ diverse learning needs (e.g., use of imagery, video clips, simplification of Math processes):

That’s why we use imagery a lot because it’s not always possible to get on every student’s desk something they can touch and feel and then sense. But, you can still present information in all kinds of ways by reading stories, by giving them things they can do to, right? And you can also, of course put images up and show movies. I find video very effective, because it delivers a really strong package, I think, to them. That has both information but also the affect of that is memorable [Interview, 19/12/2017].

Furthermore, he described how he addressed student differences in reading levels by providing them with different appropriate reading materials:

I know that there are strong readers, good readers, and readers that really need support. And so, I select books based on reading level, and we have advanced students reading more difficult books. Students that really struggle with language and processing when reading, I give them simple, easier books, the vocabularies are less complicated, there are fewer pages per chapter. The subject matter is not as much complex. And then, I have a book that just
stand at the middle that I give to students that I don’t feel that are excelling, but also aren’t struggling” [Interview, 19/12/2017].

This finding, comparable to Joseph’s, suggests that Mathias’ foundational practices were helpful in building his capacity to design an inclusive classroom that addressed student diverse learning needs.

**Designing a CR-SRL inquiry-based project.** Unlike Joseph who was familiar with designing inquiry project [Debriefing]. However, my final interview with him suggested that, after participating in the study, he felt prepared to design a CR-SRL inquiry project in the future. He shared ideas about how he plans to build on his experiences with our co-constructed CR-SRL project to independently design an improved inquiry project. For instance, he described his plans to foster students’ understanding of their cultural histories by creating multiple ways the students could share their cultural backgrounds, such as dramatization, and bringing artifacts (SRLPPs and CRPPs):

There were things we could have done like dramatization or presentation that might have perhaps brought their culture more to the forefront. That happens in Term Two when they do an immigration report, they have to report on their family history and their cultural history, and they have to bring in things from home, things that represent their culture and they talk about those. So, you know that would have been a stronger connection to them, I think [Interview, 19/12/2017].

In addition, he plans to re-structure the project in ways that will allow the students to witness and appreciate cultural diversity in Canada (CRPP):

We did a concluding project where the students talked about their culture and then looked at other students’ answers about those questions. I might have actually started with that, so then they can orient themselves in the room in a way that sort of gives some perspective on the future questions you might ask; and, then, I would really drive home the idea that Canada is
Canada because of this experience. I might even invite people to come from other places to share their experiences of living in their country, because I have friends in the United States that see cultural identity differently than Canada does [Interview, 19/12/2017].

All together, the above findings indicate that Matthias felt equipped to design a CR-SRL inquiry-based project in his future classroom activities. He declared his preparedness in designing a CR-SRL inquiry project when he stated: “I’m quite confident … I will take part of this and use it in the future…” [Interview, 19/12/2017].

Supporting culturally diverse students’ learning processes. Again, as Joseph did, Matthias found CRPPs and SRLPPs helpful in supporting his diverse students’ learning processes including engagement, motivation, and self-knowledge. For example, he perceived the co-constructed CR-SRL inquiry project as a motivationally supportive context for his students’ learning because “…it allows people [students] to just say what’s on their mind…”. Moreover, he linked his students’ engagement (e.g., sharing ideas about themselves) and motivation (e.g., interest in the project) to the contextual features of the project: “I like that they were sharing a lot about themselves… In general, I thought the project was good for them, and interesting to participate in” [Interview, 19/12/2017].

These findings indicate that, similar to Joseph, Matthias had positive experiences with designing and implementing CRPPs and SRLPPs. Overall, he related how CRPPs and SRLPPs were beneficial in addressing students’ diverse learning needs, designing the CR-SRL inquiry-based project, and supporting culturally diverse students’ learning processes.

Challenges of Designing and Implementing Classroom Practices for Matthias

Despite the benefits Matthias described that were associated with his efforts to integrate CRPPs and SRLPPs, like Joseph, he reported ways in which he found that challenging.
Designing CRPPs and SRLPPs. Whereas Joseph related his challenges to the complex structure of the project, my conversations with Matthias revealed that he attributed most of his challenges to his being a novice in designing an inquiry project [Debriefing] and time constraints resulting from some of the new changes in his school’s curriculum and program:

The timing of it [project] was not the ideal... Now, there are other factors involved too, new to us this year is the Edible Garden Program, which takes up time once a month on Wednesdays for a few hours. As well, we have catechesis of the Good Shepherd that’s another program that takes up 3 hours once a month. We were also being evaluated this year. And so, I had to redesign my plans with the new curriculum in a very articulate way so that during this evaluation we wouldn’t have any issues. So, all of that work, put together, didn’t allow us [to] plan it into our program [Interview, 19/12/2017].

In his descriptions of the benefits and challenges of CRPPs and SRLPPs, Matthias appeared committed to supporting culturally diverse learners by creating an inclusive classroom context and engaging them in thinking about cultural diversity in Canada (as explained above). Nevertheless, he judged his class to be fairly culturally and linguistically homogenous with just one ESL student and did not perceive that cultural backgrounds of that particular class (i.e., 2017/2018 Grade 5 students) were a major barrier to their understanding and learning experiences. He recounted that:

…cultural difference is not necessarily the impediment to their [his students] learning process. Sometimes there are cultural practices that maybe explain behavior, but they don’t necessarily change the way that they learned. So, in my classroom they’re all Canadian born with the exception of just a small handful. In that small handful, only one of them is actually an ESL. So, in my case, in our classroom now [S1] is ESL; but, she’s the only ESL. Everyone else speaks English as their first language [Interview, 19/12/2017].
Beyond the inquiry project, contrary to Joseph who was proactive in designing CRPPs, Matthias did not deliberately design classroom activities in relation to his students’ cultural backgrounds, except when the curriculum facilitated the consideration of culture. For example, he described building CRPPs primarily into Social Studies “content” that specifically addresses culture (e.g., immigration and diversity): “The only time culture stands out as something is when it’s an impediment. But, otherwise they [students] can just express it [their culture] however they want; and, fortunately in grade 5 we do immigration as a subject of study and [in] Social [Studies], so they get to write about that a lot” [Interview, 19/12/2017].

**Implementation of designed practices.** Matthias seemed to link challenges to difficulties in supporting all his students’ learning through opportunities he built into his practices. For instance, he described his struggle in facilitating students’ learning in a Math lesson that integrated their experiences of “McDonald Fast Food” (CRPP):

> We are doing long division; and they haven’t done long division before. So, I thought I would start by giving them a pattern and that pattern is “divide multiply subtract bring down”. So, I wrote that pattern on the board, and I gave them the pattern on a piece of paper, and made it simple to remember and we just have an acronym … ‘Does McDonald’s Sell Burgers?’ … For a number of students, that works just fine… For a different group of students, they didn’t like it; because, they felt that it was too kiddish, they just like to know the process. So, I have students that would rather not have the simplified version … I have a group that no matter what I did it will still be complicated…There are many reasons that might incorporate culture, but could very likely be other things too, like family, sleep, diet, after school routines. There’s lots of stuff that can affect learning. So, those are my biggest priorities [Interview, 19/12/2017].
In relation to the CR-SRL inquiry-based project, he explained his doubts about achieving his goals of supporting students’ understanding of themselves in relation to others (SRLPP and CRPP):

I’m not sure the understanding of themselves with respect to their classmates improved over the stretch of the assignment. Actually, I spent a lot of time thinking about that after we completed it. What I could have done to get them to see themselves differently, but only because it’s a truer version of themselves. I didn’t want them to see themselves as different from other people, necessarily; but, just to see the ways that they are different, and if that meant anything to them. Unfortunately, we are fairly homogenous in a lot of obvious ways [Interview, 19/12/2017].

Further, unlike Joseph, Matthias remarked on the difficulty of getting parental support as part of his dynamic support for his students’ learning:

I have contacted parents and told them… They say, oh yes right away, they’ll work on it. Maybe it lasts for a little while, I have had that happen where there is a little improvement, and they prove it lasts for a short time; but, eventually habits are habits people fall back to them and the kids are still struggling… I have students … their parents work two jobs; and, so, they’re not home until after dinner and there’s no time for homework and these kids struggle, and … with no help at home there’s little I can do in the classroom to catch them up…I’ve got up to three in Grade 5 right now that definitely can’t keep up and they’re not getting the support at home that I would like to see them get, but I can’t change it [Interview, 19/12/2017].

Based on these challenges, Matthias described how he provided extra supports for struggling students during recess and lunch time: “I spent time on recess and after school meeting with students that didn’t just get it and we just practice it… there is no guarantee that when you send a student home
that the problems can be solved by the parents…I just have to keep them during recess and lunch, and give them simplified work” [Interview, 19/12/2017].

In sum, these findings indicate that Matthias, like Joseph, experienced both benefits and challenges while designing and implementing CRPPs and SRLPPs in his classroom. He found the practices beneficial in addressing student diverse learning needs, designing the CR-SRL inquiry-based project, and supporting culturally diverse learners’ engagement and motivation. Simultaneously, unlike Joseph, Matthias seem to grapple with creating the type of conditions that could support all his students to achieve his expected learning outcomes; partly, because of the diversity in his students’ learning needs, their perceptions of the classroom practices (e.g., as described in the Math lesson above), and challenges in recruiting parental support. Finally, because of the challenges in facilitating his students’ learning through opportunities he created, Matthias plans to offer them more dynamic support, such as spending extra time with struggling students.

**How Could Students’ Engagement be Associated with Matthias’ Practices?**

In this section I describe findings related to the links between student engagement and Matthias’ classroom practices under two sections. The first section focuses on the quality of students’ engagement, and the second on links between students’ engagement and Matthias’ practices.

**Students’ Engagement**

This section presents evidence related to students’ engagement in both the overall classroom context, and then, more specifically in their inquiry-based project.

**Students’ engagement in the overall CR-SRL classroom context.** Table 15 shows descriptive statistics of students’ engagement as reported on the engagement survey they completed once the inquiry project was over, at the end of the study (i.e., the SIEI). Findings suggested that overall engagement in classroom activities in Matthias’ class (on a scale from 0 to 4) was, on average, high. However, the level of students’ reported engagement was just slightly above the
midpoint on the five-point scale ($M = 2.81; SD = 1.03; Min = 2.10, Max = 3.25$). Further, a one-way ANOVA showed that students in Joseph’s classroom reported higher-levels of engagement overall ($M = 3.03, SD = 1.05$) than those in Matthias’ classroom ($F (1, 172) = 4.69, p = 0.03$).

Examination of the four dimensions of engagement (i.e., agentic, cognitive, behavioral and emotional) in Matthias’ classroom showed that students’ rating of their engagement was also slightly above the midpoint on each. Consistent with findings from Joseph’s class, their self-reports of engagement on these dimensions were moderately correlated. For example, there was a positive statistically significant relationship between agentic and cognitive engagement [$r (23) = .64, p < .01$]; agentic and behavioural engagement [$r (23) = .407, p < .05$]; and cognitive and behavioural engagement [$r (23) = .461, p < .05$]. Given these findings, combined with the difficulty in distinguishing between different dimensions of engagement in observations, I again focused more on overall levels of engagement as suggested by evidence from surveys, interviews, and observations.

Table 15

<table>
<thead>
<tr>
<th>Grade 5 Participants’ Self-Reported Engagement in the Classroom Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Statistics (N =25)</strong></td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>SD</td>
</tr>
<tr>
<td>Min</td>
</tr>
<tr>
<td>Max</td>
</tr>
<tr>
<td>Scale</td>
</tr>
</tbody>
</table>

*Note. Rating and coding scheme is based on the SIEI Scale: 0 = strongly disagree, 1 = disagree, 2 = medium, 3 = agree to 4 = strongly agree. Engagement interpretation scheme: < 2 = low level, 2 < 2.5 = moderate level, and 2.5 > 4 = high-level.*

**Students’ engagement in the inquiry-based project.** To understand students’ in-the-moment engagement (i.e., concentration) and perceptions of the inquiry-based project in terms of whether it was challenging, important, enjoyable and interesting, I calculated the means and standard deviations of their self-reports on the ESRF. Figure 14 and Table 16 combine to show that, consistent with their SIEI reports, students who participated in the inquiry-based project across the four days
were relatively highly engaged (Concentration, $M = 2.97$, $SD = 0.17$). A one-way ANOVA also showed that there were no statistically reliable differences in concentration across days. While students’ ratings were again above the mid-point, suggesting relatively high levels of engagement, students’ self-reported concentration on the ESRF in Joseph’s classroom ($M = 3.24$, $SD = 0.79$) was again higher than that reported by Matthias’ students [$F(1, 104) = 8.23, p = 0.01$].

Figure 14 and Table 16 also show that, overall, Matthias’ students perceived the inquiry project to be very important ($M = 3.04$, $SD = 0.07$), enjoyable ($M = 2.94$, $SD = 0.36$), and interesting ($M = 2.75$, $SD = 0.30$). Students’ overall perceptions of the project suggest a relatively high-level of motivation ($M = 2.91$, $SD = 0.22$); however, when compared to the students in Joseph’s classroom, there were some consistent variations in their motivational perceptions across days. For example, although a one-way ANOVA showed that, across days, students reported similar levels of importance, a Tukey’s HSD pairwise comparison indicated that the students reported experiencing higher levels of interest and enjoyment on Day 4 as compared to Day 6 ($p < .01$). This finding points to the possibility of classroom conditions influencing students’ motivational perceptions (and engagement) on different days.

Figure 14. Participants’ Self-Reported Engagement, Perceptions of Challenge, Importance and Interest During the Inquiry-Based Project Across Days
Table 16

*ESRF: Mean Values and Standard Deviation for Students’ Experiences of Engagement, Perceptions of Challenge and Motivation During the Inquiry-Based Project Across Days*

<table>
<thead>
<tr>
<th>Days</th>
<th># of participants</th>
<th># of ESM</th>
<th>Engagement Concentration M (SD)</th>
<th>Perceived Challenge M (SD)</th>
<th>Important M (SD)</th>
<th>Enjoyable M (SD)</th>
<th>Interesting M (SD)</th>
<th>Overall M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>25</td>
<td>25</td>
<td>3.00 (0.60)</td>
<td>0.93 (0.84)</td>
<td>3.10 (0.56)</td>
<td>3.48 (0.67)</td>
<td>3.19 (0.72)</td>
<td>3.26 (0.68)</td>
</tr>
<tr>
<td>5</td>
<td>25</td>
<td>21</td>
<td>3.14 (0.64)</td>
<td>0.67 (0.64)</td>
<td>3.05 (0.84)</td>
<td>2.86 (0.83)</td>
<td>2.86 (0.83)</td>
<td>2.92 (0.84)</td>
</tr>
<tr>
<td>6</td>
<td>25</td>
<td>23</td>
<td>3.04 (0.75)</td>
<td>0.87 (0.95)</td>
<td>3.09 (0.85)</td>
<td>2.48 (1.17)</td>
<td>2.43 (1.10)</td>
<td>2.66 (1.09)</td>
</tr>
<tr>
<td>7</td>
<td>25</td>
<td>25</td>
<td>2.68 (0.84)</td>
<td>0.80 (0.89)</td>
<td>2.92 (0.89)</td>
<td>2.92 (0.98)</td>
<td>2.52 (1.10)</td>
<td>2.79 (1.01)</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>25</td>
<td>2.97 (0.17)</td>
<td>0.82 (0.10)</td>
<td>3.04 (0.07)</td>
<td>2.94 (0.36)</td>
<td>2.75 (0.30)</td>
<td>2.91 (0.22)</td>
</tr>
</tbody>
</table>

*Note.* * = Day with self-report on ESRF. The rating and coding schemes are based on data from the ESRF: Scale: 0 = Not at all, 1 = slightly, 2 = somewhat, 3 = much, 4 = Very Much.

Table 17

*ESRF: Selected Students’ Engagement, Perceptions of Challenge and Motivation During the Inquiry-Based Project Across Days*

<table>
<thead>
<tr>
<th>Days</th>
<th># of participants</th>
<th># of ESM</th>
<th>Engagement Concentration M (SD)</th>
<th>Perception of Challenge M (SD)</th>
<th>Important M (SD)</th>
<th>Enjoyable M (SD)</th>
<th>Interesting M (SD)</th>
<th>Overall M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>14</td>
<td>14</td>
<td>2.86 (0.36)</td>
<td>1.07 (0.83)</td>
<td>3.14 (0.53)</td>
<td>3.50 (0.65)</td>
<td>3.15 (0.69)</td>
<td>3.27 (0.48)</td>
</tr>
<tr>
<td>5</td>
<td>14</td>
<td>11</td>
<td>3.18 (0.60)</td>
<td>0.73 (0.79)</td>
<td>3.09 (0.70)</td>
<td>2.91 (0.70)</td>
<td>2.82 (0.75)</td>
<td>2.94 (0.44)</td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td>12</td>
<td>2.67 (0.78)</td>
<td>1.17 (1.11)</td>
<td>2.75 (0.87)</td>
<td>2.25 (1.06)</td>
<td>2.25 (0.87)</td>
<td>2.42 (0.77)</td>
</tr>
<tr>
<td>7</td>
<td>14</td>
<td>14</td>
<td>2.54 (0.78)</td>
<td>0.79 (0.80)</td>
<td>2.79 (0.89)</td>
<td>3.00 (0.78)</td>
<td>2.43 (1.09)</td>
<td>2.74 (0.67)</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>14</td>
<td>2.82 (0.68)</td>
<td>0.94 (0.87)</td>
<td>2.94 (0.75)</td>
<td>2.92 (0.90)</td>
<td>2.67 (0.91)</td>
<td>2.85 (0.66)</td>
</tr>
</tbody>
</table>
Selected students’ engagement in the inquiry-based project. Consistent with ESRF results of all the participants, Table 17 and Figure 15 combine to show that the selected students who participated in the CR-SRL inquiry-based project across the four days were relatively highly engaged. Similar to patterns apparent for all participants in Matthias’ classroom, they perceived the inquiry project to be important, interesting, and enjoyable, and not very challenging.

Figure 15. Selected Students’ Engagement, Perceptions of Challenge, Importance and Interest During the Inquiry-Based Project.

Links Between Student Engagement and Teacher Practices

In this section, I present findings about how teacher practices could be connected to student engagement in two ways. First, I provide in-depth case examples of links between teacher practices and student engagement on three days (Days 4, 5, and 6). Then, I examine how the students Matthias
selected, prior to the study, as having different levels of engagement, perceived and engaged in the inquiry project.

**Case examples: Days 4, 5 and 6.** To examine links between students’ engagement and the conditions established in the inquiry-based learning project, I begin this section by presenting in-depth descriptions of Matthias’ practices, in relation to his students’ engagement. I chose three days including two with the most engagement (i.e., Days 4 and 5) to determine which practices could be associated with students’ general engagement (i.e., Day 4), particularly in self-regulating their learning (i.e., Day 5); and, one where there was a great deal of variability in students’ motivational perceptions and self-reported concentration (i.e., Day 6). An overview of the class activities, teacher practices, and students’ reflective comments on the ESRF on these days is presented in Table 18.

**Case example: Day 4.** Prior to Day 4, the students had completed a set of opened-ended questions on “Relationship and Cultural Contexts.” The objective of that part of the inquiry project was to orient students’ thinking about how their culture and lived experiences shaped their identity and choices. They responded to questions: “How do you choose your friends?”; “Do you base friendship on interest, age, cultural background, appearance, gender, religion or other qualities, and why?”; “What celebrations do you and your family observe and why?”; “What do you appreciate most about your cultural background and why?” [Project Instructions]. On Day 4, the students built on the information they had generated from those questions to create a “Culture Collage” (from 9 -10 am).
### Table 18

**Learning Context, Teacher Practices and Samples of Students’ Comments on Days 4, 5, and 6**

<table>
<thead>
<tr>
<th>Days</th>
<th>Context</th>
<th>Teacher Practices</th>
<th>Sample of Students’ Comments in ESRF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Lesson Activity One: Matthias and the students were brainstorming and sharing ideas about the kind of things to be included in their collages.</td>
<td>Provided opportunity for students’: - connection of classroom activity to their cultural backgrounds (CRT), - choice making (SRL), - self-reflection through ESRF (SRL).</td>
<td>HE S1: “I liked learning more about myself”. HE S2: “I got to draw”; “I was drawing and telling about my cultural background at the same time”. HE S3: “It was really fun drawing stuff about my culture”; “It was interesting because I have never been told to draw and write about my culture”. ME S2: “I really enjoyed what I worked on today because I was drawing about my culture and it was fun”; “I got to remember my culture and draw it”. ME S4: “It’s cool learning other people culture”. LE S6: “I like to think of things about my culture”. ME S1: “I like talking about my culture but I don’t like to write”; “I got to talk about personal stuff that I like but it was a lot of writing”. ME S2: “It was interesting because I had to write about I wanted to be”. ME S3: “I enjoyed it because I like to answer questions about myself”; “The activity we are doing can tell about ourselves”. ME S4: “It helps me think about things I don't usually think of”. LE S2: “It is new and we haven’t done something like this before”. LE S3: “It was the only work that asked for what I wanted to be when I grow up”; “It tells you and me more of what I know and makes me focused”</td>
</tr>
<tr>
<td>5</td>
<td>Lesson Activity One: Matthias and the students were brainstorming ideas, and students independently completed the open-ended questions on their worksheets.</td>
<td>Provided opportunity for students’: - connection of classroom activity to their cultural backgrounds CRT), - choice making (SRL), - self-reflection through ESRF (SRL), - social interaction and group activity around cultural backgrounds (CRT &amp; SRL).</td>
<td>Offered instrumental support: - scaffolded student thinking about their cultural backgrounds and experiences through brainstorming and a worksheet with guiding questions (SRL &amp; CRT). - provided learning resources (e.g., flipcharts).</td>
</tr>
<tr>
<td></td>
<td>Lesson Activity Two Students were working in small groups; independently writing, and collectively sharing their individual stories on their group’s flipchart.</td>
<td>Provided drawing paper.</td>
<td>HE S1: “I learned about myself by answering the questions; “You can challenge yourself to think harder”. HE S2: “It’s cool thinking about what I will be and telling about it; “I get to talk about my future about being a Nanotech engineer. HE S3: “I like to express my culture”. ME S1: “I like talking about my culture but I don’t like to write”; “I got to talk about personal stuff that I like but it was a lot of writing”. ME S2: “It was interesting because I had to write about I wanted to be”. ME S3: “I enjoyed it because I like to answer questions about myself”; “The activity we are doing can tell about ourselves”. ME S4: “It helps me think about things I don't usually think of”. LE S2: “It is new and we haven’t done something like this before”. LE S3: “It was the only work that asked for what I wanted to be when I grow up”; “It tells you and me more of what I know and makes me focused”</td>
</tr>
</tbody>
</table>
| 6 | **Lesson Activity**  
Matthias and the students were brainstorming ideas; and students independently completed their worksheets. | Provided opportunity for students':  
- connection of classroom activity to their cultural backgrounds through the worksheets (CRT),  
- choice making (SRL),  
- self-reflection through ESRF (SRL),  
Offered Teacher support  
- procedural support through brainstorming activity, and  
- emotional support. | **HE S1**: “I didn’t enjoy writing but the questions were interesting”; “got to learn more about myself”. **HE S2**: I got to think about what I’m good at”; “it was fun…I had to think”. **HE S3**: “I like working on these activities”; “some of the questions are hard”; these questions are all about me”. **HE S4**: “I tried to ignore the people in my group” [in terms of class sitting arrangement]; “I got bored after awhile” **ME S1**: “I was talking sometime while working on it”; “if I don’t do it, I will get into trouble”; “it got my brain thinking about my school, my family, and my friends”. **ME S2**: “it was fun; our group was loud, but I didn’t talk”. **ME S3**: “I like doing this type of work; this assignment lets me be creative and lets me be me”. **LE S1**: “I did not think it was interesting”; “I got really bored”. **LE S2** “Some of the question are hard “; “people around me are loud”. **LE S3**: “this activity was not easy nor hard, it was in the middle”; “sometimes I always get distracted”; “I'm not a big fan of writing”. **LE S4**: “pretty excited but I liked the collage more because it was more creative”; “I have quiet people around me so I can concentrate”; “I like learning about me…” **LE S6**: “I did not like this assignment”; “got easily distracted because its boring”; “it wasn’t interesting”.

An excerpt from one student’s responses to the questions is provided in Figure 16. This example (and others below) is drawn from one student’s engagement in this part of the inquiry project. This student, Lee, had been identified by her teacher as showing medium levels of engagement prior to the study (ME, S2; see Table 19). Lee was a 9-year-old, grade 5 girl who was born in Korea as were her parents. She spoke Korean as her first language. She was the only student in her class that was learning English as a second language (ESL) since she was in her first year in Canada. Therefore, “she needs extra attention when it comes to Language Arts; but she’s very good at Maths” [Matthias, Interview 19/12/2017]. Part of her strengths and abilities included: artistic, creative, crafty, organized and mathematics [Work sample, 22/11/2017]. Notice in this example how Lee had opportunities to bring her culture and experiences into this activity.

Figure 16. Lee’s Responses on the Worksheet “Relationship and Cultural Contexts”

4. What major celebrations do you and your family observe and why?

Me and my family celebrate Korean’s New Year, Birthdays, Christmas, and other Korean celebrations. We celebrate because everyone in Kora celebrate all of these celebrations and our family celebrate all of these celebrations too.

5. What do you appreciate most about your cultural background and why? Explain in detail.

I appreciate my cultural background because there are many food, houses, and many plants and animals. That is why I like and appreciate about my cultural.

After answering these questions, students moved to working independently on their collages. Observational data and documents, including students’ worksheets, showed that Matthias enacted
both CRPPs and SRLPPs in this part of the assignment (see Table 18, Day 4, Column 3). The teacher started the lesson by asking the students to get their folders for the inquiry project and communicating the expectations associated with their creating a collage (SRLPP). Next, he facilitated a brainstorming activity about possible things they could include in their collages, such as drawings of themselves, family and friends, their national flags and cultural symbols (e.g., food, sports, arts), religious symbols and celebrations (CRPP). During the class discussion, Matthias recorded students’ responses on the white board, and modelled how to make a collage by drawing a rectangular portrait filled with drawings, such as soccer, a cross, and so on (SRLPP). He encouraged the students to independently brainstorm ideas and choices they could apply in their final collage in the blank section of a “Culture Collage” worksheet (SRLPP and CRPP). Further, he presented the students with small drawing sheets for their drafts before giving them a bigger drawing sheet for their final collage. While students worked on their collages, Matthias occasionally circulated, answered questions and provided scaffolds for their drawings by projecting images at the students’ request, such as national flag of their home country.

During this lesson activity, I observed that the students were engaged in writing, asking questions and designing their collages. They clarified with Matthias what to include in, and how to draw their collages. For example, one students asked, “What if you know your mum’s side [i.e., cultural background] and not your Dad’s side?” Occasionally, students filed up in front of the teacher’s desk to ask questions. When I approached Lee, she informed me that she filed up to inquire from the teacher “how to draw Korean flag and house they [Korean] used to live long time ago” [Debriefing, Day 4]. Further, the students spent time drawing and creating their collages through multiple drawings. Approaching Maria, a nine-year-old Filipina who was born in the Philippines as were her parents, she described her draft drawing saying: “In Arts, you have to have the laydown/background and that is what I’m drawing … I will include all the things that represent me”
[pointing at some of the things she has drawn during the brainstorming exercise]. Examination of student final work samples showed that the students were describing themselves and cultures through big coloured collages. For example, in her final collage, Maria included drawings of flags from both Canada and the Philippines. In addition to writing English and Tagalog, languages she speaks, she also wrote “Saint Lorenzo Ruiz, first Filipino saint”. This finding could be linked to opportunities Matthias created for the students to first reflect on the information they wanted to include on their collages and the brainstorming exercise; and, draw a draft copy of their collage before the final copy with the instructions to “make it colourful, and cover the whole page” [Project Instructions].

Figure 17 shows a draft and final copy of Lee’s collage. What you can see in this example is how Lee built on the information she generated from “Relationship and Cultural Contexts” worksheet (see Figure 16 above) and her draft copy to design her final collage.

The examination of students’ final drawings showed that they made culturally meaningful and relevant choices of what they were sharing about themselves. To illustrate, they included drawings of their national flags, favourite dishes, maps of their country/continent, sports (e.g., soccer ball, hockey sticks, Cricket, Gaelic football), family members, a Christmas trees, a cross, St. Patrick’s Day with an Irish flag, a pumpkin, and the Big Ben Clock in London [Work Samples]. As
you can see in Figure 17, in her collage, Lee included a Korean flag and dish, a drawing of her parents and herself and so on. Again, this finding could be linked to the opportunity the teacher created for the students to “make a collage of images and words that describe and represent you [them] culturally” [Project Instructions] and how he provided scaffolds through brainstorming about things that could be included in their collages. I also noticed that the quality of the information the students were sharing about their cultures could be linked with the guiding questions Matthias provided them in the “Relationship and Cultural Contexts” worksheet that engaged them in thinking about the impact of culture on their identity and choices.

Finally, I found that the students were engaged in self-reflection about their learning experiences at the end of the lesson. Like Joseph, Matthias facilitated their reflective processes by distributing the ESRF for students’ self-reflection on the day’s learning activity (SRLPP). Evidence of their reflections is presented in Table 18 (see Day 4, column 4). Their comments on the ESRF suggested that their engagement could be directly related to their perceptions of the inquiry project. For example, students linked their motivation and engagement to the opportunities Matthias had offered them to reflect on and share their cultural backgrounds through the collage (SRLPP and CRPP): “…because I have never been told to draw and write about my culture” [HE, S3]; “I like drawing and … to talk with other people about my culture” [LE S4], and “I get to remember my culture and draw it” (Lee). Also, students linked their perceptions and engagement with opportunities they were provided with to learn, draw and talk about their backgrounds.

In sum, evidence from observational data, documents such as worksheets, work samples, and ESRF reports combined to show that students’ motivation and engagement on Day 4 could be associated with the CRPPs and SRLPPs Matthias enacted.

Case example: Day 5. On Day 5, the students self-reported experiencing high-levels of engagement. I also observed that they were very engaged while working on the section “Personal
Values and Choices” of their inquiry project in the library (from 10:45 am – 11:30 am). This section required the students to respond to some questions around their values, and how those values may have been influenced by their cultural backgrounds. On Day 5, I noticed that Matthias designed two interdependent activities for his students to: (1) independently complete a worksheet; and (2) share their personal stories about their individual values and choices in small groups (see Table 18, Column 1 above). The independent and small group activities were meant to support the students in gathering necessary information that would eventually form their small group’s collective story.

I observed that on Day 5, Matthias enacted both CRPPs and SRLPPs (see Table 18, Day 5, Column 3). The teacher started the class by creating culturally-mixed small groups of students (CRPP). First, he asked students who spoke different languages other than English to distribute themselves among the 7 tables prepared for the day’s group activity. Next, he assigned the rest of the students into the 7 tables and formed 7 small groups with average of 4 students per table/group. Each table had a flipchart with drawn quadrangles for each student to write their individual stories. He then communicated the main learning expectation, sharing personal stories to the students (SRLPP); and invited them to employ the Holy Spirit to assist them in sharing their personal stories (CRPP). At the teacher’s request, a volunteer student prayed for the success of their class activity. Matthias continued the lesson by asking the students to write their names on the top of each drawn triangle on the flipchart. Furthermore, he distributed a “Personal Values and Choices” worksheet and facilitated a brief brainstorming activity to support students’ completion of the task requirements (SRLPP).

Findings from the observational data, student work samples, and ESRF reports revealed evidence of students’ engagement and regulation of their learning engagement during the independent and group activities on Day 5. For example, their work samples indicted that they connected the class activity with their lived experiences and future aspirations; and developed their metacognitive knowledge. During the independent activity, I observed the students generating and
writing information about their personal lives and backgrounds while completing their “Personal Values and Choices” worksheet. Examination of their work samples showed that the students were engaged in cognitive processes such as critical thinking, self-reflection, through which they provided rationales for their choices of life values including what they hoped to be in the future. That is, they explained if their values and goals were influenced by their cultural values and lived experiences or not.

As an example, Figure 18 shows that Francis who self-identified as having a mixed cultural background (Caucasian, Irish and Italian) related his choice of becoming a Nano-technician to his lived experiences of family deaths. Francis was one of the students Matthias had identified as highly engaged prior to starting the inquiry project (HE, S2; see Table 19).

Figure 18. An Excerpt from Francis’ Worksheet on Personal Values and Choices

3. What do you hope to be in the future, and why?
I hope to be a nano technician P. H. D
and use that to cure cancer and other diseases, because I have no idea to get rid of bad cells.

4. How is this hope affected/influenced by your values or your cultural background? If it isn’t, what affects/influences your hope and why?
Things that influenced me to do this is that I have a few family members that have passed away and I know some people that have to, and I do not want other people to have to.
Observational data showed that the students regulated their learning processes by sharing their stories. For example, during the group activity, I observed the students sharing their individual stories by recording their background information including their individual values and choices on their specific sections in their respective small group flipcharts (see Figure 19 below). Further, they took turns reading each other’s writing. Through this group sharing and social interaction, the students controlled their individual behaviours, thinking and the information they were sharing towards achieving their shared goal of gaining personal and cross-cultural competence, and generated their shared story that was the focus of the next activity “Sharing Our Stories” (i.e., shared-regulation). This shared regulation could be related to the opportunity Matthias provided for a group activity around students’ cultural backgrounds (CRPP and SRLPP). For example, he deliberately created mixed-groups of students from different countries or cultural backgrounds to foster their cross-cultural communication. Also, he communicated expectations and participation structures while providing the students with learning resources (e.g., “Personal Values and Choices” worksheet with guided questions). By establishing this group activity, creating culturally-mixed groups and providing learning resources, Matthias supported students’ engagement in social interaction, group cohesion and social forms of learning.

Figure 19. Samples of Small Groups’ Sharing Charts
Furthermore, examination of students’ group charts showed that they made meaningful choices about the information they were learning and sharing about themselves. To illustrate, they made choices of things they valued and considered important in their lives, and their future career goals including: “Family, Friends, God, Art and Animals” (LE S4); “Family, Friends, Swimming, Home and Health” (ME S3); and “my family, having a shelter with food and water, God, Soccer, my health” (HE S3). Moreover, students indicated in their ESRF how interesting it was for them to share information about their career choice. For example, Lee shared: “It was interesting because I had to write about what I wanted to be.”. In addition, through their choice making, the students exercised control over their learning: “I wanted to be a few things; but, I had to choose; so, … I choose one of them and that was guitar because it stood out to me the most” [ESRF, ME S1]. These findings show that the students regulated their engagement by making decisions and exercising control over their learning processes. Student engagement in choice making could be linked to the guided open-ended questions Matthias designed for this Day 5 activity: “List 5 things that are most important to you/that you value in life” and “What do you hope to be in the future, and why? (CRPP) [Project Instructions]. He also fostered students’ choice making processes through the brainstorming exercise (SRLPP). In this way, the teacher supported his students’ decision-making and exercise of control over their learning.

While the students worked, the teacher circulated and answered their questions. Finally, Matthias asked the students to complete the ESRF to reflect on their learning experiences (SRLPP). Examination of the students’ ESRF reflections showed that they were engaged in self-assessment of their learning processes by rating and providing reflective explanations of their perceptions and participation (see Table 18, Day 5, Column 4). Students’ SRL engagement in these reflective processes could be linked to the opportunities Matthias provided for their self-evaluation including self-reflection and self-assessment. For example, he designed a worksheet with relevant questions to
foster student thinking about their lives (CRPP) and provided the ESRF to enhance their reflections about the learning activity (SRLPP). The students clearly stated that the activities of Day 5 facilitated their thinking processes saying that: “It helps me think about things I don’t usually think of” (ESRF, ME S4), and “I learned about myself by answering the questions… You can challenge yourself to think harder” (ESRF, HE S1). Consistent with the pre-selected students, other participants highlighted their engagement in metacognitive processes saying that: “I was reflecting on what I was working on” (ESRF, S4). Through the guiding questions and ESRF, Matthias supported his student thinking (SRLPP) through their cultural lens (CRPP).

Overall, evidence combined to show that the students were engaged in SRL behaviours and processes on Day 5 through their participation in thinking and learning processes, choice making and control over learning, and social interaction. Students’ SRL engagement could be associated with the ways in which Matthias wove combined CRPPs and SRLPPs into the classroom activities. One notable finding is that the students linked their motivational perceptions of the learning context to the opportunities Matthias created for their learning and sharing ideas about their cultural backgrounds (CRPP) (see Table 18, Day 5, Column 4).

Case example: Day 6. Selected students’ self-reported engagement and motivational perceptions varied greatly on Day 6 (see Tables 17 and 19). On that day, the students came in from the lunch break, and submitted an assignment that asked them to write a paragraph on comics (Language Arts). Next, while seated at their lockers [arranged in a table format with four/five students facing each other], the students independently worked on the section “Personal Strengths and Abilities” of the inquiry project. This section focused on students’ understanding of their strengths and abilities, and how they use them in their community.

Classroom observational data on Day 6 documented evidence that Matthias enacted CRPPs and SRLPPs during the inquiry project to support his students (see Table 18). The teacher spent the
first few minutes introducing the section the students were to be working on and communicating the expectation of their finishing that section on that same day. This section “Personal Strengths and Abilities”, like previous sections of the inquiry project, asked the students to complete specific guided open-ended questions: (1) “What are some of your strengths and abilities?”, (2) “What would you say are some of your challenges and weaknesses?”; and, (3) “How are you using your strengths in your: family, school, relationships?” (CRPP) [Project Instructions]. Next, he distributed a worksheet “Personal Strengths and Abilities” containing the above three questions as a learning resource to students (SRLPP). Further, the teacher spent most of the remaining class time facilitating student task interpretation and completion of the activity through a general classroom brainstorming exercise.

On Day 6, I observed that many of the students were somewhat passive during the lesson activity. For instance, during the brainstorming exercise, the majority of students listened, looked at the board and wrote in their worksheets. Some other students occasionally posed clarification questions to the teacher, including “What if I want to write being empathetic, can we write full sentences?” [LE S3] and “Do we have this in bullet form?” [LE S1]. During that brainstorming exercise that ran concurrently with students’ completion of their worksheets, Matthias strategically guided the students through each of the questions in the worksheet. For each of the main questions, he offered scaffolds through process questions. For example:

T. What do you think is your strengths?

S. being creative.

T. [writes creative on the board]; and says, “how can you show that you are creative?” …

T. What are some emotional strengths?

S. self-defence.

T. Is self-defence a strength? It is a skill…
As the teacher and students generated ideas in response to each question, Matthias supported students’ learning and retention by keeping track of those ideas on the board (see Figure 20).

Figure 20. Sample of Ideas Generated from the Brainstorming Exercise

Matthias occasionally allowed limited time in between the questions for students to complete their responses in the worksheets. Within that short period, he circulated, asked questions and attended to students’ specific needs. In that context, I did not observe many students respond to teacher directed questions. This low-level engagement could be associated with the fact that the teacher talked more often than students, including responding to some of his own questions (see above excerpt), while supporting students’ task interpretation and completion. In contrast to Day 5 when the students, in addition to an independent activity, had a small group activity and were very engaged in social interaction and shared regulation, there was no evidence of social interaction as the students independently completed their worksheets through most of the lesson time.

Similarly, there was evidence of student boredom through the movements in the class. For example, LE 6 was observed frequenting the water fountain in the class and talking to other students.
on his way (e.g., at 1:31 pm; 1:38 pm; 1:44 pm and at 2:00 pm). In addition to teacher practices, the time of the Day (i.e., afternoon), prior experiences of the project (i.e., involving many written responses which the students had done multiple times before), particular topic (i.e., about their strengths and challenges), and possibly student anxiety about the test that followed the activity may have contributed to their lower level engagement especially among the LE students.

Still in the context of the brainstorming exercise and students’ work on their worksheets, Matthias supported their maintenance of the expected classroom positive behaviour, saying: “If you are talking, people wouldn’t hear nor think, listen to what they are thinking about” [Running Records of Observation]. Similarly, he facilitated students’ time management by reminding them how much time they had left to complete the worksheet. Further, the teacher enhanced students’ attention and concentration by celebrating a students’ success: “You see she [S3] just focused and got finished. If you pay attention and reduce your discussions, you will be done soon”. Halfway into the lesson time at 1:39 pm, Matthias facilitated students’ thinking about situating their responses in the context of their home and lived experiences: “How are you using your strengths at home? So, if you are creative, may be during festive times you are helping out at decoration of things… think of things you do at home…” (CRPP). Although, the questions in the worksheets were designed to orient students’ thinking in a culturally meaningful manner, making that connection was not explicitly emphasized all the time.

Figure 21. Student Work Samples on Strengths and Abilities
Examination of student worksheets revealed that they made relevant choices about the information they were providing (see Figure 21). This finding could be linked to the opened-ended questions the teacher provided in their worksheet “Strength and Abilities” (CRPP and SRLPP). Nevertheless, students had similar responses in some questions. For example, many of the students reported “athletic, curiosity, creativity, confidence, and empathetic” as their strengths. This similarity in student responses could be related to the teacher’s efforts to keep track of their class discussions by writing generated ideas on the board. Since the teacher always guided the students through each of the questions, the students seem to have depended on discussed and documented ideas on the board (see Figures 20 and 21). This observed teacher procedural support may have created dependency and constrained students’ thinking beyond the class discussion, thereby resulting in passive participation and experiences of boredom.

Towards the end of the lesson, Matthias provided an opportunity for students’ self-reflection on their perceptions of, and participation in the activity of the day through the ESRF, and to submit their work after that. At the request of the teacher, the students submitted their worksheets to him before their Religion test that followed immediately. Students’ comments in the ESRF (see Table 18, Day 6, Column 3 above) shows that the ESRF supported their thinking, reflection (SRL), and awareness of who they are (CRPPs).

Overall, students’ low-level engagement on Day 6 seemed at least in part related to the ways in which Matthias enacted CRPPs and SRLPPs. Not as many of those practices were apparent on
Day 6, when compared with Days 4 and 5. The majority of the students described the lesson activities of Days 4 and 5 as being personally relevant (CRPP); this was rare on Day 6 (see Table 18). Besides the limited opportunity offered for student choice making, and completion of the ESRF, the students had little quality time to deeply reflect on the questions and the responses they were providing on Day 6. Again, there was no observed opportunity for social interaction or peer feedback; and, students depended on the teacher’s support. Finally, the activity on Day 6 was mostly teacher directed with fewer opportunities for bridging from guiding learning to fostering students’ independence.

**How selected students perceived and engaged in the inquiry project.** To better understand how the selected students, those with different entering levels of engagement: high (HE), medium (ME), and low (LE), perceived and participated in the inquiry-based project each day, ratings of each student are presented in Table 19 below. Overall, all the pre-selected students had relatively high levels of engagement in the inquiry project, at least on some days. However, their ratings varied across days especially on Day 6, from 1-4. By way of illustration, the shaded columns in Table 19 show that most of the students rated their concentration at 3 on at least two out of three or four days. The only exceptions were HE S4 and LE S2.

Table 19 shows that consistent with the teacher’s reports prior to the study, three of the HE students ($N = 4$) were very engaged during the inquiry project. These students were most highly engaged on Day 5 (with ratings of 3 on other days). The exception was HE S4, who reported moderate levels of concentration on three of the four days. Generally speaking, ME students ($N = 4$) were also very engaged across days (with mostly ratings of 3). But there were variations in students’ ratings. Two of the ME students reported relatively high levels of concentration across each day: ME S1 and ME S3. The other two students’ ratings of concentration were high on the first three days of the project, but relatively low on Day 7. Finally, consistent with their teachers’ observation prior to
In the study, the LE students \((N = 6)\) gave lower ratings overall and were less consistently engaged. For example, five out of six students rated their concentration at (2) on at least one day.

Overall, these findings combine to suggest that conditions in Matthias’ inquiry project were not as successful as they were in Joseph’s class in motivating and engaging learners across all days of the project. For example, examination of selected students’ ESRF indicated that the majority of the students (especially LE and ME students) did not perceive the learning context on Day 6 as motivating (see Table 18, Row 4, Column 4). Further, there were also mixed reports on students’ perceptions and responses to the learning context. For instance, 3 out of 4 HE students found the learning context as interesting while 5 out of 6 LE students did not.

Findings in Matthias’ classroom also suggested that the dynamic interaction between the learner and context (e.g., features of the project, peers’ behaviours) shaped their learning engagement. For example, students’ reflective explanations on the ESRF indicated that variations in their perceptions and engagement on Day 6 could be attributed to individual differences in relation to the assigned task (e.g., not liking the content and writing, or the questions being difficult and not interesting) and quality of the learning environment (e.g., distraction by peers). By way of illustration, both HE S3 and LE S2 perceived the questions to be “hard” but responded to that challenge differently. While HE S3 persisted and increased concentration with the understanding that “this question is all about me” (CRPP), LE S2 reduced effort and concentration because “people around me are loud” [see Table 18, Row 4, Column 4]. Also, all the students that reported moderate and lower levels of engagement (e.g., HE S4, LE S2, LE S3, LE S6) commented on being distracted by peers; and most of them were bored. The findings also draw attention to the possibility of HE students being more efficient in regulating their motivation and learning environment than LE students who might need more or a different type of support to foster their SRL engagement.
Table 18

Selected Students’ Engagement, Perceived Challenge and Motivation Profiles on ESRF During the Inquiry-Based Project Across Days

<table>
<thead>
<tr>
<th>Engagement levels</th>
<th>Students /Days</th>
<th>Concentration</th>
<th>Perception of challenge</th>
<th>Motivation</th>
<th>Importance</th>
<th>Enjoyment</th>
<th>Interest</th>
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</table>

*Note. HE = High-Engaged; ME = Medium-Engaged; LE = Low-Engaged. X = the day a student did not submit ESRF. The shaded columns are the days on which the students reported concentration, interest, or importance at least (3).*
To test whether students’ motivational perceptions of the inquiry project were connected to engagement in the class overall, I computed Pearson correlation coefficients among concentration, important, enjoyment and interest. The results in Table 20 indicate that students’ motivational perceptions (i.e., important, enjoyment and interest) were positively and statistically significantly correlated, but not correlated with their engagement.

Table 19

<table>
<thead>
<tr>
<th>Variables</th>
<th>Concentration</th>
<th>Importance</th>
<th>Enjoyment</th>
<th>Interest</th>
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<tr>
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<td>0.481**</td>
<td>0.660**</td>
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</table>

**Correlation is significant at the 0.01 level (2-tailed).

This finding suggests that although there was a relationship among the students’ motivational perceptions, the inquiry project in Matthias’ class might not have been sufficiently motivating to support increased concentration. This contrasts with the finding in Joseph’s class where engagement correlated positively with motivational perceptions. In Matthias’ class, there did not seem to be tight connections between selected students’ perceptions of the context and their engagement, especially among the LE students. Days with relatively lower-levels of concentration did seem to be somewhat associated with lower ratings of enjoyment, interest or importance (e.g., see HE S4, Day 4). But there were many exceptions. For example, on Days 6 and 7, HE S1 reported relatively low levels of motivation, but sustained concentration. On Day 4, LE S6 reported high enjoyment, interest and importance (4 each) but relatively low concentration (2).

It is worth noting that most of the pre-selected students perceived the inquiry project to be relatively highly important, interesting and enjoyable on Day 4, and were very engaged on Day 5. This finding indicates that there were contextual features that all the students perceived similarly on these days. Further, most of the selected students perceived the inquiry project to be important
overall, at least at some point, whatever their “entry” engagement, suggesting some common benefits across students in the project. However, some students’ perceptions on some days (e.g., 6 and 7) were low, suggesting that, while not all students perceived the context in the same way, there was something less motivating about the context on those days. This low perception was most evident among LE students especially for enjoyment and interest on Day 6. Taken together, these findings suggest that individual students experienced and responded to the context, based on individual (e.g., prior learning experiences related to previous levels of engagement) and context (e.g., inquiry project) interactions.

**Pulling it All Together**

In sum, the findings from Matthias classroom showed that, across days, the students were engaged in the inquiry project that integrated SRLPPs and CRPPs (see Table 16 for all students), although at lower levels than were students in Joseph’s classroom. Similarly, the selected students were for the most part engaged (see Tables 17 and 19). These findings notwithstanding, Tables 16 and 17 show wider variations in student levels of engagement across days than in Joseph’s class.

The motivational perceptions of selected students’ in Matthias’ class, in contrast to the findings in Joseph’s classroom, could not be clearly associated with their self-reported concentration except on Day 4 (see Table 19). There were variations in students’ concentration and motivation across days. These variations related likely to a combination of activities (e.g., Day 5 activities were very engaging for all the selected students except one); individual perceptions of the learning context, prior learning experiences and preferences (e.g., Day 6 activities were least motivating, especially for LE students); and, the dynamic interaction between individuals and their learning environment including tasks features and peer behaviours. Finally, students’ relatively high-level of engagement (e.g., Days 4 and 5), and lower-level of engagement (e.g., Day 6) could be linked to the ways in which CRPPs and SRLPPs were enacted on each day.
Chapter Six: Discussion

In this chapter, I discuss my findings in relation to prior research literature around my three research questions, focused on: (a) practices Joseph and Matthias enacted to support their students; (b) benefits and challenges of enacted pedagogical practices for teachers; and (c) associations between student engagement and teachers’ practices. This discussion is built on the findings from Chapters Four and Five (as already highlighted in those chapters) in relation to how the two teachers in this study designed a supportive learning environment for their culturally diverse learners; how they perceived their enacted practices; and, how those practices could be associated with students’ engagement.

Practices Joseph and Matthias Enacted to Support their Students

The findings in this study indicated that in the overall classroom context, both Joseph and Matthias enacted CRPPs and SRLPPs in the three main categories of the CR-SRL framework presented at the outset of this research (i.e., classroom foundational practices, CRPPs and SRLPPs, and dynamic supportive practices). This finding is not completely surprising given that the teachers volunteered and collaborated with the researcher in designing CR-SRL classroom contexts to support their students. In addition, they were exposed to the CR-SRL framework (Anyichie & Butler, 2017) as a working guide. As expected, both teachers combined multiple approaches including CRPPs and SRLPPs to create a culturally responsive and supportive learning environment. This finding is in line with other research which has shown that teachers who are taught, coached or mentored to implement SRL and/or culturally responsive frameworks/models, and are supported to work in a community of inquiry, experience shifts in their instructional approaches (Butler, Schnellert, & Cartier, 2013; Perry, Phillips, & Hutchinson, 2006; Teemant, Wink, & Tyra, 2011; Powell, Cantrell, Malo-Juvera, & Correll, 2016). It, further, adds by indicating how the CR-SRL framework may have shaped some of the teacher practices.
Classroom Foundational Practices

At the beginning of the term, both teachers designed foundational practices. For example, they created opportunities to gain knowledge of their learners by asking them to print and paste their names on their lockers. Joseph in addition asked his students to draw image(s) that could describe their backgrounds and interests on their name tags (CRPP). In addition, the teachers designed small projects to gain a deeper understanding of their students’ histories. Joseph designed a “My Life in A Wire” project that involved students’ choice making of a metaphor (SRLPP) that connected with their personal life (CRPP) and sharing of their metaphor through a combination of artifacts, essay writing, and story telling (SRLPP). As well, Matthias designed a “What’s Your Story” project that asked students to respond to open-ended questions about their backgrounds, personal experiences and aspirations (SRLPP and CRPP). This finding shows that both teachers embedded CRPPs and SRLPPs into short projects; however, Joseph’s project had more potential to engage students in imaginative thinking and in multiple pathways of demonstrating their learning than did Matthias’ project.

Further, both teachers created a caring, safe, and supportive environment by co-constructing participation structures with their students and building a community of learners (SRLPP and CRPP). I was not present to observe teachers co-construct classroom structures; however, there was evidence of students’ shared understanding of class routines and guiding rules. In addition to observing students in both classes working together in group activities as a community of learners, Joseph narrated how he scaffolded students’ caring for others (SRLPP); and Matthias explained how he occasionally reshuffled students’ seating positions. Finally, students in both classrooms shared experiences of feeling belonging, valued, and working in a safe, caring, and supportive environment [Interviews]. These findings extend previous research which has documented how teachers can create a safe, caring and supportive learning environment where students feel belonging and that they are
valued through fostering a community of learners, creating positive, non-threatening spaces for learning, and establishing participation structures for active learning and SRL (Anyichie, Butler, & Nashon 2018; Boekaerts, 2011; Butler, Schnellert, & Perry, 2017; Woolfolk, Winne, Perry, 2015); and, how these practices combine as classroom foundational practices (Anyichie & Butler, 2017).

**CRPPs and SRLPPs**

Both Joseph and Matthias designed a complex task (i.e., inquiry-based projects) that integrated CRPPs and SRLPPs to support their learners. However, there were differences in their structures and contextual features. By way of illustration, while Matthias’ project was situated in Social Studies, Joseph’s project integrated across Social Studies and Science lessons. While Matthias’ project involved a series of short, related tasks that required students to respond to open-ended questions, Joseph’s project involved a field trip and classroom activities (e.g., conducting a research) that required cognitive and metacognitive processes, and multiple individual and social forms of learning. Although both projects included CRPPs and SRLPPs, Joseph’s project created more latitude in the ways that students could participate and learn about the same topic. These differences notwithstanding, the findings of this study demonstrate how an inquiry-based project could create a site for integrated CRPPs and SRLPPs to support culturally diverse learners (Anyichie, 2018; Anyichie & Butler, 2017; 2018a, b). This integration is lacking in previous research studies.

**Dynamic Supportive Practices**

Finally, as students’ learning unfolded, Joseph and Matthias offered their students dynamic support through formative assessment practices including teacher and peer feedback (SRLPP). They offered opportunities for peer feedback, although in different formats. For instance, Matthias fostered peer feedback through students’ rating of their peers’ participation during a Science lesson group activity. Joseph created multiple opportunities for peer constructive feedback on their scientific drawings (i.e., during a Science lesson, and the inquiry project) and writing assignments (i.e., during
a Language Arts lesson). In addition, while Joseph created an opportunity for parents’ feedback via a class website where parents had access to comment on their children’s online, shared class work (CRPP and SRLPP), Matthias struggled to get parents’ support for their children’s homework assignments. These findings complement those in previous literature that argue for the provision of formative assessment practices and multidimensional feedback as supports for students’ learning (Anyichie & Butler, 2017; Bempechat & Shernoff, 2012; Butler & Winne, 1995; Chung & Yuen, 2011; Nicol & Macfarlane-Dick, 2006). Also, this study adds to literature by demonstrating how teachers could work collaboratively with parents to support children’s learning (e.g., through online feedback), and potential challenges of such collaboration (Powell et al., 2016).

Furthermore, the teachers also supported their students’ learning through scaffolding, modelling, co-regulation, use of technology, brainstorming activities, creating opportunities for students to participate in different ways of demonstrating learning, and emotional support. However, these diverse practices were more prevalent in Joseph’s classroom than in Matthias’ classroom.

**Summary**

The findings of this study suggest that, by building from the CR-SRL framework and collaborating with the researcher, the teachers in this study designed supportive classroom contexts that integrated CR-SRL pedagogy. However, there were differences in the contextual features developed between the two classrooms (e.g., in the types of enacted practices and corresponding opportunities for student engagement). Evidence suggested that Joseph embedded a wider variety of CRPPs and SRLPPs with the potential to engage his students than did Matthias. The differences in the teacher observed practices might have been due to differences in their teaching experience, comfort levels with experimenting with new instructional practices and the needs of their students. On the one hand, Joseph who had been teaching for over 20 years was already familiar with designing an inquiry project [Debriefings], and with little support from the researcher was able to
successfully integrate CRPPs and SRLPPs into his classroom especially in the inquiry project. On the other hand, Matthias who had been teaching for 8 years struggled with designing the CR-SRL inquiry project since he described himself as a novice in designing an inquiry-based project [Debriefings].

This finding corroborates those of other studies that have associated teachers’ experimentation with new instructional strategies, improvement, mastery and shifts in instructional practices with teaching experience, participation in workshops/in-service professional development, collaborative inquiry and collaborations with researchers (Anyichie & Butler, 2017; 2018a,b; Butler & Schnellert, 2012; Clark et al., 1996; Mor & Mogilevsky, 2013; Turner & Trucano, 2015). In addition to previous research, this study shows how CR-SRL framework helped teachers in weaving CRPPs and SRLPPs in generative ways into their classrooms.

**Benefits and Challenges of Enacted Pedagogical Practices for Teachers**

The second research question in this dissertation focused on the benefits and challenges teachers perceived in their work to enact CRPPs and SRLPPs so as to address the needs of their students.

**Benefits of Enacted Practices**

Results from the finding chapters suggest that Joseph and Matthias found their designed and implemented practices to be beneficial in: creating inclusive classrooms, designing an inquiry-based project, and supporting culturally diverse students’ learning processes.

**Creating inclusive classrooms.** Joseph and Matthias perceived their enacted foundational practices as being helpful in gaining a better knowledge of their students in ways that fostered their capacities to design inclusive classrooms. Consistent with research on both CRPPs and SRLPPs, both teachers perceived themselves as having created inclusive classrooms to address the diversity of student learning needs (Maasum, Maarof, & Ali, 2014; Montgomery, 2001; Perry, 2004; Perry, Yee,
Mazabel-Ortega, Lisanigo, & Määttä, 2015; Revathy, Zusho, & Rhonda, 2018). However, they seemed to have employed different approaches to addressing issues of classroom cultural diversity. On the one hand, Joseph was proactive in designing an inclusive classroom with the potential to address possible challenges of classroom cultural diversity. On the other hand, Matthias seemed more reactive in his approach because he tended to weave CRT principles into his practice when culture was either an obvious impediment to student learning or when the curriculum content facilitated attention to culture. However, Matthias’ inquiry project created more opportunities for his and his students’ awareness of their cultural background. This finding lends support to research that shows that the knowledge of diverse learners’ histories and backgrounds is a sine qua non for addressing learning diversities in an inclusive classroom context (Rahman, Scaife, Yahya, & Jalil, 2010); and how teacher beliefs and experiences are associated with their instructional practices (Devine, Fahie, & McGillicuddy, 2013; Levitt, 2002). In addition, this study extends previous research by highlighting how teachers could address students’ cultural and learning diversity by creating an inclusive classroom context that integrates CRPPs and SRLPPs in tandem.

**Designing an inquiry-based project.** Both teachers felt prepared to design an inquiry project that integrates CRPPs and SRLPPs based on their experiences of our co-constructed CR-SRL inquiry project. However, they had different plans about designing and implementing an improved inquiry project. While Joseph focused attention on building in more structures for cooperative learning, Matthias planned on creating multiple opportunities for students’ understanding and sharing of their cultural histories (e.g., through dramatization and bringing artifacts from home). This finding shows that the teachers were positive about designing improved inquiry-based projects. Again, consistent with impacts of teacher collaboration and inquiry-oriented professional development, this study found that teachers were committed to improving their teaching practices beyond the study based on their new experiences and student needs (Butler & Schnellert, 2012; Deni & Malakolunthu,
2013; Vescio, Ross, & Adams, 2008). Again, this study contributes to previous research by showing how the CR-SRL framework assisted teachers in designing an inquiry project that integrated CRPPs and SRLPPs.

**Supporting culturally diverse students’ learning processes.** The two teachers in this study perceived the inquiry project as a supportive context for their students’ learning processes including engagement, motivation and awareness of their cultural backgrounds. For example, Joseph highlighted the opportunity the project created to integrate CRPPs and SRLPPs including active learning strategies to support his students. The teachers related their students’ active participation during the inquiry project to the contextual features they built (e.g., opportunities to share personally relevant ideas and to reflect on the project and their participation in it through the ESRF). Matthias, specifically, linked the increase in his and his students’ knowledge about themselves to the project. This increased knowledge could be related to the nature of Matthias’ inquiry project that focused on fostering students’ understanding about their personal and cultural identities (SRLPP and CRPP). This finding extends literature on the positive impact of CRT and SRL by highlighting the benefits of integrating CRPPs and SRLPPs, especially in an inquiry-based context, to enhance students’ active learning engagement and motivation (Anyichie & Butler, 2017, 2018a, b; Anyichie, Butler, & Nashon 2018).

Overall, the teachers in this study found it beneficial to design and implement CRPPs and SRLPPs into their classrooms. This finding lends support to research showing positive outcomes of supporting teachers in classroom activity design and implementation to foster their own professional learning and practice development en route to supporting their students’ SRL engagement (Butler et al., 2013; Buzza & Allinotte, 2013; Perry, Philips & Hutchinson, 2006), and adds evidence of the value of integrating CRPPs and SRLPPs.
Challenges of Enacted Practices

The compelling benefits of teachers’ enacted practices notwithstanding, findings from the teachers’ interviews highlighted ways in which they found it challenging in designing and implementing the CR-SRL inquiry project and attributed their challenges to different factors.

**Project design.** Both teachers experienced challenges in designing their inquiry projects. While Joseph attributed his challenge to the “complex” design structure of the project (SRLPP), Matthias related his challenge to not being conversant with designing an inquiry project, and time constraints in relation to incorporating the project into the school’s new curriculum and programs. In addition, Matthias was not sure how to weave in CRPPs because he considered his class as culturally homogenous, with only one ESL student. Even though many of Matthias’ students identified with mixed ethnicity (i.e., having either or both parents that are not born in Canada), because most were born in Canada with English as their first language, Matthias’ struggled to envision how to build in CRPPs (Hue & Kennedy, 2012). Besides, he did not perceive his student cultural backgrounds (i.e., the set that participated in this study) as related to their learning needs. Finally, Matthias’ teaching belief about the role of culture and CRPPs being amenable primarily to ESL students might have influenced his instructional design and practice implementation (Meidl & Meidl, 2011; Gay, 2015).

These findings elaborate findings from other research that has also identified how teachers can struggle in designing complex tasks; especially integrating curricula and skills to connect with students’ learning (Perry, 2013); and creating culturally responsive classroom contexts (Hyland, 2009).

**Implementation of the inquiry project.** Joseph and Matthias experienced challenges while implementing the co-designed inquiry project. For instance, Joseph highlighted the challenge of time constraints in meeting the demands of the project and other commitments (e.g., a provincial annual assessment test) since the project extended over time. In addition, both teachers struggled to support
their students’ effective learning through the opportunities their enacted CRPPs and SRLPPs created. While Joseph struggled with empowering student take up of learning opportunities, Mathias struggled with fostering his students’ attainment of some of the gains he had hoped for his enacted practices. These challenges may be related to students’ lack of experience in managing new learning contexts, such as complex tasks that extended over time (Edelson, Gordin, Pea, & The, 1999). For example, some of the students described the inquiry project (e.g., in Matthias’ class) and integrated practices (both classes) as new instructional approaches (ESRF). Another reason for these challenges might be diversities in students’ cultural backgrounds and learning needs as manifested in different approaches and preferred ways of learning (McInerney, Walker, & Liem, 2011; Zhu, Valcke, & Schellens, 2008). For example, student from cultures that could be described as individualistic (e.g., North America) tend to prefer independent form of learning than those from collectivists culture; nonetheless, there are still individual differences between and within cultures.

Also, Matthias emphasized the difficulty of getting parental support for students’ learning at home (CRPP) which he related to parents’ busy and challenging working responsibilities. Research shows that the challenges of getting parental support and involvement could also be due to other factors, such as language and cultural differences, social class and structural barriers, conflicting expectations between school administrators and parents about culturally diverse parent involvement, and relationships between teachers and parents (Lai & Vadeboncoeur, 2013; Gonzales & Gabel, 2017). Matthias’ experience demonstrated how teacher connection and collaboration with students’ families can create a challenge to implementing culturally response instructions (Hylad, 2009; Powell, Cantrell, Malo-Juvera, & Correll, 2016). Consistent with this finding, Endrizzi (2008) and González, Moll, & Amanti (2005) highlight the need for teachers to establish a trusting relationship with students’ families to be able to share in their cultural knowledge; and better support the students.
Summary

Overall, the findings of this study indicate that teachers perceived both benefits and challenges when designing and implementing classroom practices that built from the CR-SRL framework and attributed their experiences to different factors. As a key benefit, both teachers attributed increase in students’ engagement and motivation to the CR-SRL inquiry project. Their challenges seem to have been attributed to their classroom cultural and learning diversities, time commitments in meeting personal and curriculum demands, and the complex structure of the inquiry project [Joseph and Matthias]; and teacher beliefs about cultural diversity in teaching and learning, and challenges in collaborating with parents [Matthias]. Generally, Matthias seemed to have experienced more challenges than Joseph did especially in the context of the inquiry project.

Associations Between Student Engagement and Teacher Practices

The third research question in this study addressed how contextual features, especially teacher practices, might have been associated with student engagement. In this section, I discuss the findings related to the links between student engagement and classroom practices under two sections. The first section focuses on the quality of students’ engagement, and the second on links between students’ engagement and teachers’ practices. The summary of the results from Joseph’s and Matthias’ classes are discussed below in relation to the relevant research literature.

Students’ Engagement

One of the major key findings was that student engagement in two classrooms that built in SRLPPs and CRPPs in tandem was relatively high. Multiple sources of evidence combined to show relatively high engagement in the overall CR-SRL classroom context (e.g., through SIEI) and the inquiry-based project (e.g., ESRF) in both classrooms. This finding was true for both all the participants and the selected students. Furthermore, findings showed a higher level of engagement in Joseph’s classroom. This finding in both classrooms is important because research from both CRPPs
and SRLPPs has suggested that these practices are associated with higher levels of engagement and motivation (Ginsberg & Wlodkowski, 2015; Kumar, Zusho & Bondie, 2018; Wolters & Taylor, 2012), and this finding is consistent with that. However, it adds by showing how combination of the practices in the three main categories of the CR-SRL framework was associated with high levels of engagement. This is a hugely important finding, showing that practices that combined SRLPPs and CRPPs were successful in fostering culturally diverse learners’ engagement (Anyichie & Butler, 2017, 2018).

In the next sections, I elaborate on the practices that were associated with higher engagement; why levels of student engagement in Joseph’s classroom might have been higher; and how students’ perceptions of the context, in relation to their self-reported engagement, revealed important individual and context interactions.

**Links Between Student Engagement and Teacher Practices in Both Classrooms**

Literature has shown that student engagement and motivation are context specific (e.g., Fredricks & Mccolskey, 2012; Nolen, Horn, & Ward, 2015). Also, students’ engagement had been previously linked to teacher support and practices (Cooper, 2014; Klem & Connell, 2004). Therefore, this section discusses how students’ SRL engagement could be linked to teacher practices in the context of the inquiry-based project, and why engagement might have been a bit higher in Joseph’s classroom.

Overall, the result from this study showed that students’ high level of engagement was associated with the combined CRPPs and SRLPPs practices the teachers enacted. Multiple sources of evidence including observational data, documents (e.g., worksheets, work samples), and ESRF reports combined to show that students’ regulation of their learning engagement during the inquiry project could be linked to the way in which teachers enacted SRLPPs and CRPPs in both classes. As already presented in Chapters Four and Five, students in both Joseph’s and Matthias’ classrooms, while
working on their projects, were highly engaged in making culturally relevant choices and exercising control over their learning. In addition, students in Joseph’s classroom made choices about what and where they were learning, and their preferred ways to demonstrate group learning [Observation]. By making these choices, these students felt ownership of their learning and exercised control over their learning tasks. Similarly, they bridged the gap between their home and classroom culture by deliberately connecting classroom activities to their cultural backgrounds, lived experiences and interests. This finding suggests that provision of culturally relevant and meaningful choices has the capacity to improve students’ SRL and engagement.

Observed students’ engagement in choice making could be associated with opportunities teachers provided for their students through enacted CRPPs and SRLPPs. For example, students were asked to make choices of what to learn, and how to demonstrate their learning (SRLPP, Joseph) and respond to culturally relevant open-ended guided questions (CRPP, Matthias) [Inquiry Instructions, Work Samples]. It should be noted that the teachers provided and supported these choices in different formats. These choice provisions, together with attendant teacher instrumental supports (e.g., providing scaffolds through guided questions) seemed to have enhanced student SRL engagement. For instance, Matthias’ culturally-situated guiding questions activated his students’ prior knowledge, fostered their metacognitive thinking and supported them in making personally relevant decisions about their values, strengths, and life goals based on their interests, ability, family needs, and lived experiences. This finding adds to previous literature on the association between choice provision, student control over task challenge and SRL engagement and motivation (Evans & Boucher, 2015; Patall et al., 2016; Perry, 2013); for example, by indicating the affordances of culturally responsive classroom on student choice making and control over learning. Overall findings from this study show how student choice provision might enhance SRL engagement and motivation in ways that are culturally relevant; and, how CRPPs might imply SRLPPs.
As culturally diverse students’ participation in the project unfolded in both classrooms, findings from observation data and ESRF reports showed that they were highly involved in self-evaluation processes, such as self-reflection and self-assessment. Student work samples indicated that they situated their reflections on what they were learning in relation to their cultural backgrounds and lived experiences. In addition, they generated feedback and improved on what they were working on (e.g., during the podcast recording in Joseph’s class, while creating collages in Matthias class), self-assessed their learning contexts (e.g., the project) and self-reported their participation in them, and highlighted new learning through the ESRF. Through these formative assessment processes, students engaged in cognitive and metacognitive processes by analyzing and monitoring their learning performances in ways that fostered their active engagement in the project. This finding connects with previous research showing how self-evaluation and formative assessment improve students’ SRL engagement, cognitive processes and achievement (Andrade & Valtcheva, 2009; Nicol & Macfarlane-Dick, D., 2006; Perry, Thauberger, & Hutchinson, 2010; Schunk & Zimmerman, 2008); and adds by showing how CRPPs can foster students’ self-reflection.

Further, consistent with previous research (e.g., Anyichie & Butler, 2018b), students’ engagement during self-reflection processes could be linked to the opportunities teachers created (e.g., provision of culturally relevant questions) to relate what they were learning to their cultural backgrounds and lives (CRPP and SRLPP). Aceves and Orosco (2014) in their study found that student engagement, understanding of text, and reading achievement increased when the teacher in their study created opportunities for the students to relate the context of their reading activity to their individual background knowledge and lived experiences. This finding connects with the current study by suggesting how engagement can be enhanced in a culturally-relevant learning activity.

Findings also suggested that the ESRF (SRLPP) supported students’ reflections on the contextual features and their participation in them. Joseph related the improvement in the quality of
his students’ reflection, especially in their daily journaling, to the ESRF [Debriefing]. This finding extends prior literature on combining measurement and intervention tools to foster SRL (Panadero, Klug, & Järvelä, 2016; Schmitz, Klug, & Schmidt, 2011) by showing how an instrument measuring engagement, such as the ESRF can facilitate student reflective practice, and improve their learning and SRL engagement.

Prior research has identified teachers’ role in supporting students’ SRL engagement, motivation and achievement (Anyichie & Butler, 2015 2017, 2018b; Anyichie & Onyedike, 2012; Bozack et al., 2008; Ginsberg & Wlodkowski, 2015; McCombs, 2001; Paris & Paris, 2001; Turner, Christensen, Kackar-Cam, Trucano, & Fulmer, 2014; Zumbrunn, Tadlock, & Roberts, 2011). For example, Perry (2013)’s review of her research on classroom processes that support students’ SRL engagement highlighted how teachers can use autonomy supportive practices (i.e., by providing opportunities for students’ choice making, control over learning challenge, and self-evaluation of learning) to support self-regulation and SRL engagement. Similarly, research has linked CRPPs to students’ learning engagement (e.g., Lee, 2006; Howard, 2001). For example, Ellerbrock, Cruz, Vásquez, & Howes, (2016) discuss some of the practices of culturally diverse educators, such as creating a positive classroom learning environment, implementing purposeful learning activities, and providing relevant field experiences especially around diversity. This current study adds to these literatures by showing how the integration of CRPPs and SRLPPs can enhance culturally diverse students SRL engagement (Anyichie & Butler, 2017, 2018 a, b).

Furthermore, findings from observation data showed that the students were engaged in social forms of regulation of learning including co-regulation, and socially shared-regulation especially in Joseph’s classroom. Observed students’ engagement in social forms of learning could be related to the opportunities each teacher created for group activities that allowed for social interaction and group sharing, peer support and collaboration, co- and shared regulation (SRLPP), and to connect
classroom activities to their cultural backgrounds (CRPP). Both teachers, as well, offered instrumental supports (SRLPP) by providing scaffolds for students’ metacognitive thinking about how the classroom activity could be related to their cultural backgrounds (e.g., through provision of learning resources including worksheets with open-ended questions, and brainstorming activity). This finding is consistent with Parsons et al., (2018)’s study where students reported being very engaged in activities that involved collaboration, teacher support and new learning. It adds by showing how culturally mixed small group activities could foster students’ engagement in social forms of regulation.

In the context of group activity, Joseph supported students’ small group engagement in strategic actions through an activity structure that involved multiple steps (e.g., planning, performance and evaluation), strategic questions and feedback. Butler et al. (2017) highlight how creating and fostering opportunities for students’ involvement in different stages of strategic actions develop students into self-regulated learners who are actively engaged in their learning processes. Extending previous research (e.g., Järvelä & Hadwin, 2013; Hadwin & Oshige, 2011; Volet, Vauras, & Salonen, 2009), this study demonstrates how culturally responsive group activity can create opportunities for students’ participation in strategic actions, and regulation of individual and group learning engagement.

The above findings lend support to research on social forms of regulation by showing how student learning engagement is shaped by the dynamic interaction between the learner and the classroom social context (Hadwin & Järvelä, 2011; Järvelä & Järvenoja, 2011; Jarvela, Volet, & Jarvenoja, 2010; Perry & Rahim, 2011). To illustrate, Volet, Vauras, & Salonen (2009) found that students’ high-level co-regulation emerges and is sustained through student-led collaborative activity. Also, the finding in this study adds to corpus of research on how SRL engagement is socially
constructed when students work as community of learners with opportunities for social interactions (McCaslin & Burross, 2011; Rogoff, 2013).

Finally, the above discussed findings show that student high engagement in SRL and social forms of regulation were associated with the combined CRPPs and SRPPs teachers enacted in both classes. These findings suggest that, while both teachers’ supported engagement in inquiry to some extent, Joseph’s classroom included more contextual features (e.g., CRPPs and SRLPPs) that could be related to his students’ higher-levels of engagement and motivation that might not have been present in Matthias’ classroom (e.g., more features of a complex task; opportunity for a field trip; and demonstration of learning through podcast and drama).

The finding of this study extends literature on how an increase in student motivation and SRL engagement can be associated with classroom practices, such as culturally responsive pedagogy and SRL-promoting practices (e.g., Anyichie & Butler, 2017, 2018 a, b; Anyichie, Yee, Perry, & Hutchinson, 2016; Gay, 2010; Ginsberg & Wlodkowski, 2015; Perry, 2013; Revathy et al., 2018). For instance, most of the students in this study noted that the inquiry project was interesting and important because it advanced their self and cultural knowledge as well as others [ESRF, Interviews]. They also perceived their learning contexts as culturally and personally relevant (CRPP) with opportunities for metacognitive thinking (SRLPP). In addition, the students commented on the novelty of the CR-SRL inquiry project in connecting classroom activities to their cultural background, and their lived experiences (e.g., going to museum to understand First Nation’s culture) in ways that facilitated their understanding of themselves and their cultures. This striking finding extends previous research on student engagement, motivation, and CRT and SRL by showing how students recognized the benefits of CRPPs and SRLPPs in terms of facilitating their motivation and engagement.
Students’ Perceptions and Engagement: Individual and context interactions

Findings from this dissertation suggested a dynamic interaction between the learner and context (e.g., features of the project, peers’ behaviour) that shaped their learning engagement. For example, findings showed that the pre-selected students in Joseph’s classroom, regardless of their entry levels of engagement (i.e., HE, ME, LE), more consistently perceived the project to be motivating and were actively engaged in it. In contrast, students in Matthias’ classroom were not as consistently engaged, especially the LE students. Further, student reflective explanations of their experiences revealed wide variations within class engagement levels. These variations were attributed to individual differences and preferences in relation to the activities assigned (e.g., not liking the content, writing, or lack of access to technology; feeling bored and disengaged), and learning environment (e.g., the questions been hard, being distracted by peers).

This individual and context interaction was evident in how Matthias’ students reacted to their learning context on Day 6. To illustrate, while some students in Matthias’ classroom, especially the LE students, reported being distracted by peers, more HE than LE students in the same classroom highlighted opportunities to learn in that same context and exerted effort in controlling their learning environment: “I tried to ignore the people in my group” [HE, S4] (see Day 6). This finding, in support of previous research, suggests that HE students in this study were self-regulated learners who initiated self-directed processes, persisted in the face of challenges to achieve their set goals and sustained their active engagement (Perry et al., 2010; Zimmerman, 2015).

Furthermore, findings from the ESRF data and correlational analyses revealed tighter connections between pre-selected students’ motivational perceptions of, and their engagements in, the inquiry project in Joseph’s classroom. Interesting was that, even though some rough connections between motivational perceptions and self-reported concentration were apparent in a visual display of patterns, self-reported engagement on the ESRF was not reliably correlated with motivational
perceptions in Matthias’ classroom. Again, this finding shows how learners’ perceptions interact with their context in shaping their engagement.

Consistent with prior research, these findings suggest that student motivation and engagement are malleable, situated in context and cannot be understood outside the context in which they occur (Anyichie & Butler, 2018a, b, Butler & Cartier, 2018; Nolen, Horn, & Ward, 2015). In support of this finding, evidence combined to show that while Joseph’s students perceived the contextual features of their inquiry project to be motivating and were very engaged, though lower overall on average, Matthias’ students also experienced relatively high-levels of engagement and motivation. This finding suggests that the inquiry project in Joseph’s classroom was very motivating and enhanced students’ increased engagement in that classroom, but the inquiry project did not seem to be consistently connected to increased motivation in Matthias’ classroom. Nonetheless, the observed pattern of relationship in this study was not linear, but complex and varied across contexts.

Taken together, these findings extend previous research showing how student perceptions of their learning contexts including instructional task features and teacher support shape their active engagement (Butler & Cartier, 2018; Parsons, Malloy, Parsons, Peters-Burton, & Burrowbridge, 2018; Kelly & Zhang, 2016). For example, Jarvela, Jarvenoja, & Malmberg, (2012) in their study found that elementary school students’ situational motivation in a real science classroom context was associated with self-regulation of their cognitive engagement. Further, this current study validates findings that students tend to be highly engaged in learning activities they perceive to be important, interesting and enjoyable (Ainley, 2012; Patall, Vasquez, Steingut, Trimble, & Pituch, 2016); and adds by showing how students’ perceptions of CRPPs and SRLPPs shaped their increased level of engagement.

Finally, the findings of this study demonstrate how student engagement is shaped by a dynamic interaction between the learner and context (Anyichie & Butler, 2018a; Yang et al., 2017);
and draw attention to the importance of developing self-regulating learners who are resilient and persistent in challenging classroom contexts.
Chapter Seven: Final Discussion and Conclusion

The purpose of this last chapter is to discuss the contributions and implications of this dissertation to: theory and research; methodology and measurement; and teaching and learning practices. In addition, I discuss limitations of this research, suggestions for future directions, and conclusions derived from this study.

Contributions and Implications

Theory and Research

My dissertation built on situative and sociocultural theories to support teachers in designing an integrated pedagogy for supporting culturally diverse learners. Through a literature review designed to integrate across CRT and SRL principles and practices, this study contributes to theory about how to build pedagogical practices related to CRT and SRL in creating supportive classrooms. Also, this study extends analyses of sociocultural and situated theories and processes in CRT and SRL. For example, the study creates a theoretical background for the establishment of SRLPPs that are culturally responsive. This research also adds to culturally responsive pedagogy by suggesting how to empower and enhance culturally diverse learners’ SRL engagement within culturally-situated classroom practices. The findings of this study show that CRPPs and SRLPPs can be integrated into a framework for supporting culturally diverse learners’ SRL, engagement and motivation.

By examining the implementation of CRPPs and SRLPPs, the processes and methods of this study advance our understanding about mobilizing these pedagogical practices. SRL and motivation research have been mainly conducted in, and with students from European American, and Asian cultural backgrounds, with less research done with students from other or mixed cultural backgrounds (Revathy, Zusho, & Rhonda, 2018; McInerney, 2011). So, there is a dearth of research on the use of SRL to support culturally diverse learners, as well as all learners in regular classrooms (Anyichie & Butler, 2017; Anyichie, Yee, Perry, & Hutchinson, 2016; Perry et al., 2015). This
research is among the first to investigate the potential and limitations of SRLPPs in engaging culturally diverse learners in Canada’s complex classroom contexts.

Consistent with Butler and Cartier (2018)’s situated model of SRL, this study contributes to research on complex interactions between learners and the different layers of context in which they live and work. For example, findings of this study highlight the importance of investigating students’ SRL, engagement and motivation in specific contexts. Specifically, it shows how what the learner is bringing (e.g., cultural backgrounds, lived experiences, interests, aspirations, individual differences and preferences) interacts with the classroom learning environment (e.g., instructional practices including teaching and learning tasks, CRPPs and SRLPPs, peer behaviours) in shaping their SRL engagement and motivation. Choice provision in this study was essential in shaping student engagement as it enabled them to connect classroom activities to their cultural backgrounds. So, this dissertation adds to research by suggesting how provision of culturally relevant and meaningful choices has the capacity to improve students’ SRL, engagement and motivation, and how CRPPs might be consonant with SRLPPs.

Further, learner-context dynamic interactions were evident when considering student perceptions of contextual features and their engagement in them. This study also contributed by exploring the ways in which teacher-enacted practices may have enhanced or constrained student engagement and, more specifically, how student perception of contextual features of the CR-SRL inquiry project may have shaped their engagement in it. This was exemplified when examining the links among student motivational perceptions, engagement and teacher practices—there were variations in students’ motivation and engagement within and between classes and across days.

Furthermore, findings of this dissertation contribute to literature on student SRL, engagement and motivation by examining two parallel case studies of culturally diverse students’ learning processes in upper elementary classrooms. These cases offered invaluable insights into how students’
engagement and motivation are situated in contexts that foster their SRL (e.g., using SRLPPs) by inviting them to draw from their cultural backgrounds and lived experiences to advance their learning experiences (using CRPPs). The findings of an integrated CRT and SRL pedagogy in this research fortify recommendations to situate SRL, engagement and motivation research in student sociocultural contexts (e.g., Anyichie et al., 2016; King, McInerney, & Pitiya, 2018; Nolen, Horn, & Ward, 2015) by describing examples of when students directly linked their SRL engagement and motivation to classroom contexts they perceived to be personally and culturally relevant. This finding also aligns with Revathy, Zusho, and Rhonda (2018)’s recommendation to weave cultural relevance into motivation research.

**Methodology and Measurement**

This study also contributes to methodological approaches and strategies for examining dynamic individual-context interactions. The use of case study methodology enabled me to both generate a thick description of learners-in-context and conduct parallel cross-case analyses to trace patterns across cases. Also, the use of the classroom context, and more specifically an inquiry-based project as unit of analysis enabled me to trace the link between teacher-enacted practices and student engagement in situ. Further, a case study design supported my studying student engagement from situated and sociocultural perspectives and examining how culturally diverse learners’ engagement unfolded in context. For example, my in-depth case studies helped to see the dynamic interactions between student perceptions of contextual features of the inquiry project and their engagement in it (Butler & Cartier, 2018); and, how that interaction explained the variabilities in students’ engagement within and between classes and across days.

Much of the research on engagement employs self-report or a single measure (Fredricks & Mccolskey, 2012). In this study, using a case study design allowed me collect and triangulate multiple sources of evidence (e.g., quantitative and qualitative data) to understand student...
engagement as a multidimensional construct in relation to contextual features. The combination of video-taped observations, copies of student work, teachers’ lesson plans and inquiry project instructions, interviews, and the experience sampling method I used (i.e., student self-reported ratings and reflections on the ESRF) provided a robust evidence for understanding what students were doing in each context and how their engagement related to their motivational perceptions. This design is an example of a powerful approach and contributes to methodological tool available for studying student engagement processes. For example, the use of an experience sampling method (ESM), specifically through the ESRF in this study, enabled the students not only to rate their perceptions of contextual features repeatedly in real time, but also to provide reflective explanations of their ratings. Their written explanations helped to uncover how their perceptions of the inquiry context as important, interesting and/or enjoyable impacted their engagement. Using the ESRF in this study was productive both as measurement and intervention tool (e.g., it both collected information about student experiences and facilitated their engagement and reflection). Also, the ESRF enabled me to collect information about student perceptions and engagement in the moment. The administration of the ESRF in real-time provided the opportunity to understand variations in students’ engagement as it related to their perceptions of teachers’ enactment of CRPPs and SRLPPs in specific contexts across classrooms and time (e.g., during highest versus lowest engagement days).

**Teaching and Learning Practices**

This dissertation contributes to classroom teaching and learning practices by providing information about how teachers experimented with CRPPs and SRLPPs; and, the benefits and challenges of those practices for teachers and students in tandem. Through my collaboration with two elementary classroom teachers, this study assisted them in thinking and enacting practices that built across CRT and SRL principles in their multicultural classroom contexts, reflecting on their teaching practices, and examining students’ experiences in relation to them.
First, the finding of this study is that teachers found an integrated CRPPs and SRLPPs beneficial in designing inclusive classrooms, together with an inquiry project that supported culturally diverse students’ learning. Students confirmed these benefits during their interviews. This finding implies that a CR-SRL framework (Anyichie & Butler, 2017) can be considered helpful for educators in designing supportive environment for all learners.

Second, this study revealed that, the benefits of these practices notwithstanding, teachers experienced challenges in designing and implementing the inquiry project. Precisely, they struggled to support all students’ learning through opportunities created by the CRPPs and SRLPPs they wove into the project (especially CRPPs). Some of the teachers’ challenges related to supporting their students’ take up of opportunities and achieving expected gains of enacted practices. By implication, teachers should move beyond enacting CRPPs and SRLPPs to mediating and scaffolding those classroom practices in ways that effectively support all learner’s engagement and success. Therefore, it is important to assist students in connecting classroom activities to their cultural backgrounds, interests, personal lives and lived experiences. This is where SRLPPs can be useful; because, they have the potential to empower students’ engagement in culturally-relevant classroom contexts. However, the findings about variations in the engagement of students with different “entry” levels of engagement in each classroom suggests the need to offer more support for low engaging students’ motivation and SRL engagement. These findings invite educators to develop a deeper knowledge of what their students are bringing including prior learning experiences, cultural backgrounds, strengths and weaknesses as a foundation to designing relevant practices for addressing diversities in student cultural and learning needs.

Third, this study contributes knowledge about the potential of enhancing culturally diverse learners’ engagement and success in the classroom using an integrated CR-SRL framework. More specifically, the importance of teachers being sensitive to how students’ cultural backgrounds
influence their perception of classroom contexts and learning engagement cannot be overemphasized. For instance, building on the analyses of the days in which students were most engaged in each class, it would be valuable for teachers to recognize how students tend to increase their engagement in learning activities (e.g., an inquiry project) that they consider to be meaningful and relevant to their cultural backgrounds (CRPP), and when provided with opportunities for thinking and learning (SRLPP). Similarly, analyses of days on which students were least engaged suggest that teachers need to create a motivationally supportive learning environment that fosters peer support rather than distractions and develops self-regulating learners who can deliberately generate strategies to overcome challenges in their learning environment to achieve set goals.

Limitations and Future Directions

Limitations

The contributions of this dissertation notwithstanding, there are some limitations that need to be acknowledged. First, typical of case-study designs, this study involved only two elementary classrooms with their two teachers, and students ($N = 43$). Therefore, the findings of this study should be interpreted with caution. The small sample size in this study, typical of a case study, makes it problematic to generalize the findings to other elementary classrooms. Similarly, the characteristics of participants were also limited in terms of diversity. For example, teachers in this study, together with most of their students were born in Canada and might not represent the diversity of other classrooms; or neighbourhoods with high proportions of new immigrants. Replicating this study to include larger samples (e.g., more schools, classrooms, teachers and students) in a more culturally and linguistically diverse contexts (e.g., schools with immigrant teachers and students) might allow a more comprehensive understanding about how teachers’ and students’ cultural backgrounds influence their practices and engagement processes respectively.
Second, the Grade 4 and 5 participants in this study may not have fully developed and internalized their cultural norms and values in ways that would have facilitated their effective connection of classroom activities to their cultural backgrounds and lived experiences. Involving middle school students (e.g., grades 6-9) or even high school students might be of help to examine more fully how student cultural backgrounds might be influencing their learning processes.

Third, the selection of students with different entry levels of engagement for an in-depth study was based on teachers’ professional judgement. This method of selection is open to bias or favouring indicators of behavioural engagement over other dimensions of engagement that might better reflect the influence of students’ cultural backgrounds on their actions in the classroom. Provision of an explicit criteria for both student and teacher to judge across a range of dimensions might provide more balanced information about each student’s entry level of engagement.

Fourth, the timing and short duration of this study (i.e., Fall term), as well as teachers’ transition into a new curriculum in the province at the time when this study was conducted may not have allowed the teachers much opportunity to internalize and fully experiment with the CR-SRL framework. Designing a longitudinal study, together with opportunities for teachers to collaboratively work as a community of inquiry over time, might forestall some of the challenges teachers in this study experienced in designing and implementing CRPPs and SRLPPs.

Finally, this study is also limited by the use of self-report measures including the ESRF and SIEI developed to gather information about student engagement. These measures were not empirically validated; however, they were pilot-tested and found appropriate for the kind of information needed in this study. Also, coding of observations including deductive and inductive approaches was principally done by myself as the principal researcher; but, discussed and cross-checked with my supervisor. In future research, collaborative coding of data by individuals with different perspectives could help bolster interpretations. That said, the use of case study did allow for
collection and triangulation of multiple sources of data including adding student and teacher voices, which helped in “triangulating” findings across perspectives, and in overcoming some of the shortcomings of any particular data collection method.

**Future Directions**

Theoretically, more research is needed to understand and enhance all learners’ engagement in multicultural classroom contexts using a CR-SRL framework (Anyichie & Butler, 2017). Findings in this study revealed how culturally diverse learners’ engagement was related to the ways in which teachers integrated CRPPs and SRLPPs. Future studies should explore how researchers could support teachers with different levels of teaching experience to design and implement a more integrated pedagogy to support all learners in multicultural classrooms. Also, teachers’ experiences about collaborating with researchers and how such collaborations can shape teachers’ instructional practices is worth examining. In addition, there is need to investigate the extent to which CRPPs and SRLPPs individually influence students’ engagement in a context they are both integrated. This line of inquiry might help confirm the value of an integrated pedagogy as has been suggested by findings in this study.

Further, in this study, choice was central to students’ connection of classroom activities to their cultural backgrounds and interests. Considerations should be given to how cultural backgrounds and orientations influence student decision-making processes that tend to mediate their SRL engagement and motivation in contexts where choices are offered. Future research can investigate the impact of choice provision on culturally diverse learners’ SRL; and, how their cultural backgrounds might be shaping their regulatory processes.

Furthermore, there is an overlap between engagement and SRL (Wolters & Taylor, 2012); and, interdependency between changes in engagement and motivation (Reeve & Lee, 2014). Moreover, these learning processes are context dependent and shaped by the dynamic interaction
between learner and context. Therefore, more in-depth study to understand the extent of the overlap between SRL and engagement, and relationships between motivation and engagement for culturally diverse learners are needed. Again, rigorous investigation of how SRLPPs foster students’ effective regulation of learning that is relevant to and sustains their cultural values; and, how culturally responsive classrooms provide contexts for student SRL engagement and motivation overtime is highly recommended.

_from a methodological perspective, the findings presented in this dissertation suggest future work on culturally diverse learners’ engagement in four major ways. First, using multiple parallel case studies that integrate mixed-methods coupled with cross-case analyses can offer great insight into culturally diverse students’ engagement as situated in the context of CRPPs and SRLPPs. The methodological strategy used in this dissertation enabled me to study how teachers designed classroom contexts to support all their learners; variations in students’ engagement and motivation within and between contexts; and revealed potential operating mechanisms behind these differences. The integration of multiple methods of data collection in this study (e.g., observations, collecting student work samples, teachers’ lesson plan and inquiry project instructions, debriefings and interviews, using an experience sampling method, and surveys) combined to advance understanding of how students’ perceptions of contextual features shape their engagement, and how high engaging students tend to be more self-regulating than low engaging students. Future research could replicate this study with attention to understanding and enhancing culturally diverse learners’ engagement, motivation and regulation of learning as situated in a CR-SRL inquiry-based learning context. Using a multiple parallel case study design, research could involve more culturally diverse teachers, students and contexts to examine similarity of patterns across other teachers, students, and contexts.

Second, future case studies should include longitudinal research for a more in-depth examination of teacher practices, and culturally diverse student engagement as it unfolds overtime
within and across contexts. Similar research that extends over a longer period, such as across a full academic year, could complement this study by investigating variations between student engagement and different contextual factors. For example, future research could explore students’ perceptions of CRPPs, or SRLPPs, such as choice in relation to their engagement and motivation. In addition, longitudinal case studies will allow the integration of pre-post measures of teacher practices and student engagement to trace shifts in teacher practices and student engagement. These measures were not built into the current research because of the limited available time for the study. Inclusion of control groups, in the future research, might strengthen conclusions related to the link between student engagement and teacher practices especially CRP and SRL ones.

Third, future analysis can employ learner-in-context as a unit of analysis to understand how student characteristics including sex, age, cultural backgrounds, achievement and engagement levels interact with classroom contexts in shaping their engagement and motivation. Applying a learner-in-context approach will complement the findings of this study that used context as a unit of analysis.

Finally, community engagement research that involves all the stakeholders including researchers, policy makers, educators, students and parents in the research process (e.g., design, data collection and interpretation) could provide a deeper understanding of how cultural backgrounds and lived experiences impact student learning processes. Such partnerships and collaboration can inform a more research-based, culturally responsive, relevant and sustaining curriculum for teacher education and professional programs. Consequently, teachers might become more knowledgeable about how to design an inclusive and supportive learning environment that identifies and uses student histories as resources to push their learning forward.
Conclusions

The overarching goal of this dissertation was to explore how elementary classroom teachers can create a supportive classroom environment to enhance engagement for culturally diverse learners using a CR-SRL framework (Anyichie & Butler, 2017); how teachers perceived their enacted practices; and, how those practices could be linked to students’ engagement in them. Using a multiple parallel case study design with mixed method approaches, teacher practices and perceptions, and students’ engagement were investigated in the context of two classrooms; and, then specifically in inquiry-based projects that integrated CRPPs and SRLPPs. Findings of this dissertation extend previous literature on the need to situate SRL, engagement and motivation research within students’ sociocultural context (Anyichie, Yee, Perry, & Hutchinson, 2016; Järvenoja, Järvelä, & Malmberg, 2015; McInerney, Walker, & Liem, 2011; Nolen et al., 2015; Zusho & Clayton, 2011).

One of the major patterns that emerged from this study indicated that while designing supportive learning environment, teachers enacted practices in the three main categories of the CR-SRL framework; that is, foundational practices, CRPPs and SRLPPs, and dynamic supportive practices (Anyichie, Butler & Nashon, 2018). The next pattern suggested that the teachers perceived both benefits and challenges of enacted practices. A ground-breaking finding of this study was that the integration of CRPPs and SRLPPs into an inquiry-based project created affordances for the highest levels of students’ engagement and motivation, including in self and social forms of regulation of learning (Anyichie & Butler, 2018b). Another striking trend suggested that students’ perceptions of contextual features, such as CRPPs and SRLPPs (e.g., choices, control over challenge, self-evaluation) shaped their engagement. Specifically, at least in Joseph’s classroom, student motivational perceptions of contextual features of the inquiry project in terms of whether it is important, interesting, enjoyable related to their engagement; and suggested a relationship between motivation and engagement (Reeve & Lee, 2014). This dissertation also documented a dynamic
interaction between the learner (e.g., individual differences) and context (e.g., teacher practices, teacher and peer behaviour, physical environment); and how students’ engagement was related to the kinds of CRPPs and SRLPPs the teachers wove into each context/day. Finally, in addition to students’ engagement in the inquiry project, there was a trend whereby the most high engaging students in this study manifested more behavioural patterns consistent with self-regulated learners (e.g., initiating self-directed processes, and persistence in the face of challenge) than low engaging students (Perry, Thauberger, & Hutchinson, 2010; Zimmerman, 2015). Through research processes and findings, this dissertation made contributions to theory, research and methodology, and practice.
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Appendices

Appendix A: Co-designed CR-SRL Inquiry-Based Project in Venus’ Classroom

GETTING TO KNOW YOURSELF AND YOUR CLASSMATES IN OTHER CONTEXTS

<table>
<thead>
<tr>
<th>STEP</th>
<th>TASK: Remember to try your best and follow your plan☺</th>
<th>COMPLETION DATE:</th>
</tr>
</thead>
</table>
| A)   | Organize and Plan:  
1) Look through the task list and due dates.  
2) Create a plan to better support when and how you will get this done. \textit{Remember you can change the order as long as you hand in something on each due date☺}  
3) Discuss with Ms. Venus.  |                  |
| B)   | Review and Reflect:  
1) Use the definitions that are provided to discuss and share how/if each fit into your life.  
2) Interview your family on each of the terms and get them to share how/if each term fits into their lives.  
   *You can record them on your electronic device OR  
   *Get them to fill out the web  |                  |
| C)   | Self-Profile:  
1) In your profile, please include:  
   • Full name  
   • Birthplace  
   • Birthday  
   • people you live with and their ages  
   • places you have lived and the length of time at each place  
   • your hobbies  
   • five things you like the most  
   • five things you like the least  
   • anything else you want to share about yourself that you think is important  |                  |
| D)   | School: in the past compared to the present  
1) Come up with 5 to 10 questions about school that you can ask your parents, grandparents, aunts, uncles, siblings, cousins, etc. These questions will help you get a better understanding of learning in a different country, place and/or time.  
   • You cannot interview people from this class or this school!  
2) You must get the questions approved by Ms. Venus☺  
3) You have to interview 4 people. \textit{You can record the interviews or ask them the questions and write it down.}  
4) Create a Venn diagram or a chart to think about how school has changed and how it has stayed the same over time.  |                  |
| E)   | Learning: the act or process of acquiring knowledge or skill.  
1) How would you define learning?  |                  |
2) How do people learn?
3) Where can you learn?
4) Who can you learn from?

<table>
<thead>
<tr>
<th>F) Technology:</th>
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</thead>
<tbody>
<tr>
<td>1) Who uses technology in your family?</td>
</tr>
<tr>
<td>2) What types of technology do you and your family use?</td>
</tr>
<tr>
<td>3) Do you use any of them for your learning? If yes, how?</td>
</tr>
<tr>
<td>4) What are your favourite apps? Which apps does your family like?</td>
</tr>
<tr>
<td>5) Do you use the Internet or specific apps to post things about your life? If yes, what do you do to make sure that your identity and privacy is protected.</td>
</tr>
<tr>
<td>6) Why is it important to make sure that you are protected?</td>
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<tr>
<th>G) PAST, PRESENT AND FUTURE:</th>
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<tbody>
<tr>
<td>1) Remember, how you wrote about 3 typical days in your life, well now we want to compare how life has changed and will continue to change.</td>
</tr>
<tr>
<td><em>In this task you need to interview 10 people, you can record these interviews or just write down the answers.</em></td>
</tr>
<tr>
<td>2) Create 3 to 5 questions that you could ask them about life or perhaps three typical days in their lives.</td>
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<tr>
<td>* Find two people that are 75 years or older.</td>
</tr>
<tr>
<td>* Find two people that are between the ages of 50 and 70.</td>
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<tr>
<td>* Find two people that are between the ages of 25 and 45</td>
</tr>
<tr>
<td>* Find two people that are between the ages of 10 and 20.</td>
</tr>
<tr>
<td>* Lastly, interview two people that are between the ages of 4 and 8.</td>
</tr>
<tr>
<td>3) REFLECTION:</td>
</tr>
<tr>
<td>After completing the interviews, think about what you have heard from people at different stages in their lives.</td>
</tr>
<tr>
<td>a) What have you learned?</td>
</tr>
<tr>
<td>b) What do you think about life 50 or more years ago in comparison to now?</td>
</tr>
<tr>
<td>c) How has life changed over the years?</td>
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<th>H) WRITING ASSIGNMENT:</th>
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<tbody>
<tr>
<td>You wake up in one of the time periods below,</td>
</tr>
<tr>
<td>1) 1940</td>
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<tr>
<td>2) 1970</td>
</tr>
<tr>
<td>3) 1990</td>
</tr>
<tr>
<td>THINK: Where are you? what are you doing? who are you living with? How do you pass your time?</td>
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<tr>
<td>*You can do some research or use the interviews to help you. Make sure you list the sources if you do some research.</td>
</tr>
<tr>
<td>*Remember to have a proper beginning, middle and end. Focus on details, organization and adding a hint of you 😊</td>
</tr>
<tr>
<td>I)</td>
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<td>----</td>
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<tr>
<td>1)</td>
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<td>2)</td>
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<td>3)</td>
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<tr>
<th>J)</th>
<th>Government:</th>
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<tbody>
<tr>
<td>1)</td>
<td>Does your family talk about the government?</td>
</tr>
<tr>
<td>2)</td>
<td>If so, are they going to vote? Do they want to vote for a specific party?</td>
</tr>
<tr>
<td>3)</td>
<td>How does your family decide who they will vote for?</td>
</tr>
<tr>
<td>4)</td>
<td>What influences people when they vote or how they vote?</td>
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<thead>
<tr>
<th>K)</th>
<th>Mental health:</th>
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</thead>
<tbody>
<tr>
<td>includes our emotional, psychological, and social well-being. It affects how we think, feel, and act. It also helps determine how we handle stress, relate to others, and make choices. Mental health is important at every stage of life, from childhood and adolescence through adulthood.</td>
<td></td>
</tr>
<tr>
<td>1)</td>
<td>Have you heard about the term before?</td>
</tr>
<tr>
<td>2)</td>
<td>Does your family ever talk about this?</td>
</tr>
<tr>
<td>3)</td>
<td>Ask five people you know about mental health? Record what they say? Or write down what they say?</td>
</tr>
<tr>
<td>4)</td>
<td>Thinking back, to our key terms: family, religion, culture, custom, belief, value and tradition- how do you think these terms affect how people close to you feel about mental health?</td>
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<tr>
<th>L)</th>
<th>REFLECTION:</th>
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<tbody>
<tr>
<td>1)</td>
<td>Tell me two things you learned from doing this project.</td>
</tr>
<tr>
<td>2)</td>
<td>Did you enjoy this project? Why or why not?</td>
</tr>
</tbody>
</table>

**My Sources:**

www.dictionary.com
https://www.mentalhealth.gov/basics/what-is-mental-health/
<table>
<thead>
<tr>
<th>Days/Teacher</th>
<th>Instructional Episode</th>
<th>Durations (mins)</th>
<th># of Observations/Instructional episodes</th>
</tr>
</thead>
</table>
| 1 Mrs. Pauline | Subject: Language Arts  
Topic: Wonder Project  
Lesson Activity: Reading and discussing “Wonder Book”  
Observation Attention: Teacher and Students | 40 mins | 1 |
| 2 Ms. Venus | Subject: Maths and Social  
Topic: Review Work time  
Lesson Activity: Students are reviewing work of their choice (i.e., maths or social).  
Observation Attention: Student independent work and teacher support.  
Subject: Language Arts  
Topic: Wonder Project  
Lesson Activity: Teacher and students are discussing about characters in the book and how to design class Wonder Board.  
Observation Attention: Teacher and Students | 20 mins | 2 |
| 3 Ms. Venus | Subject: Maths  
Topic: Ratio  
Lesson Activity: Small group [grades] review with teacher.  
Observation Attention: Student and teacher activities.  
Subject: Language Arts  
Topic: Wonder Project  
Lesson Activity: Reading of “Wonder” textbook.  
Observation Attention: Teacher and students | 40 mins | 2 |
| 4 Ms. Venus | Subject: Maths  
Topic: Fraction  
Lesson Activity: Small group [grades] review with teacher.  
Observation Attention: Student and teacher activities.  
Subject: Social Studies  
Topic: Levels of Government | 20 mins | 2 |
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity Leader</th>
<th>Subject</th>
<th>Topic</th>
<th>Lesson Activity</th>
<th>Observation Attention</th>
<th>Duration</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>5</td>
<td>Mrs. Pauline</td>
<td>Language Art</td>
<td>Wonder Project</td>
<td>Teacher and students are discussing different levels of government and completing worksheet. Observation Attention: Student and teacher activities.</td>
<td></td>
<td><strong>45 mins</strong></td>
<td>1</td>
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<tr>
<td>6</td>
<td>Ms. Venus</td>
<td>Social Studies</td>
<td>Inquiry Project*</td>
<td>Student and teacher activities.</td>
<td>Creating a short video exploring a theme from “Wonder Book” on Ipad</td>
<td><strong>70 mins</strong></td>
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<td>7</td>
<td>Ms. Venus</td>
<td>Social Studies</td>
<td>Inquiry Project*</td>
<td>Student and teacher activities.</td>
<td>Students have work block time and working on project of their choice [e.g., Inquiry for Social Studies; “Wonder” for Language Arts]</td>
<td><strong>40 mins</strong></td>
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<tr>
<td>8</td>
<td>Ms. Venus</td>
<td>Social Studies</td>
<td>Inquiry Project*</td>
<td>Student and teacher activities.</td>
<td>Students have work block time and working on project of their choice [e.g., Inquiry for Social Studies; “Wonder” for Language Arts]</td>
<td><strong>65 mins</strong></td>
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<td>9</td>
<td>Ms. Venus</td>
<td>Social Studies</td>
<td>Inquiry Project*</td>
<td>Student and teacher activities.</td>
<td>Students have work block time and working on project of their choice [e.g., Inquiry for Social Studies; “Wonder” for Language Arts]</td>
<td><strong>50 mins</strong></td>
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<td>10</td>
<td>Ms. Venus</td>
<td>Social Studies</td>
<td>Inquiry Project*</td>
<td>Student and teacher activities.</td>
<td>Students have work block time and working on project of their choice [e.g., Inquiry for Social Studies; “Wonder” for Language Arts]</td>
<td><strong>60 mins</strong></td>
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<td>Total # Days Observed</td>
<td>Subjects (# of times observed): Maths (3); Language Arts (4); Social studies (6)</td>
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<td></td>
<td>[Inquiry 5] ESRF: 5 Teachers: Ms. Venus (8); Mrs. Pauline (4)</td>
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<td></td>
<td>560 mins #Observations = 13</td>
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</table>
Appendix C: Co-designed CR-SRL Inquiry-Based Project in Joseph’s Classroom

Understanding Animal and Human Adaptations to the Land

Section 1: Animal Adaptations

Instructions. Research adaptation and senses of an insect from the Bug Wars Playlist posted with materials at: Adaptation Website

- Make a best copy scientific drawing following “Austin’s Butterfly”
- Create a multimedia book using “Book Creator” app
- Share and present your project online

Most aspects of this project will be completed at school

Your final project will have:

1. A title page.
2. An original scientific drawing (2 if you are working with a partner).
3. A description of your animal’s senses and adaptations through voice notes, text, pictures, and scientific drawings.

Section 2: First Nations adaptation to the Land

Instructions. Research on one of the aboriginal people (e.g., Inuit, Metes and First Nations). Compare your findings about the “First Nations and Our daily Living” by responding to these questions:

1. What is the biggest difference?
2. What is most surprising when I think of my life?
3. If I was a First Nation person my age, what would I enjoy the most?
4. Field Trip to UBC Museum of Anthropology: In groups, record thoughts and impressions of Museum of Anthropology in a podcast

Section 3: My adaptation to school

Instructions. Research your personal challenges in school and come up with possible adaptation strategies. In your groups, come up with a common challenge and strategies, and perform a role play about that.
Appendix D: Co-designed CR-SRL Inquiry-Based Project in Matthias’s Class

Understanding your Personal and Cultural Identity

1.1. Relationships & Cultural Contexts
How does your culture shape your identity and your choices?

Part 1 – Written Response
1. How do you choose your friends? Do you base friendship on interests, age, cultural background, appearance, gender, religion, or other qualities? Explain.
2. Why do you go to St. Victor’s School and not another school?
3. What extra-curricular activities are you involved in now, or want to join this year? Why are these interesting/importent to you?
4. What major celebrations do you and your family observe and why?
5. What do you appreciate most about your cultural background and why? Explain in detail.

Part 2 – Culture Collage
On a piece of blank paper, make a collage of images and words that describe and represent you culturally. Make it colourful and cover the whole page.
You can include drawings, words, poetry or writing about:
- You, your family, and your friends.
- Your national flag and cultural symbols (foods, sports, arts).
- Religious symbols and celebrations that are meaningful to you.
Use the space below to brainstorm ideas that you can apply to your final collage.

1.2. Personal Values & Choices
What do you value and why? How are your values influenced by your culture?

Written Response
1. List 5 things that are important to you/that you value in life.
2. Explain why each of them is important to you?
3. What do you hope to be in the future, and why?
4. How is this hope affected/influenced by your values or your cultural background? If it isn’t, what affects/influences your hope and why?

1.3. Personal Strengths & Abilities
What are your strengths and abilities?
How do you use your strengths and abilities in your community?
Written Response

1. What are some of your strengths and abilities?
2. What would you say are some of your challenges and weaknesses?
3. How are you using your strengths in your: Family? School? Relationships?

2. Sharing our stories

2.1. Identifying our similarities and differences

Reflection question

What do you see and think about your similarities and differences with your friends/group members?

2.2. Final presentation: Share your group findings with the class.

• Create presentation (poster, written report, picture story book)
Appendix E: Meetings with Teachers

I met with each of the teachers at the start of the study, and every month as need arose. At the start of the study, we discussed “A Culturally Responsive Self-Regulated Learning Framework” (Anyichie & Butler, 2017). At each meeting, I asked them the following questions, using a semi-structured interview format.

At the start of the study:

1. What goals do you have for supporting your learners this year with regards to culturally responsive teaching and self-regulated learning?
2. What have you been doing to support all learners in your classroom so far?
3. What strategies are you thinking of using this year to support culturally diverse learners’ engagement in your classroom?

During monthly individual meeting:

1. What CRPPs and SRLPPs are you currently trying out in your class?
2. What are your experiences of them so far?
   (a) How do you feel designing and implementing them?
   (b) What was challenging? Why?
   (c) What was helpful? Why?
Appendix F: Consent Forms

Teachers’ Consent Form

Supporting All Learners’ Engagement in a Multicultural Classroom Using a Culturally Responsive Self-Regulated Learning Framework
Dr. Deborah L. Butler
Professor
Department of Educational and Counselling Psychology, and Special Education
University of British Columbia

Co-Investigator:
Aloysius C. Anyichie
PhD Student
Department of Educational and Counselling Psychology, and Special Education
University of British Columbia

Why are we doing this study?
This study is Aloysius’ dissertation research. We are doing this study to learn more about classroom practices that teachers can design and implement to support all learners in a multicultural classroom context. We want to learn more about the benefits and challenges of those practices in helping teachers support students’ engagement and performance in their classroom context. We are inviting teachers like you in grade 4, 5, 6, & 7 multicultural classrooms to help us.

What happens if you say, “Yes, I want to be in the study”?
If you provide your consent to participate in this study, you will be involved in the following activities:

1. Introduction of the study: You will be asked to set aside about 5 -10 minutes of the class time for the introduction of the study to your students. During this time, in your presence, Aloysius will elaborate on the reason for the study (e.g., helping teachers to support students’ learning); and students’ participation in the study (e.g., observation, interview, survey, taking photographs of their inquiry projects). He will then distribute the consent/assent forms for them to take home. He will also reply to any of students’ questions and concerns about this study. He will, through you, set up a confidential space (e.g., box) for students to drop in their parents’ consent and their assent forms.

2. Student Background Survey: You will be asked to distribute background surveys to your students to gather information about their cultural backgrounds. This survey will be part of your processes of getting to know your students; and designing activities that are connected to their cultural background. When you collect them back, Aloysius will only access and copy those of
students who consent/assent to participate in this study. This information will be used for data analysis at the end of this study.

3. **Nomination of Students**: You will be asked to nominate, based on your professional judgement, up to 6 students that show least signs of engagement in your class. Aloysius will include these students, if consent/assent are obtained, in final in-depth interviews.

4. **Observations**: You will be observed in your classroom including all your students during normal instruction about 6 times over a two-month period. This observation will be videotaped by Aloysius to capture the whole class activities making sure that students who did not consent to this study are not included in the picture frame. Each observation will last for 30 – 60 minutes. Aloysius is not observing to evaluate you, but to see your teaching and learning practices. During the observation, he will position himself to be less visible in the classroom.

5. **Debriefing**: Occasionally after observing your class, Aloysius will ask you to chat briefly about your perceptions of classroom practices, and students’ responses to them for about 5-10 minutes. These debriefing will be audio taped. Occasionally too, he will circulate and ask all students questions about their perceptions and feelings about the classroom tasks and environment. During this time, he will take pictures of their work samples. He will also have a short debrief with the students during classroom natural breaks about their experiences of the class activities for not more than 5 minutes. When it is possible, these conversations will also be audio taped.

6. **Survey**: At the end of the study, Aloysius will ask to make copies of the surveys for students who have consented/assented to participate in this study. This survey that will be part of the normal feedback you collect from students after projects will take not more than 20 minutes to complete. When you collect them back, Aloysius will only access and copy those of students that are participating to get their feedback about the project in this study.

7. **Interviews**: At the end of the study, Aloysius will hold interviews with you. You will be asked questions in your classroom about class activities between 40 – 60 minutes. During this time, Aloysius may replay some part of the video that might help you recall some of your classroom activities. Aloy will also interview the selected students in your classroom at a time that does not disrupt classroom activities for about 10 - 15 minutes. These one-on-one interviews with Aloysius will be audiotaped.

In total, you are being asked to devote between 5 and 9 hours to this study.

**What happens to the study results?**
The results of this study will be reported in Aloysius’ graduate thesis. They may also be published in journal articles or books and presented at conferences. In all presentations and publications your and your students’ identities will be protected. No audio or video recordings will be used in presentations or publications.
What are the benefits of participating?
The conversations you will have with Aloysius about your classroom practices will help you reflect on how we can best engage students in today’s multicultural classrooms. This research may help in understanding the benefits and challenges (i.e., from students’ and teachers’ perspectives) of classroom practices designed by teachers to support all learners’ engagement and performance in a multicultural classroom context. They may also help to understand how those practices can be designed.

How will your identity be protected?
Your confidentiality will be respected in this dissertation research. All documents (e.g., consent forms, lesson plans, journal, instructions for students’ inquiry project), collected from you will be identified using pseudonyms/code numbers and will be kept in a locked filing cabinet in Dr. Butler’s office at University of British Columbia. Electronic and media data (e.g., video/audio records) will be stored as computer files that are encrypted and password protected. Only Dr. Butler and Aloysius will have access to these materials that will be solely used for this research. You will not be identified by name or any descriptors in any reports (e.g., publications, paper presentations) of the completed study. If you are not willing to be videotaped, the camera will be positioned in a way that will avoid capturing you on tape. However, any unintentional video recording(s) of your image will be edited to blur your image, so that nobody will recognize you. After 5 years of completing this study, Dr. Butler will delete/destroy all these materials containing information about you.

Who can you contact if you have questions about this study?
If you have any questions or would like more information about this study, please contact Aloysius Anyichie or Dr. Butler using the contact information at the top of the first page of this form.

Who can you contact if you have complaints or concerns about the study?
If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.

Note: *Please keep the first three pages for your own records.

If you do agree to consent in this study, please fill out the next page, detach it, and bring it back to Aloysius.
**Teacher Consent Form**

**Supporting All Learners’ Engagement in a Multicultural Classroom Using a Culturally Responsive Self-Regulated Learning Framework**

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your employment.

Video Recordings: The video record of classroom observations will not be presented at conferences; instead, it will only be used for data analysis. Please sign below if you are willing to have your image video-taped. You may still participate in this study if you are not willing to have your image recorded.

Signature: __________________________ Date: __________________

- Your signature below indicates that you have received a copy of this consent form for your own records.
- Your signature indicates that you consent to participate in this study.

Name (printed): ___________________ ___________________
             (First)                                            (Last)
Signature: ___________________________ Date: _________________

If you would like a copy of the study report, please provide your e-mail or fill in your mailing address below. Thank you.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Supporting All Learners’ Engagement in a Multicultural Classroom Using a Culturally Responsive Self-Regulated Learning Framework
Dr. Deborah L. Butler
Professor
Department of Educational and Counselling Psychology, and Special Education
University of British Columbia

Co-Investigator:
Aloysius C. Anyichie
PhD Student
Department of Educational and Counselling Psychology, and Special Education
University of British Columbia

Why are we doing this study?
This is Aloysius’ dissertation research. We are doing this study to learn more about classroom practices that teachers can design and implement to support all learners in a multicultural classroom context. We want to learn more about the benefits and challenges of those practices in helping teachers support students’ engagement and performance in their classroom context. We are inviting your child’s teacher to join us in this study. We are also inviting all students in his/her classroom to be part of the study.

How is the study done?
If you provide consent for your child to participate in this study, he/she will be involved in the following activities:

1. Student Background Survey: At the beginning of this study, your child will be asked by his/her teacher to complete a survey asking about his/her cultural background. This survey will take about 5-8 mins to complete. Information from the survey will enable Aloysius in co-designing relevant activities with your child’s teacher to support his/her engagement and success in the class. If you agree that your child should participate in this study, Aloysius will access a copy of your child’s survey after it is submitted to the teacher. He will use it for analysis at the end of this study.

2. Observations: Your child will be observed during their normal school tasks about 6 times in their regular classroom for 30 – 60 minutes each time. Aloysius will sit in the classroom to observe and take notes of your child’s participation in the classroom activities. This observation will also be videotaped to make sure that all activities are captured. Those who are not participating in this research will not be video recorded. At times, Aloysius will ask your child questions about his or her perceptions about the task and class activities. During this time, he will take pictures of your child’s classroom work.
3. **Debriefing:** Aloysius will meet your child during/or after class observations for an informal short conversation about his/her participation in, and experiences of, classroom activities. This conversation will take place during breaks, so as not to interfere with class activities, will take place in your child’s classroom, and will not be more than 5 minutes. When it is possible, the conversation may be audio taped.

4. **Interviews:** Some students will be asked to participate in a brief (10-15) minute interview at the end of a project so that Aloysius can get more information about students’ experiences in the classroom. This interview will be audio taped. If your child is selected for this additional interview, Aloysius will ask questions about his or her perceptions about classroom activities. During this interview, Aloysius may replay some part of the video that might help your child remember his/her experiences of the classroom activities. This one-on-one interview with Aloysius will take place during breaks in the classroom so that it does not disrupt regular classroom activities.

5. **Survey:** At the end of the study, your child will be asked by the teacher to complete a survey that asks about his/her experiences of a classroom task to gather feedback from students as part of normal classroom activities. If you agree for your child to participate in this study, Aloysius will access a copy of your child’s survey after it is submitted to the teacher.

In total, your child will be asked to devote at most 7 hours to this study.

**What happens to the study results?**
The results of this study will be reported in Aloysius’ graduate thesis. They may also be published in journal articles or, books and presented at conferences. The photographs of your child’s work samples will be used when necessary in publications and conference presentations, without disclosing his/her identities. No audio or video recordings will be used in presentations or publications.

**Is there any way being in this study could be bad for your child?**
There is nothing in this study that could harm or be bad for your child. Your child will be asked questions about what he or she thinks and feels about classroom activities, which some students might feel sensitive about. However, all questions will be asked with great sensitivity, and students will always be given a choice as to whether to answer questions or not. There will be no other costs or risks for participating in this study. Most of the study activities take place during, and won’t interfere, with normal classroom instruction Interviews will be one-on-one with Aloysius and held at times that do not interfere with your child’s regular classroom work.

**What are the benefits of participating?**
The conversations your child will have with Aloysius about his/her participation in class activities will help your child reflect on his/her learning engagement and performance. This research may help in understanding the benefits and challenges (i.e., from students’ and teachers’ perspectives) of classroom practices designed by teachers to support all learners’ engagement and performance in a multicultural classroom context.
How will your child’s identity be protected?
Your and your child’s confidentiality will be respected in this dissertation research. Copies of documents (e.g., consent/assent forms, survey) will be identified using pseudonyms or code numbers and will be kept in a locked filing cabinet in Dr. Butler’s office at University of British Columbia. Electronic and media data (e.g., video/audio records, pictures of work samples) will be stored as computer files that are encrypted and password protected. Only Dr. Butler and Aloysius will have access to these materials that will be solely used for this research. Participants, including both teachers and students, will not be identified by name or any descriptors in any reports (e.g., publications, paper presentations). If you are not willing to have your child videotaped, the camera will be positioned in a way that will avoid capturing him/her on tape. However, any unintentional video recording(s) of your child’s image will be edited to blur his/her image, so that nobody will recognize your child. After 5 years, Dr. Butler will delete/destroy all materials containing information about your child and yourself (e.g., the signed consent form).

Who can you contact if you have questions about this study?
If you have any questions or would like more information about this study, please contact Aloysius Anyichie or Dr. Butler using the contact information at the top of the first page of this form.

Who can you contact if you have complaints or concerns about the study?
If you have any concerns or complaints about your child’s rights as a research participant and/or experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.

Note: *Please keep the first three pages for your own records.

* If you do agree to consent to your child’s participation in this study, please fill out the next page, detach it, and give your child to drop in a box that is provided by Aloysius in their classroom.
Supporting All Learners’ Engagement in a Multicultural Classroom Using a Culturally Responsive Self-Regulated Learning Framework

Your child’s taking part in this study is entirely up to you. You have the right to refuse his/her participation in this study. If you decide that your child will take part, you may choose to pull him/her out of the study at any time without giving a reason and without any negative impact on his/her class standing.

VIDEO RECORDINGS: The video record of classroom observations will not be presented at conferences; instead, it will only be used for data analysis. Please sign below if you are willing to have your child’s image recorded on video-tape. Your child may still participate in this study if you are not willing to have his/her image recorded.

Signature of Parent / Guardian__________________________ Date__________________________

- Your signature below indicates that you have received a copy of this consent form for your own records.
- Your signature indicates that you consent to your child’s participation in this study.

Child’s Name (printed): ____________________________
(First)                                                          (Last)

Parent/Guardian Name (printed): ____________________________
(First)                                                          (Last)

Parent/Guardian Signature: ____________________________ Date _________________

If you would like a copy of the study report, please provide your e-mail or fill in your mailing address below. Thank you.

___________________________________________
___________________________________________
___________________________________________
___________________________________________
Supporting All Learners’ Engagement in a Multicultural Classroom Using a Culturally Responsive Self-Regulated Learning Framework

Who is conducting the study?
Principal Investigator:
Dr. Deborah L. Butler
Professor
Department of Educational and Counselling Psychology, and Special Education
University of British Columbia

Co-Investigator:
Aloysius C. Anyichie
PhD Student
Department of Educational and Counselling Psychology, and Special Education
University of British Columbia

Why should you take part in this study?
You are being invited to take part in this research study because you are in grade 4, 5, 6, or 7 and are learning in a multicultural classroom. This study is Aloysius’ dissertation research. Aloysius wants to learn more about how teachers can best support all learners in a multicultural classroom context.

What happens if you say “Yes, I want to be in the study”?
If you decide to take part in this research study, here are the things you will be participating in:

1. Student Background Survey. At the beginning of this study, your teacher will distribute a survey that asks you to provide your background information. This survey will take about 5-8 minutes to complete. Information from the survey will enable Aloysius in designing relevant activities with your teacher to support your learning and success in the class. If you choose to participate in this study, Aloysius will ask your teacher for a copy of your survey; and will use it for analysis at the end of this study.

2. Observations: You will be observed about 6 times in your regular classroom between 30 - 60 minutes each time. Observations will take place as you work on your regular classroom activities and assignments. This observation will be videotaped by Aloysius to make sure that all activities are captured. During this time, he may ask you questions about what you are doing and will take pictures of your work. However, if you are not participating in this research, you will not be video recorded.
3. **Debriefing:** You will take part in informal short conversations with Aloysius during/or after observations that will last no more than 5 minutes in the classroom. This short conversation will take place during little breaks in the classroom and may be audio recorded when possible.

4. **Interview:** At the end of the study, you may also be asked to take part in a one-on-one final interview with Aloysius for about 10 - 15 minutes. The final interview will be audiotaped; and, you will be asked questions about your participation in class activities and how you feel about those activities. During this time, Aloysius may replay some part of the video that might help you in remembering your experiences of the classroom activities. This final interview will also take place in the classroom so that it does not disrupt your regular classroom activities.

5. **Survey:** At the end of one of your assignments, your teacher will distribute and collect feedback from you using a short survey. The survey will take not more than 20 minutes to complete. If you choose to participle in this study, Aloy will ask your teacher for a copy of your survey, to learn more about your thoughts about your classroom work.

In total, you are being asked to devote at most 7 hours to this study.

**What happens to the study results?**
The results of this study will be reported in Aloysius’ graduate thesis. They may also be published in journal articles or, books and presented at conferences. The photographs of your work, might be used in publications and conference presentations but your name won’t be included to protect your privacy. No audio or video recordings will be used in presentations or publications.

**Is there any way being in this study could be bad for you?**
There is nothing in this study that could harm or be bad for you. You will be asked questions about what you think about classroom activities, which some students might feel sensitive about. However, you do not have to answer any of the questions if you do not want to. There will be no other risks for participating in this study. Most of the study activities will take part during normal classroom activities. The conversations and interviews with Aloysius will be held at times that do not interfere with your regular classroom work.

**What are the benefits of participating?**
The conversations you will have with Aloysius about your participation in class activities will help you reflect on your learning engagement and performance. This research may help in understanding how teachers can best support all learners’ engagement and performance in a multicultural classroom context.

**How will your identity be protected?**
Your confidentiality will be respected in this dissertation research. Any information about you will not be shared with anyone else. All documents (e.g., assent form, inquiry project, pictures of your work samples) will be identified only by code number/pseudonyms and kept in a locked filing cabinet. Also, media files (e.g., videotaped observations and audio tapes of your conversations/interview) will be stored with Dr. Butler at University of British Columbia. If you are not willing to be videotaped, the camera will be positioned in a way that will avoid capturing you on
tape. However, any unintentional video recording(s) of your image will be edited to blur your image, so that nobody will recognize you. After 5 years, Dr. Butler will destroy/delete all the documents and media files. You will not be identified by name in any reports of the completed study.

If you have any questions or concerns about what we are asking of you, please contact your parents or your teacher or Aloysius.

Note: This page is for you to keep.

If you agree to participate in this study, please fill out the next page, detach it, and drop in a box that is provided by Aloysius in your classroom.
Student Assent Form

Supporting All Learners’ Engagement in a Multicultural Classroom Using a Culturally Responsive Self-Regulated Learning Framework

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your class standing.

Video Recordings: The video record of classroom observations will not be presented at conferences; instead, it will only be used for data analysis. Please sign below if you are willing to have your image video-taped. You may still participate in this study if you are not willing to have your image recorded.

Signature _____________________________ Date: _____________________

• Your signature below indicates that you have received a copy of this assent form for your own records.
• Your signature indicates that you assent to participate in this study.

Name (printed): ____________________                 ____________________
(First)                                                 (Last)

Signature: _________________________________________

Date: ____________________________________________
Appendix G: Classroom Observation Instrument (section 1 adapted from Perry, 1998)

Section I: Running Record

Teacher _______________________
Observer _______________________
Grade_________________________
Time Start ______________________
Date ______________ Time Ending ______________
School _______________________
Total Time _____________________

Observation Objective: (e.g., Teacher enacted practices in the class, student engagement at classroom and learning activity levels, peer and teacher support, teacher and student activity, student independent or group activity)

RUNNING RECORD

Description of Classroom Context (e.g., physical environment and task/activity):

Record of everything that’s going on in the class

<table>
<thead>
<tr>
<th>Time</th>
<th>Description of Events</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teacher Activities</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Section II: Observation Focus/ Category for CRPPs and SRLPPs, and Student Engagement

<table>
<thead>
<tr>
<th>Focus/Category</th>
<th>Definitions/ Examples</th>
<th>What students are doing</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRPPs and SRLPPs</td>
<td>What teacher is doing</td>
<td>What students are doing</td>
</tr>
<tr>
<td>Classroom Foundational Practices</td>
<td>Culturally Responsive Pedagogical Practices (CRPPs) and Self-Regulated Learning Promoting Practices (SRLPPs) teachers are putting in place while setting up overall supportive classroom environment.</td>
<td>- addressing peers by names, - working with peers regardless of their cultural backgrounds, - working on a project based on common interest.</td>
</tr>
<tr>
<td>- knowledge of learners</td>
<td>CRPP and SRPP: providing opportunities for knowing the students (e.g., asking questions/or providing them with questionnaire about their strengths, weaknesses, interests), - showing evidence of knowing students’ histories (e.g., calling students by names; giving examples based on students’ interests, creating mixed working groups based on students’ strengths, weaknesses, and work habits. - designing inquiry project that asks students to research on their family history, social and cultural values.</td>
<td>- addressing peers by names, - working with peers regardless of their cultural backgrounds, - working on a project based on common interest.</td>
</tr>
<tr>
<td>Caring, safe, supportive environment</td>
<td>An environment where all students are equally cared for, valued, heard and feel belonging, see themselves as co-learners and resources for each other.</td>
<td></td>
</tr>
<tr>
<td>- building community of learners</td>
<td>SRPP: encouraging students’ risk taking by allowing them to: - ask questions, seek and receive help (e.g., using the concept of “three-before-me” i.e., telling students to clarify their questions with three other students before coming to the teacher), - see mistakes as opportunities for learning, and emphasizing individual student learning growth than comparing students against others (e.g., discussing about students’ progress). CRPP: providing opportunities for students’: - interrelationships, respect for individual’s perspectives and contributions (e.g., teacher and students discussing about building relationships, giving constructive feedback and perspective taking). - community building activities (e.g., playing together, sharing students’ histories, celebrating their strengths, experiences and birthdays). CRPP and SRPP: encouraging students to: - care and support one another in their learning process</td>
<td>- seeking and receiving help from both teacher and peers, - supporting others’ learning (e.g., sharing ideas and strategies for completing a task, providing others with constructive feedback), - working together in mixed cultural groups, - comfortable in taking learning risks (e.g., asking and answering questions in class), - perspective taking (e.g., allowing others to share their own opinion about a topic first without interruption; asking clarifying questions about peers’ ideas, feelings and interests), and - celebrating their strengths and successes (e.g., sharing their steps towards achieving success).</td>
</tr>
<tr>
<td>Establishing clear classroom participation structures</td>
<td>SRPP: co-constructing class routines with students including discussions about students’ expectations in the classroom (e.g., when and how to interact with others, ask questions, use the wash room, clear work station, how to respond to teacher’s call for attention such as clapping, and use of time table). CRPP and SRPP: encouraging students, while constructing class routines, to draw ideas from their home, social, cultural backgrounds and prior learning environments.</td>
<td></td>
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<tr>
<td>---</td>
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<td></td>
</tr>
<tr>
<td>Accommodation of cultural diversity</td>
<td>CRPP: - providing opportunities for students to present something about the structure of their previous learning environment; cultural heritage (e.g., ways of knowing, sharing stories and books about their culture, celebrations, and favorite playful activities). - displaying students’ cultural elements, artifacts, and symbols on the class walls.</td>
<td></td>
</tr>
<tr>
<td>Culturally Responsive SRL Practices</td>
<td>These are SRPPs that are deliberately designed to integrate CRPPs or to help students make connections between class activities and their cultural backgrounds/lived experiences.</td>
<td></td>
</tr>
<tr>
<td>Culturally responsive teaching practices</td>
<td>Classroom practices that draw from students’ social, cultural backgrounds and lived experiences as resources for teaching and learning.</td>
<td></td>
</tr>
<tr>
<td>Culturally diverse curriculum content (i.e., designing stage)</td>
<td>- adjusting and situating curriculum content to students’ prior knowledge and lived experiences (e.g., discussing and analyzing reading materials, curriculum content and structure of assignments with students), and - using multicultural textbooks (e.g., choosing novel readings from different cultural settings).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- suggesting ideas for class routine (e.g., “I want us to raise our hands before asking questions in class”); and structure of assignments (e.g., “can we have some time to talk to other students about our assignments before submission date?”) - supporting peers’ participation (e.g., reminding peers to keep quiet during independent working time).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- building interpersonal relationships, cooperation and collaboration (e.g. students working in mixed cultural groups), - navigating cross-cultural diversity (e.g., seeking clarifications about others’ cultural values and beliefs etc.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- using multicultural learning materials (e.g., referencing different multicultural textbooks in a project), - learning new information about other cultures (e.g., asking a student about the meaning of a word/concept in their home culture; and surfing the internet to gather information about different cultural artifacts on the class wall including colours of flags).</td>
<td></td>
</tr>
</tbody>
</table>
- cultural congruity in classroom teaching and learning
  - designing culturally relevant and meaningful activities (e.g., framing and teaching word problems maths question with ideas from students lived experiences),
  - encouraging students to think about their social and cultural contexts; prior knowledge and lived experiences while solving a problem in the class (e.g., while choosing and working on a science project), and
  - creating opportunities for class discussions, and practice of socially and culturally relevant skills (e.g., story telling, singing, drawing, graphic designs as ways of demonstrating learning).

- transferring learning by making connections between class activities and their sociocultural backgrounds (e.g., asking questions or explaining things using lived experiences),
- participating in socially and culturally relevant activities (e.g., choosing and working on projects with cultural values and meanings), and
- practicing different ways of demonstrating knowledge.

<table>
<thead>
<tr>
<th>SRL-promoting practices</th>
<th>Practices in support of students’ SRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>- complex task</td>
<td>SRPP: The teacher creates tasks that:</td>
</tr>
<tr>
<td></td>
<td>(a) have multiple instructional goals (e.g., mastering learning content, reading and writing strategies);</td>
</tr>
<tr>
<td></td>
<td>(b) focus on large chunks of meaning about the learning content (e.g., giving students animal inquiry project that asks them to describe the animal, habitat and important facts about their animals);</td>
</tr>
<tr>
<td></td>
<td>(c) integrate across subject areas (e.g., including hand drawing in geometry assignments);</td>
</tr>
<tr>
<td></td>
<td>(d) extend over time (e.g., in weeks and months);</td>
</tr>
<tr>
<td></td>
<td>(e) involve students in making meaningful choices (e.g., topic to write about, who to work with in group activities);</td>
</tr>
<tr>
<td></td>
<td>(f) engage students in diverse cognitive (e.g., thinking, attention) and metacognitive (e.g., engagement in the cycles of strategic actions) processes;</td>
</tr>
<tr>
<td></td>
<td>(g) include individual and social forms of learning (e.g., working alone and in groups); and</td>
</tr>
<tr>
<td></td>
<td>(h) allow multiple ways of demonstrating learning and knowledge (e.g., writing, drawing by hand or computer, oral presentations).</td>
</tr>
</tbody>
</table>

|                        | CRPP and SRLPP: deliberately designing task that integrates and connects students’ sociocultural backgrounds and lived experiences (e.g., asking students to write an essay based on their lived experiences). |
|                        | - working on complex task (e.g., inquiry project), |
|                        | - working independently or in groups, |
|                        | - working strategically (e.g., focusing on an aspect of the project at a time), |
|                        | - integrating ideas across content and context (e.g., cutting, pasting, drawing/concept mapping, colouring, writing, designing power point, making video clips), |
|                        | - making decisions about who to work with (e.g., saying “do you want us to work on a similar topic?”). |
experiences, what could be changed or added to the task; and write about how a topic/concept relates to their background).

| - choice and control over challenge | SRPP: providing opportunities for:  
- choice making and control over challenge (e.g., asking students to interpret task requirements in relation to their interests, strengths and challenges; and, learning needs including decision about what to learn and work on (e.g., choice of topic to write); whom to work with (e.g., peer with a similar topic); and where to work including the environment (e.g., sitting on the carpet, going to a quiet corner); and materials to use and how to demonstrate knowledge (e.g., oral presentation, essay, story format).  
CRPP and SRPP: offering choices with opportunities for students to connect class activities to their interest, prior knowledge, and lived experiences (e.g., scaffolding and modelling students’ learning about connecting class materials to their sociocultural background).  
| making choices of what to work on (e.g., writing on a workbook/paper different possible topics to choose from); who to work with (e.g., discussing with another student about the possibility of working together on a project); where to work (e.g., carrying working materials to a quiet corner, separate table or the flour); when to work (e.g., making decisions on when to work on maths, science or art projects). |

| - self-evaluation and assessment | SRPP: creating opportunities for students to:  
- assess their work and engagement (e.g., providing students with self-assessment forms/reports, exit slips, writing reflection guiding questions on board),  
- reflect, monitor their learning goal and progress (e.g., having group discussions with students about what they have learned after a project),  
- make changes for future engagement based on their self-evaluation, assessment, and learning outcome (e.g., to show evidence of how they are integrating the outcome of their self-assessment in a current work).  
CRPP and SRLPP: offering opportunities for students to evaluate and assess their works in relation to how they are connecting ideas and providing examples based on their interests, sociocultural backgrounds and lived experiences.  
| evaluating and assessing their works (e.g., filling a self-assessment form, evaluating their work against criteria, writing reflection journal),  
- integrating feedback (e.g., comparing the feedback with the current draft), and  
- discussing challenges and experiences of a task or project. |

| - teacher support | SRPP: offering:  
- resources (e.g., providing textbooks, possible websites for finding information to complete an assignment);  
- instrumental supports including modeling (e.g., demonstrating an activity), and  
| observing and acting on teacher support (e.g., building on teacher’s modelling and scaffolding strategies in completing an activity, and... |
example of solving quadratic equation); and scaffolding strategies (e.g., offering hints and asking guiding questions to solve a problem such as “what do you do when you don’t understand a question?”), and 
- support for connecting and transferring ideas across contexts (e.g., asking students to give an example of how a topic at hand is connected to another topic, subject area or life experience).

CRPP and SRLPP: supporting students in connecting classroom learning activities to their interest, culture and lived experiences (e.g., asking students to describe how mental health issues are handled in their cultures or religion).

<table>
<thead>
<tr>
<th>- peer support</th>
<th>SRLPP:</th>
<th>- making connections across contexts and subjects.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>offering classroom activities that require students to share information, knowledge, experiences, or learning strategies; and provide help for solving a task (e.g., asking students to talk about the challenges they are experiencing in their homework, project and how they are addressing them),</td>
<td>- co-regulating peers (e.g., generating feedback for one another),</td>
</tr>
<tr>
<td></td>
<td>- creating opportunities for peer interaction, peer assessment and help-seeking (e.g., asking students to seek help from peers before coming to the teacher, scheduling days for peer feedback while completing their projects).</td>
<td>- helping peers stay on task (e.g., saying to another student “this is project time”, “it’s not yet recess”),</td>
</tr>
<tr>
<td></td>
<td>CRPP and SRPP: encouraging students to support peers in connecting classroom learning activities to their culture and lived experiences (e.g., asking students to share how their inquiry topic is meaningful or connected to their lives or culture).</td>
<td>- providing peers with strategies and ideas on how they are tackling their tasks, and</td>
</tr>
<tr>
<td>Dynamic Support</td>
<td>The support students receive as learning unfolds including from peer, teacher and parents.</td>
<td>- volunteering to help peers complete their task (e.g., offering to explain something to a student that missed class).</td>
</tr>
<tr>
<td>- feedback</td>
<td>- providing (and creating opportunities for peers and parents to provide) useful information as a guide to students to achieve a desired product (e.g., generating feedback for students as they work on their projects).</td>
<td>- going over the feedback and working on identified issues (e.g., using teachers’ feedback as a reference guide while completing a task).</td>
</tr>
<tr>
<td>- formative assessment</td>
<td>- assessing (and creating opportunities for peers and parents to assess) students’ works against the established criteria to provide opportunity for learning growth before the accomplishment of task at hand.</td>
<td>- assessing their works using the class criteria or rubrics.</td>
</tr>
<tr>
<td>Student Engagement</td>
<td>Range of actions student take up while participating in a learning activity to advance learning and make academic progress.</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Dimensions of Engagement</td>
<td>What Students are doing</td>
<td></td>
</tr>
<tr>
<td>- behavioural</td>
<td>Students are overtly involved in academic tasks and learning activities including time on task (e.g., working on task during the class scheduled time); effort and persistence (e.g., reading, writing including note taking and comparing different versions of a project, cancelling and re-writing); attention (e.g., turning and looking at the teacher or a presenter in the class); concentration (e.g., eyes fixed on reading material, work sheet or computer); and help-seeking (e.g., asking questions in class or moving to another student and discussing a task/challenge).</td>
<td></td>
</tr>
<tr>
<td>- emotional</td>
<td>Students are expressing their feelings and reactions about classroom tasks to themselves, classmates or teacher including expressions of anxiety (e.g., fidgeting, restless, saying “I can’t present my project in front of the class”); boredom (e.g., “this project is boring”, “I’m sick and tired of this project”); frustration ( e.g., crying after receiving feedback from the teacher, tearing worksheet and in anger throwing it around); interest and happiness (e.g., raising sheering hands when a topic is announced “Oh I love fractions” “Yeah! I finished my task”); sadness (e.g., gloomy face, nodding in disagreement to working on a task or working with anybody).</td>
<td></td>
</tr>
<tr>
<td>- agentic</td>
<td>Students are initiating pathways to a more motivationally supportive learning environment including active contribution to the flow of learning activity including making suggestions and offering input (e.g., agentic student when hearing the topic of the day “Tiers and levels of government in Canada” can say “can we just discuss more about the provincial level today as I’m interested in the next provincial election and would want to write a project based on my families participation in elections?”).</td>
<td></td>
</tr>
<tr>
<td>- cognitive</td>
<td>Students are focusing on understanding their learning, and deliberate investment of needed effort in their use of cognitive strategies including self-regulation and engagement in cycles of strategic action (e.g., writing outlines, setting timelines for completing a project, making changes based on feedback); reflection and assessment (e.g., writing a reflection journal about challenges encountered while working on a project and how they are addressed, and completing self/peer assessment forms); active use of prior knowledge, thinking aloud, and use of analogy (e.g., making connections across contexts in their projects such as “I chose to write about the golden rule -treat others the way you want them to treat you- because I have heard about that in our church and I want to treat my friends the way my sister treats me at home”).</td>
<td></td>
</tr>
</tbody>
</table>
Checklist for examining the features of CR-Complex task (e.g., Inquiry project) as a context

<table>
<thead>
<tr>
<th>Category</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td><strong>Complex Task</strong></td>
<td></td>
</tr>
<tr>
<td>• multiple instructional goals</td>
<td></td>
</tr>
<tr>
<td>• focus on large chunks of meaning about the learning content</td>
<td></td>
</tr>
<tr>
<td>• integrate across subject areas</td>
<td></td>
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<tr>
<td>• extend over time</td>
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<tr>
<td>• involve students in making meaningful choices</td>
<td></td>
</tr>
<tr>
<td>• engage students in diverse cognitive and metacognitive processes</td>
<td></td>
</tr>
<tr>
<td>• include individual forms of learning</td>
<td></td>
</tr>
<tr>
<td>• include social forms of learning</td>
<td></td>
</tr>
<tr>
<td>• allow multiple ways of demonstrating learning and knowledge</td>
<td></td>
</tr>
<tr>
<td><strong>Culturally Responsive</strong></td>
<td></td>
</tr>
<tr>
<td>• Involve students and parents in designing and assessment</td>
<td></td>
</tr>
<tr>
<td>• opportunity for students to connect prior knowledge</td>
<td></td>
</tr>
<tr>
<td>• opportunity for student to connect their lived experiences</td>
<td></td>
</tr>
</tbody>
</table>

How many features of CR-Complex task does this activity incorporates (out of 12)?
Appendix H: Student Background Survey

Instructions: Please provide a response for each of the following questions:

Name:___________________________________________________________

1. Date of Birth: ____________________________

2. Gender:  Male  ○  Female  ○

3. Which country were you born in? _____________________________________
   If outside Canada/U.S, how long have you been in Canada?_____________________

4. Have you gone to school in any country other than Canada/U.S.? Yes __  No __
   If yes, where and how long? ________________________________________

5. In which country were your parents born? _____________________________________

6. With which racial or ethnic group do you identify?
   African/Black  ○  Southeast Asia  ○  Caucasian  ○  Chinese  ○  Latino  ○
   Other: ____________________________________

7. What was your first language? _________________________________________

8. What language (s) do you speak at home? ________________________________

9. What other languages do you speak, if any?_____________________________

10. Anything else you want to share about your background that you think is important?
    ___________________________________________________________________
    ___________________________________________________________________
    ___________________________________________________________________
### Appendix I: Observation Record in Joseph’s Classroom

<table>
<thead>
<tr>
<th>Days</th>
<th>Instructional Episodes</th>
<th>Durations (mins)</th>
<th>Observations/Instructional episodes #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Subject: Science&lt;br&gt;Topic: Animal Adaptation&lt;br&gt;Lesson Activity: Teacher and students are having discussions on different parts of animals; and, food chain cycle as projected on the board&lt;br&gt;Observation Attention: Class activities</td>
<td>30 mins</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Subject: Science&lt;br&gt;Topic: Food Chain&lt;br&gt;Lesson Activity: Students are identifying animal food chain cycles in groups using provided charts&lt;br&gt;Observation Attention: Class activities&lt;br&gt;Subject: Social Studies&lt;br&gt;Topic: First Nations&lt;br&gt;Lesson Activity: Students are independently researching on assigned group of aboriginal people by completing a worksheet.&lt;br&gt;Observation Attention: Class activities and independent activities</td>
<td>30 mins 35 mins</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Subject: Social Studies&lt;br&gt;Topic: First Nations&lt;br&gt;Lesson Activity: Students are making Avatar of themselves using animal of their choice&lt;br&gt;Observation Attention: Class activities and Independent activities</td>
<td>20 mins</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Subject: Science</td>
<td>Topic: Food Chain</td>
<td>Lesson Activity: Teacher and students are having discussions on animal food web</td>
</tr>
<tr>
<td>---</td>
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<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Inquiry Project*</td>
<td>Subject: Science</td>
<td>Topic: Animal Senses and Adaptation</td>
</tr>
<tr>
<td>6</td>
<td>Inquiry Project</td>
<td>Subject: Science</td>
<td>Topic: Animal Senses and Adaptation</td>
</tr>
<tr>
<td>7</td>
<td>Inquiry Project</td>
<td>Subject: Science</td>
<td>Topic: Animal Senses and Adaptation</td>
</tr>
</tbody>
</table>
| Group | Inquiry Project* | Subject: Social Studies  
Topic: First Nations  
Lesson Activity: The whole class is brainstorming and sharing findings of their research about aboriginal groups  
Observation Attention: Class activities |
|-------|-------------------|
| 8     | Inquiry Project  
Subject: Social Studies  
Topic: First Nations  
Lesson Activity: Students are in their small groups comparing their independent findings of their research on aboriginal groups and their own personal lives  
Observation Attention: Class activities and group activities | 40 mins |
|       | 40 mins |
|       | 2       |

| Group | Inquiry Project**  
Subject: Social Studies  
Topic: First Nations [Museum of Anthropology]  
Lesson Activity: Students are completing their independent reflection worksheet of their visit to UBC Museum of Anthropology; and as a group prepping and recording podcasts  
Observation Attention: Class activities, student independent and group activities | 60 mins |
|-------|-------------------|
| 9     | Inquiry Project*  
Subject: Social Studies  
Topic: All About my Learning [First nation’s challenges and adaptations]  
Lesson Activity I: Teacher and students are brainstorming ideas about students’ learning challenges and adaptations building from first nations’ experiences; and, students are completing their independent worksheets  
Observation Attention: Class activities and student independent activities  
Lesson Activity II: Teacher is giving students feedback on first drafts of their learning challenges and adaptations worksheet. Students continue to complete their independent worksheets.  
Observation Attention: Class activities and student independent activities. | 60 mins |
<p>|       | 30 mins |
|       | Break   |
|       | 2       |</p>
<table>
<thead>
<tr>
<th></th>
<th>Inquiry Project*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subject: Social Studies</td>
</tr>
<tr>
<td></td>
<td>Topic: All about my Learning</td>
</tr>
<tr>
<td></td>
<td>Lesson Activity I: Students are completing group worksheets about their learning challenges and adaptations</td>
</tr>
<tr>
<td></td>
<td>Observation Attention: Class activities and group activities</td>
</tr>
<tr>
<td></td>
<td>Lesson Activity II: Students are planning role play of their groups’ challenges and processes of adapting to their challenges at school</td>
</tr>
<tr>
<td></td>
<td>Observation Attention: Class activities and group activities</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>60 mins</td>
<td>2</td>
</tr>
<tr>
<td>Break</td>
<td>40 mins</td>
</tr>
</tbody>
</table>

11 Days

| Subject (# of observations): Science (7) [Inquiry Project = 4]; Social Studies (9) (Inquiry Project = 7). | 630 mins | 16 |

*ESM: 6
# Appendix J: Observation Record in Matthias’s Classroom

<table>
<thead>
<tr>
<th>Days</th>
<th>Instructional Episodes</th>
<th>Durations (mins)</th>
<th>Observations/Instructional episodes #</th>
</tr>
</thead>
</table>
| 1    | **Subject:** Science  
**Topic:** Mining Proposal  
**Lesson Activity:** Students are completing open-ended question worksheet on Pros and Cons of oil extraction in Northern Alberta  
**Observation Attention:** Overall class activities; teacher and peer support  
**Subject:** Social Studies  
**Topic:** Minerals  
**Lesson Activity:** Students are continuing their group project where they are required to choose a machine and research about the minerals it is made of  
**Observation Attention:** Student independent and group works                                                                 | 15mins           | 2                                    |
| 2    | **Subject:** Science  
**Topic:** Mining  
**Lesson Activity:** Students are completing open-ended question worksheet on their group minerals [Individual and group works]  
**Observation Attention:** Overall teacher and student activities                                                                 | 65mins           | 1                                    |
| 3    | **Inquiry Project [Part I]**  
**Subject:** Social Studies  
**Topic:** Relationships and cultural contexts (1.1.).  
**Lesson Activity:** Students are completing open-ended questions about how culture shape their choices and identity  
**Observation Attention:** Teacher, and student independent activity                                                                 | 30 mins          | 1                                    |
| 4    | **Inquiry Project * [Part II]**  
**Subject:** Social Studies.  
**Topic:** Relationships and cultural contexts (1.1.)  
**Lesson Activity:** Students are working on collage that represent them culturally  
**Observation Attention:** Student independent work, and teacher/peer support                                                                 | 60 mins          | 2                                    |
<table>
<thead>
<tr>
<th></th>
<th>Inquiry Project *</th>
</tr>
</thead>
</table>
| 5 | **Subject**: Social Studies  
    **Topic**: Personal values and choices (1.2.)  
    **Lesson Activity**: The students are in groups in the Library writing and discussing their individual stories on their group’s flipchart  
    **Observation Attention**: Group activity in the library  |
|   | 45 mins 1 |
| 6 | **Subject**: Social Studies  
    **Topic**: Personal strengths and abilities (1.3.)  
    **Lesson Activity**: Students are completing open-ended worksheet about their strengths and weaknesses  
    **Observation Attention**: Independent activity  |
|   | 60 mins 1 |
| 7 | **Subject**: Social Studies  
    **Topic**: Sharing our stories (2.)  
    **Lesson Activity**: Students are writing “our stories” by comparing their individual stories with that of their groups in terms of similarities and differences  
    **Observation Attention**: Individual, group work and supports  |
|   | 60 mins 1 |

**Total # = 7**  
**Subjects (# of observations): Science (2); Social Studies (1) Inquiry Project: 6 [under Social Studies]  
*ESM: 4**  
**380 mins 8**
Appendix K: Post Observation Debrief with Teachers

After observing teachers’ instruction, I used a semi-structured interview format to probe their perceptions of enacted classroom practices, and their students’ responses to them.

Sample questions:

1. What would you like to talk about in relation to the lesson I just observed?
2. Was this a typical activity in your classroom or were you trying something new?
3. And what about students’ participation? What did you notice? Was that typical too?
4. Did anything unusual happen during this lesson?
5. What were your goals/intentions regarding self-regulated learning (SRL) and culturally responsive teaching (CRT) during this lesson? What opportunities for SRL and CRT did you want to present to students?
   a. How do you think it went?
   b. Is there anything you would do differently in the future?
   c. How might you build from this lesson in future lessons that incorporate CRPPs and SRLPPs?
Appendix L: Teacher Interview Protocol

At the end of the study, I used a semi-structured interview format to probe teachers’ perceptions of CR-SRL classroom practices enacted.

Sample questions:

1. What CR-SRL classroom practices did you design and implement to support your learners especially culturally diverse learners in your multicultural classroom? Why did you choose those practices?
   a. What did you try that seem successful and beneficial? Why do you think it was effective?
   b. What did you try that didn’t work as you hoped? Why do you think it didn’t work out?
   c. Based on your experiences of these practices and what you are thinking now? What might you do differently?
   d. What are the things you want to know more or try out?

2. How do you feel about supporting culturally diverse learners in your class?
   a. What do you think about designing these CRPPs and SRLPPs?
   b. What were your experiences of implementing these practices?
   c. Based on your experiences, especially with designing and implementation of these practices, how do you feel about trying it yourself in the future?
Appendix M: Student Interview Protocol

Interviews with students in this study were semi-structured in nature. During observation, the initial on the spot informal interview focused on all students’ perceptions of the CRPPs and SRLPPs enacted by their teachers and, indicators of engagement as they manifest in the context of a classroom task (e.g., inquiry-based project). Questions at the end of the study probed students’ overall perceptions and experiences of the classroom practices and clarified emerging themes or residual questions that I had about the students’ engagement. Examples of types of questions that I asked are as follows:

**Brief Chats During Classroom Observations**

While students were working I used a semi-structured interview format to probe their perceptions of classroom practices.

Sample questions:

1. What project are you working on? What is it asking you to do? How do you feel about that?
2. As the students’ engagement with the task unfolds, I looked out for:
   
   (a) features of the classroom task e.g., opportunities to connect with prior knowledge or lived experiences, teacher and peer support, choice etc. I asked questions to ascertain students’ perceptions of those qualities. For example, when peer support was present, I asked: I noticed that you were working with a friend. How do you feel about that? Was it helpful for your learning?

   (b) Indicators of student engagement. Based on the observed indicators of engagement, I asked questions to clarify students’ perceptions about them. For example, when I saw a student laughing or placed his/her head of desk during activity, I asked, “Can you tell me how you are feeling about this project?”

**Summative Interview**

At the end of the study, I asked questions about students’ experiences and perceptions about the classroom practices.

Sample questions:

1. How do you feel about being a member of this class?
2. If I asked you to work together with a student from another country for your project, how would you feel about it? Why will you feel that way?
3. Do you think that your teacher and peers care about you?
4. What are the things your teacher and classmates did in this class that helped you to learn best?
   a. What was less useful?

5. Based on the observed classroom practices, I asked questions about students’ perceptions with them in terms of their benefits and challenges. For example, I asked about an inquiry-based project that asked students to draw on their cultural background and share that with their friends and the rest of their classmates. I asked, “Can you tell me how you felt about that project? Was it interesting? What was helpful? Why was that helpful? What was challenging? Why was that challenging? What would you recommend if your teacher were to do that again?”

6. Some people say that they enjoy learning things that relate to:
   a. what they know before; what do you think? Does it happen in this class?
   b. their cultural/home background; what do you think? Does it happen in this class?
   c. what they have experienced; what do you think? Does it happen in this class?
   d. aspiration in life; what do you think? Does it happen in this class?
   e. Interest; what do you think? Does it happen in this class?
Appendix N: Experience Sampling and Reflection Form

(App Adapted from Csikszentmihalyi, M., & Larson, R. 1987)
Name ___________________________  Project ___________________________  Date ________________

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Much</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>How did you feel about working on this activity today?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Why?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well did you concentrate while working on this activity/project today?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Why?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was this activity challenging for you?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If so, what made it challenging?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What did you do about the challenge?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How important is this activity?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Why?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you enjoy what you worked on today?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Why?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was this activity interesting?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Why?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Appendix O: Student Inquiry Engagement Instrument**

Name…………………………………….  Grade……………………………………
School………………………………….  Date…………………………………….

Your honest answers to this questionnaire will be important for understanding what you think about your participation in the inquiry-based project and how to improve your learning. Your answers will be confidential, meaning that nobody in your school will see your answers for any of the below items.

Use your pen to shade the correct circle that represents your thinking.

<table>
<thead>
<tr>
<th>Items</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>In the middle</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGENTIC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 I tell my teacher what I like and what I don’t like.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2 I let my teacher know what I’m interested in working on.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3 I express my preferences and opinions.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4 I offer suggestions about how to make class better and helpful to me.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5 I don’t like making suggestions about what I want to learn.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>COGNITIVE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 I choose topics I will learn something from even if they require more work.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>7 When I am studying my topic, I try to make everything fit together.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>8 When I’m reading about my topic, I stop once in a while and go over what I have read.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>9 I try to connect my work to things I already know and have experienced.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>10 When I’m studying or learning, I don’t try to relate new things to what I have learned before.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>BEHAVIOURAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 I ask other students when I don’t understand what my job is.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>12 I listen attentively when other students are talking.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>13 I take time to work on my project.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Options</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>When tasks become difficult and boring, I try hard to finish.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>When I’m working on my project, my mind wonders</td>
<td>○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>I enjoy projects that ask about my experiences.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>I feel happy working on things that are related to my culture or other students’ culture.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>It is interesting working on this project.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Working on this project is fun for me.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>I don’t like projects that ask about my cultural background.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Appendix P: A Sample Data Display of Teacher and Student Activities; and, Coding of Teacher Practices

<table>
<thead>
<tr>
<th>Instructional Episodes</th>
<th>Teacher and Student Activities</th>
<th>Teacher Practices</th>
<th>SRLPP</th>
<th>CRPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting ready</td>
<td>T. [claps and SS. responds] says “you guys have 5 mins and then you’ll be doing Wonder reading ['Wonder’ is the book they are using for language arts reading]. 9:43 T. says, “clear your desk because we are beginning the Wonder book in few moment”.</td>
<td>Classroom Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review and class discussion</td>
<td>T. since S1. is new in class [S1. joined from another province] and hasn’t been reading Wonder. Can somebody summarize the Wonder? S2. Yes [and started explaining the book, and when he finished] T. says, “can somebody add things”? [silence] T. asks, “who are the main characters? S3. [mentioned a name Ogler] and T. asks, who is Ogler? S4. [another student mentioned many names]. T. asks, “what is the Principal’s name”? [the principal mentioned in the book] and S5. [mentioned a name].</td>
<td>Provides opportunity for self assessment [teacher monitoring of students learning]; Provides opportunity for belongingness [i.e., having peers explain the novel to the student that was away]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepping group work</td>
<td>T. [pointing at one of the three boards where she had earlier cleared before the reading time] says “this is going to be our Wonder Board” [she shows the students printed papers containing different precepts and explained that they will at the end develop a wonder banner- each student will have time to colour the printed paper to look like the front cover of the main book, after which they will have a gallery walk]</td>
<td>Communicating expectations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
“begin now to think about precepts that are important to you and why”

| Cultural congruity and choice [opportunity to connect class reading to personal background and values] | X | X |

S5. [S5 has IEP] shaking his head in disagreement. T says to S5. “you have option of my assessing you using the vocabulary” and S5. Smiles

T. asks “who and who will work on designing the class wonder”? SS. [a group of girls at one table all raised their hands]

Group Work

T. says “Ok you girls will help us with that” [T. goes to the girls table and gave them some copies of the title page of the book with cardboard and explained what they will do]. SS. [as the 4 girls are working on the class "Wonder" to be displayed on the class board, others have the job of colouring the pictures in the precept paper to suit the colour of the main book. T. walks around.

End 10:08am

T. says “if you are done, read the chapter ……” [SS. submit their works on precepts]

| Acknowledgement of individual differences | X |

| Choice | X |

| Opportunities for group work | X |

Note. The sample presented here is from Preliminary Study Day 2 observation of Language Arts. T = Teachers; S1, S2 etc. = Different specific students; SS = all students; “X” under SRL, CRT columns = observed teacher practice; “X” under Engagement column = evidence of student involvement and participation.