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Research Article

Exploring teacher practices for enhancing student engagement in culturally diverse classrooms

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Self-regulated learning (SRL) and culturally responsive teaching (CRT) research, although from different viewpoints, both show instructional practices that enhance student engagement. This study examined the integration of self-regulated learning promoting practices (SRLPPs) and culturally responsive pedagogical practices (CRPPs) in the classroom context especially during a complex task. Using mixed-methods case study design, it explored how an elementary classroom teacher at a multicultural public school in the West Coast of Canada combined SRLPPs and CRPPs to support culturally diverse students' engagement. Data were collected through:(a) classroom observations, (b) practice records and documents, (c) students' work samples, (d) teacher interview, (e) student interviews, and (f) student surveys. Findings indicated that the teacher enacted integrated practices categorized as: (a) *classroom foundational practices*; (b) *designed instructional practices*; and (c) *dynamic support practices.* Also, students' engagements related to their perceptions of teacher practices. Culturally diverse students were highly engaged in contexts with rich combinations of SRLPPs and CRPPs. Finally, this paper discussed the implications for theory (e.g., CRT, SRL), practice (e.g., an integrated pedagogy), and research (e.g., how to support culturally diverse learners' engagement in contexts).

Keywords: Integrated pedagogy; Self-regulated learning; Culturally responsive teaching; Culturally diverse learners; Engagement

1. Introduction

Learners from different cultural and linguistic backgrounds are increasingly populating classrooms in the Western world. This study took place in Canada which is described as a multicultural country with people from over 250 ethnic origins. By 2041, it is projected that 50% of the Canadian population will consist of immigrants and their children, and about two in every five Canadian will be part of a racialized group. The 2021 census in Canada shows that 12.7% of the population speak another language at home beyond English or French (Statistics Canada, 2022). These diversities are reflected in the schools that are composed by culturally diverse learners. All learners bring a range of interests, lived experiences, perspectives, and cultural and linguistic knowledge into multicultural classrooms (Orosco & O'Connor, 2014; Sleeter, 2012) that interact

with classroom activities and shape their learning experiences (Anyichie, 2018, Anyichie & Butler, 2023a; Anyichie et al., 2023; Butler & Cartier, 2018; Gray et al., 2020; Okoye & Anyichie, 2008). Unfortunately, some classroom contexts lack culturally relevant instruction and learning activities. In those contexts, racialized students often experience a lack of engagement due to teachers' lack of knowledge of designing culturally meaningful activities, leading to loss of interest, frustration and poor learning outcomes (Gay, 2018; Hockings et al., 2008).

Research shows that students' interest (e.g., Ainley, 2012; Patall et al., 2016), perception of the meaningfulness of learning activities (e.g., Schunk et al., 2013; Jones et al., 2021), and teacher support are associated with engagement and learning outcomes (Klem & Connell, 2004). However, teacher preparatory programs seem to inadequately equip teachers with the knowledge and necessary skills for creating meaningful and supportive learning contexts particularly for culturally diverse learners' optimal success (Lucas et al., 2008). Many teachers struggle to promote *all* students' engagement in multicultural classrooms. Thus, there is a great need for research on how teachers could support culturally diverse students' engagement.

Culturally informed pedagogies such as culturally responsive teaching (e.g., Gay, 2018) and culturally relevant pedagogy (e.g., Ladson-Billings, 1995) are beneficial in ways they highlight the importance of students' cultures on their learning processes. Also, culturally sustaining pedagogy (Paris, 2012) highlights the essence of sustaining students' cultural ways of being and languages in the classroom. Although these asset-based pedagogies stem from diverse perspectives, they provide ideas on how to address the learning challenges of culturally diverse students such as issues of systemic racism, achievement gaps, learning disengagement and outcomes (Howard & Rodriguez-Minkoff, 2017; Paris, 2021). For instance, culturally responsive teaching [CRT] demonstrates how to design classroom activities that connect with all learners' cultural backgrounds, interests, experiences and support their positive learning experiences (Gay, 2018). However, much research in this area emphasizes teacher practices, but with less attention on how those instructional practices are associated with student engagement (Sleeter, 2012). Also, research is rare in the investigation of how students are regulating their learning engagement by taking up opportunities created by culturally relevant pedagogies (Anyichie, 2018).

Further, research demonstrates that students who effectively regulate their learning are active and successful learners (Butler et al., 2017). Self-regulated learning (SRL) describes the process of empowering learners to exercise control over their thinking and learning behaviours to achieve a learning goal (Zimmerman, 2008). For example, SRL research shows how teacher instructional practices that promote SRL (e.g., choice, self-assessment) empower students to take up learning opportunities leading to an increase in engagement and quality of learning outcome (e.g., Perry et al., 2020). However, there is less SRL research designed to understand how students' sociocultural backgrounds might be shaping their learning experiences and how fostering culturally diverse learners' SRL could increase their engagement (Anyichie, 2018; Anyichie et al., 2016; McInerney & King, 2018; Perry et al., 2017).

Based on the complementary relationship between CRT and SRL research, it might be productive to integrate the principles and practices of culturally responsive teaching [CRT] and self-regulated learning [SRL] to support all learners' engagement in multicultural classroom contexts (Anyichie, 2018; Anyichie & Butler, 2017). For example, combining instructional practices across CRT and SRL could help teachers to design learning contexts that not only attend to students' cultural diversity but also empower their active learning (Anyichie, 2018; Anyichie & Butler, 2018, 2023a; Anyichie et al., 2018; Gray et al., 2020; Gay 2013; Kumar et al., 2018). However, research that examines student engagement in SRL promoting, and culturally responsive/relevant classrooms are very rare. Thus, this study is one of the first to focus attention on how integrating CRT and SRL practices could enhance culturally diverse learners' engagement in an elementary school classroom context.

1.1. Understanding Engagement

Engagement is central to student learning as it predicts many positive outcomes such as student achievement and success (Fredricks et al., 2019; Xie et al., 2019). There are variations in the ways engagement has been conceptualized and investigated (Sinatra et al., 2015). Nevertheless, many researchers describe it as a multidimensional construct including behavioural, emotional, and cognitive engagement (Fredricks et al., 2004; Wang et al., 2011). These dimensions of engagement have been identified to describe different aspects of students' participation (Fredricks & Mccolskey, 2012). *Behavioural engagement* describes students' overt involvement in academic tasks including asking and answering questions, and concentration (Sinatra et al., 2015). *Emotional engagement* defines students' attitude and affective reactions towards a learning activity including enjoyment and interest (Pekrun & Linnenbrink-Garcia, 2012), and perceived benefits of a task (Schunk et al., 2013). *Cognitive engagement* describes students' psychological investment in an activity including self-regulation, awareness and use of strategies, and persistence in challenging tasks (Cleary & Zimmerman, 2012). Additionally, *agentic* engagement has been defined to refer to students' proactive initiative in creating motivationally supportive environments for their learning. Agentic engagement also involves contribution to the flow of learning activities including making suggestions and offering input (Reeve, 2013).

Research has investigated independently how instructional practices that promote SRL (e.g., Perry et al., 2020), and connect with students' community and cultural backgrounds (e.g., Gray et al., 2020) are associated with their engagement. However, there is extant research on creating classroom contexts that combine across CRT and SRL practices to support culturally diverse students' engagement.

1.2. Creating Contexts for Students' Engagement: CRT and SRL Practices

CRT and SRL research identify classroom contexts (e.g., pedagogical practices) that are associated with these various dimensions of students' engagement. Frameworks including CRT (e.g., Gay, 2010; Villegas & Lucas, 2002); culturally relevant pedagogy (e.g., Ladson-Billing 1995); and culturally sustaining pedagogy (e.g., Paris, 2012) foreground the influence of sociocultural contexts on the individual learning process. These frameworks suggest supportive practices with the understanding that students tend to engage effectively in classroom activities that are relevant to their backgrounds and affirm their perspectives. This study was inspired by culturally responsive teaching (CRT) that highlights the use of student backgrounds and lived experiences as resources for teaching and learning (Gay, 2013). Some examples of culturally responsive pedagogical practices (CRPPs) include: (1) developing cultural competence by supporting students' and teachers' knowledge of their cultural backgrounds and heritages through sharing their histories in the class; (2) embedding cultural diversity into curriculum content by adjusting the curricula to connect with students' backgrounds, prior knowledge and lived experiences; (3) establishing cross-cultural communications by offering opportunities for social interactions among students about their cultural experiences; and (4) designing cultural congruity by matching class instructions with students' aspirations, cultural knowledge, histories, lived experiences, ways of knowing and being, identities and interests (Gay, 2013, 2018; Ladson-Billings, 2021). Similarly, scholars who focus on indigenous students also emphasize the need to support indigenous knowledge systems (e.g., McGregor et al., 2023), creating learning environment that is situated in the context of the students' communities and lived experiences (Khalifa et al., 2018; Weber-Pilwax, 2021) by listening to them (Baroutis & Woods, 2018). These CRPPs are associated with student engagement, achievement, and learning (Aceves & Orosco, 2014; Gay, 2018; Ginsberg & Wlodkowski, 2015; Howard & Rodriguez-Minkoff, 2017; Ladson-Billings, 2021; Villegas & Lucas, 2002).

Models of SRL (e.g., Efklides, 2011; Pintrich, 2000; Winne & Hadwin, 1998; Zimmerman, 2000) foreground individual processes of learning. For example, Butler and Cartier (2018)'s situated model of SRL emphasizes the role of dynamic interactions between individuals and contexts in shaping learning engagement. Self-regulating learners are actively engaged in their own learning

process (Zimmerman, 2002) because they generate and deploy necessary cognitive strategies for successful learning (Wolters & Taylor, 2012). SRL-promoting practices (SRLPPs) such as giving students opportunities to make choices and control the level of their learning challenge, engage in self-evaluation and assessment are consistently associated with student engagement and success (Anyichie, 2018; Anyichie & Butler, 2015; Anyichie & Butler, 2023a,b; Anyichie et al., 2023; Anyichie & Onyedike, 2012; Perry, 2013). These practices that promote SRL have the potential to support culturally diverse learners' engagement if they are proactively designed to attend to both individual and sociocultural processes of learners (Anyichie, 2018; Anyichie & Butler, 2023a,b; Anyichie et al., 2016; 2018; 2023).

1.3. CR-SRL Framework: An Integrated Pedagogy

A brief description of CRT and SRL principles, as provided above, shows that classroom contexts including instructional practices and activities are associated with the quality of student engagement. To maximize opportunities identified through research in both areas, "A culturally responsive self-regulated learning [CR-SRL] framework" was developed based on an analysis of theoretical and empirical synergies between CRT and SRL principles and practices (see Anyichie, 2018; Anyichie & Butler, 2017 for detailed review). This framework includes three interdependent and continuous dimensions including: (1) classroom foundational practices, (2) designed instructional practices, and (3) dynamic supportive practices.

Classroom foundational practices refer to all the things that are put in place while setting up the classroom to set the stage for implementing effective teaching and learning activities. Examples of practices that integrate attention to CRT and SRL include: (a) fostering knowledge of learners; and (b) creating caring, safe, and supportive environments (Banks et al., 2005; Butler et al., 2017; Rahman et al., 2010). For instance, "knowledge of learners" as a plan, describes what teachers can do to get a better understanding of their students' histories and support students' knowledge of themselves including their cultural histories, values, ways of knowing and interests (McGregor et al., 2023). Educators could gain this knowledge through ice breakers and a know yourself games, and background surveys to gather information about their students (Anyichie, 2018; Anyichie et al., 2023). In addition, educators need to improve their own cultural competence and awareness of their students' experiences of issues of cultural diversity (e.g., systemic racism, educational inequality). They can generate this important information by reflecting and questioning their cultural assumptions and biases while sharing ideas with their colleagues (Ginsberg & Wlodkowski, 2015; Gay, 2018; Ladson-Billings, 2021). Gathering this information is fundamental to creating caring, safe, and supportive environments that are culturally inclusive where all learners feel welcome, belonging, and ready to take risks. For instance, the knowledge of learners and what they are bringing into the classroom context provides educators with information to design learning contexts that are relevant and meaningful to the students' cultural background and interests [CRPP] and empowering their active engagement in generation of new ideas and knowledge [SRLPP].

Designed instructional practices are at the hub of this framework. These practices describe a hybrid or an integrated CRPPs and SRLPPs within classroom environments or learning activities. SRLPPs (e.g., choice provision) could be embedded into a learning activity (e.g., a project) to support students' active engagement in ideas that are culturally meaningful and relevant [CRPPs]. For example, a science project that is deliberately designed to involve students in making choices [SRLPP] of topics or issues that are relevant to their cultural values and heritages, and how to show their learning in ways that are appropriate to their background [CRPP] has potentials of increasing students' active learning. Tasks that are "complex" in design allow opportunities to build in CRPPs and SRLPPs.

Complex tasks are defined as those learning tasks designed to integrate different subjects such as social studies and sciences; address diverse instructional goals such as understanding learning content, reading and writing strategies; engage learners in making meaningful decision and

choices about the topic to write about and how to work on it; involve students in cognitive and metacognitive processes; include independent and group works and involve multiple ways of demonstrating learning knowledge (Perry, 2013; Butler et al., 2017). Complex tasks have benefits in supporting student engagement in culturally diverse classrooms because they allow educators to deliberately design activities that connect with students' cultural background and lived experiences (CRPPs); and empower their agency towards sustaining their cultural values and practices (SRLPP, CRPP) by providing opportunities for making choices and exerting control over learning challenges (SRLPPs).

Dynamic supportive practices refer to those supports that are offered to students as learning unfolds. These dynamic practices can also combine CRPPs and SRLPPs. For instance, students could be offered opportunities for formative assessments such as completing self and peer assessment forms based on rubrics; and multidimensional feedback from peers, teachers and parents such as pointing out what can be added to improve an on-going task/project (Butler et al., 2017) in ways that are relevant to their cultures (Egbo, 2019; Montenegro & Jankowski, 2017; Ladson-Billings, 2021).

Research-based pedagogical practices integrated in this framework have been associated with student engagement, motivation and success (Anyichie, 2018; Anyichie & Butler, 2018; 2019; 2023a,b; Anyichie et al., 2018; 2023; Kumar et al., 2018). Researchers (e.g., Järvenoja, et al., 2015; McInerney & King, 2018; Zusho & Clayton, 2011) have identified the importance of situating SRL and achievement motivation research within learners' social and cultural contexts. In response to this clarion call, the current study examined classroom practices a classroom teacher designed based on CRT and SRL principles in order to support engagement for all learners in her multicultural classroom.

1.4. Study Context

The current study investigates the use of a CR-SRL framework in supporting engagement for all students in a multicultural classroom in a province in Canada. This study was carried out in Queens[2] elementary school that admits a large population of students from immigrant and low-income families. At the time of this study, the province was transitioning to a new curriculum that focused on self-directed learning, project-based learning, and accommodating student diversity including cultural backgrounds.

At the time of this research, teachers at Queens had been participating in a Professional Development (PD) project based on SRL facilitated by a university professor. Some of the teachers in this school were interested in supporting culturally diverse students in their classrooms. With permission of the principal, the lead researcher visited the classes of these interested teachers, especially those in higher elementary classes to observe their current pedagogical practices. He volunteered to collaborate with two interested teachers in designing relevant classroom practices. Both teachers taught in "combined grade 5, 6, &7" classrooms, where students from across grades were participating together in learning activities (a relatively common instructional configuration in elementary schools within the jurisdiction where this study took place).

The lead researcher met with the two teachers individually once between (January – April) and (May – June). Each of these two meetings focused on determining their shared interests, goals and the nature of the collaboration. One of the teachers, Ms. Venus, later volunteered to participate in this study. Ms. Venus' combined grade 5, 6, & 7 classroom was a "Discovery Program"[3] with 22 students (8 had Individual Education Plans including 1 student with autism), a student teacher candidate (Mrs. Pauline), and an educational assistant. The lead researcher met with Ms. Venus between (September - December) to learn more about what Ms. Venus was learning about SRL in

[2] All names are pseudonyms

[3] The Discovery Program is designed to empower students' curiosity and research ability. The program was originally designed for gifted students who are above average in the district. So, in that respect, this combined grade 5, 6, & 7 is different from other grade 5 ,6, 7 classrooms in the same school. The difference is more on instructional method since the Discovery Program focuses on individualized learning.

the context of her PD; and to discuss how she might combine her attention to SRL-promoting practices with a focus on students' cultures based on "A culturally responsive-SRL framework". He worked with the teacher across the year to plan and enact practices.

2. Purpose and Research Questions

The purpose of this study was to explore how two teachers in an elementary school classroom (Ms. Venus and her student-teacher, Mrs. Pauline) were supporting culturally diverse learners' engagement by designing contexts including a complex task that built across SRL and CRT principles and practices, and possible connections of observed practices with students' engagement. Two research questions guided this study: (1) What kinds of practices, including CR-SRL practices, did elementary school teachers enact to support all learners in a culturally diverse classroom; and (2) What observed practices could be associated with student engagement?

3. Methodology

3.1. Design

This study employed a case study design that involved a combined grade 5, 6, & 7 classroom. Case study designs are effective in examining a complex, dynamic and multidimensional phenomenon as it manifests in situ (Butler, 2011; Butler & Cartier, 2018; Merriam, 2009; Yin, 2014). Such designs provide a framework for understanding the connections between instructional practices (e.g., CR-SRL practices) and associated outcomes (e.g., engagement, motivation, and performance). For example, a case study design is helpful in understanding how real-time interactions between culturally diverse learners' perceptions of specific features of classroom contexts (e.g., instructional practices) shaped their engagement process.

3.2. Participants

All of Ms. Venus' 22 students were invited to participate in this study. These students were diverse in their culture as represented in their first spoken languages. Six of those students provided parent consents and assented to participate. Table 1 shows that these six students were diverse in their grades (e.g., each grade has two participants), gender (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.

Table 1
Participant demographics

Participant*	Grade	Gender	Year of birth	Country of birth	First language	Other Languages	# of Years in Canada
Anusha	7	Female	X**	Canada	English	Punjabi	X
Racheal	7	Female	2004	Canada	English	X	13
Ajin	6	Male	2005	India	Malayalam	English	4
Edwardo	6	Male	2005	Columbia	Spanish	English	2
Nana	5	Female	X	Korea	Korean	English	X
Emelda	5	Female	2006	Canada	English	X	11

Note. *All names are pseudonyms. ** X describes information unknown to the researcher as the information in the table were obtained through review of students' task/project folders.

3.3. Procedure

As part of this study, upon ethics approvals from the researchers' institution and Ms. Venus school district, the lead researcher further visited Ms. Venus' classroom between September – December, 2016 and January – April, 2017. Each of the visits (at least twice a month) lasted about 40 – 60 mins. Occasionally, each visit was followed by debriefing with either Ms. Venus or Mrs. Pauline (depending on who was teaching a given lesson) about: (1) the culture of the class including

teacher and student activities, and (2) how to design supportive environments. These visits helped the researcher to: (1) gather rich field notes about the school and classroom context, (2) clarify the teachers' concerns about implementation of supportive practices, and (3) support Ms. Venus in designing CR-SRL practices.

The CR-SRL practices for the overall classroom were co-designed with Ms. Venus based on "A Culturally Responsive Self-Regulated Learning Framework" (Anyichie, 2018; Anyichie & Butler, 2017) as described earlier. These practices were designed to connect with students' cultural backgrounds, foster their agency and enhance their engagement. In collaboration with the lead researcher, Ms. Venus chose how to design and enact those practices as relevant to the local curriculum and class schedules. For example, Ms. Venus and the lead researcher worked together in thinking about how to foster knowledge of learners, and create caring, safe, and supportive environments. When her student teacher, Mrs. Pauline, indicated an interest in joining the study in April, 2017, the lead researcher shared a copy of the Framework with her for personal study and discussed her plans for implementation.

Within that classroom context, Ms. Venus also chose to design a complex task "Getting to Know Yourself and Your Classmates in other Contexts" because it created opportunities for integrating CR-SRL practices. Part of the complex task asked students to: (1) Organize and plan how and when to complete different sections of the complex task, (2) describe themselves including their cultural values and life, (3) write answers to specific questions around schooling and learning (e.g., how do people learn, where and who can you learn from?), technology (e.g., what types of technology are used in your family?, who uses technology in your family?, do you use any of them for your learning? If yes, how?), and how life has changed over the years (e.g., 1940s, 1970s, 1990s). Students were to decide: where to gather the needed information to complete this task (e.g., textbooks, google online), whom to interview, when and where (e.g., at home), what interview questions to ask, and how to present a collage representing their learning (e.g., by Powerpoint, Poster board or Video). The last part of the complex task asked students to reflect and write about what they had learned from the task.

3.4. Data Collection

Mixed methods embedded into case study design were used to gather evidence in relation to the research questions (Yin, 2014). A case study design allowed us to examine the engagement of six students in considerable depth by coordinating multiple sources of data including: (1) classroom observations and associated field notes; (2) documents (e.g., complex task instructions); (3) student work samples; (4) students' self-reports about engagement using an Experience Sampling and Reflection Form [ESRF] and a survey, that is Student Engagement Instrument [SEI]; and (5) interviews with Ms. Venus and participating students.

3.4.1. Observations

The lead researcher, who has experience with classroom observation, observed 13 instructional episodes (i.e., lessons and activities) across 10 days distributed through January and June 2017. Observations focused on the practices Ms. Venus and her student teacher (Mrs. Pauline) enacted to support culturally diverse students in the class and how the students were participating in them. Each observation lasted between 20 – 60 minutes. During this period, Ms. Venus taught 20% of the time while Mrs. Pauline taught 80% of the classes. Subjects observed included mathematics and social studies (taught by Ms. Venus) and Language Arts (taught by Mrs. Pauline). Most observations were conducted towards the end of the term and during "work period times" when students were working on projects including the complex task designed for this study. Observing the same students across different activities (i.e., different subjects, across individual and group work, across different teachers) 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, the lead researcher created a running record of what he observed, including teacher and student talk. In those records, he tried to capture all actions

"verbatim" as much as he could during individual and small group activities. Some of the observations were video-taped when it was possible to capture only students who consented to participate. Those video-taped observations supported us in gathering contextual information, and better understanding and interpreting behaviour (e.g., non-verbal cues). Occasionally, the lead researcher debriefed with the students as he circulated during an observation and with the teachers after each observation to clarify what was happening related to engagement and observed practices respectively.

3.4.2. Document review

The lead researcher accessed the complex task instructions and plans to help identify practices Ms. Venus embedded into the task to support her students. The review of those 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; CRT practices including opportunities for students to bring ideas from lived experiences).

3.4.3. Student work samples

During the observations, as students worked on their complex task, the lead researcher photographed samples of their work. He took pictures of different draft copies in students' work folders. These pictures helped to see how students were participating in the complex task over time, and to trace their learning growth and performance as related to specific features of the complex task.

3.4.4. Experience sampling and reflection form (ESRF)

The ESRF (adapted from Larson & Csikszentmihalyi, 2014) was used to gather students' self-reports of their experiences of participating in the complex task. This form asked questions about students' perceptions of: (1) *concentration* (i.e., how well did you concentrate while working on this activity/task/project today?); (2) *challenge* (i.e., was this activity challenging for you? If so, what made it challenging? What did you do about the challenge?); (3) *importance (i.e.,* how important is this activity?); (4) *enjoyment* (i.e., did you enjoy what you worked on today?); and (6) *interest* (i.e., was this activity interesting?). Students rated their responses from: *not at all =0, slightly =1, somewhat = 2, much =3; to very much =4*; and explained the reason for their rating by responding to a follow-up "why"?   Students were asked to fill in this form each time they worked on their complex task. Asking them to report their experiences immediately reduces retrospective bias. The repeated reports helped us to understand their real-time experiences over time.

3.4.5. Student engagement instrument (SEI)

A survey, the SEI (adapted from the work of Pintrich & DeGroot, 1990; Reeve, 2013) was designed to gather information about students' overall experiences of the classroom practices, especially the complex task at the end of the study. This survey contained 20 questions with five questions on each of the different dimensions of engagement: *agentic* (e.g., I tell my teacher what I like and what I don't like), *behavioural* (e.g., I take time to work on my task/project), *cognitive* (e.g., I try to connect my work to things I already know and have experienced), and *emotional* (e.g., working on this task/project is fun for me). The students rated their experiences on a 5-point Likert scale ranging from *strongly disagree* = 0 to *strongly agree* = 4. A 5-point scale was used to capture wide variations in students' experiences.

3.4.6. Interviews

Individual in-depth semi-structured interviews were conducted at the end of the study to gather information from both Ms. Venus and students about the classroom practices and students' participation in them. Specifically, Ms. Venus was interviewed in a quiet location close to the classroom. Questions focused on the practices she designed including CR-SRL ones to support

culturally diverse students in her class and her perceptions about students' participation in those practices. Examples of interview questions included: What CR-SRL classroom practices did you design and implement to support your learners in your multicultural classroom? Why did you choose those practices? How do you feel about supporting culturally diverse learners in your class? Mrs. Pauline was not interviewed because of health reasons. Participating students were asked about their perceptions of classroom activities and their participation within them. For example, they were asked questions such as: Can you tell me how you felt about the complex task? Was it interesting? What was helpful and why? What was challenging and why? What would you recommend if your teacher were to do that again? Some people say that they enjoy learning things that relate to what they know before, their cultural/home background or what they have experienced. What do you think? Does it happen in this class?

3.5. Data Analysis

Our 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., student self-reports on the ESRF and SEI) data.

3.5.1. Coding of teachers' activities

Video-taped classroom observations, debriefings and semi-structured teacher and student interviews were transcribed. Documents (e.g., task instructions, lesson plans) and student work samples were reviewed. A priori categories derived from CR-SRL framework (see Anyichie, 2018; 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. Coding started by looking at each practice from an SRL point of view, flagging any practice consistent with SRL promoting practices. Next, the full list of practices was reviewed with a CRT lens, flagging any practice clearly linked with CRT principles. The result was a chronological list of practices flagged as SRL, CRT, both, or neither. This approach to coding enabled us to interpret whether and how SRL and CRT practices were intertwined within each lesson.

At a second level, once all lessons and activities were coded, we categorized the observed practices in relation to the three main categories of practices identified in the CR-SRL framework (i.e., foundational, instructional, and supportive practices). This lens enabled us 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 fieldnotes were mined for confirming or disconfirming evidence.

Table 2 shows the teacher practices and examples that guided the coding process. Note that each practice was reviewed twice, once from an SRL lens and once from a CRT perspective. The result was that some practices were coded under both SRL and CRT. For example, creating a safe and supportive learning environment was coded as SRL; but, also coded as CRT on occasions the teacher created the environment in a culturally responsive way (e.g., by having students share their cultural backgrounds and experiences).

3.5.2. Coding of teacher practices

Descriptions and examples regarding the coding of teacher practices are presented in Table 2.

3.5.3. Coding of students' engagement

Students' engagement was interpreted based on three sources of data: (a) the end of study survey (SEI), (b) students' reflections through the complex task (using the ESRF), and (c) observations of students' engagement over time.

We analyzed the SEI by calculating descriptive statistics (i.e., Mean, Standard Deviations, Minimum, Maximum) to understand their engagement in the overall classroom activities. Means

Table 2
Coding of teacher practices: Descriptions and examples

Descriptions	Examples
Self-Regulated Learning Pedagogical Practices (SRLPPs)	
Creating a safe and supportive learning environment	▪ establishing participation structures, fostering a community of learners, creating a non-threatening classroom environment
Designing a complex meaningful task	▪ tasks with multiple instructional goals and a focus on large chunks of meaning about the learning context, ▪ integrated across subject areas, ▪ extended overtime, ▪ involved students in making meaningful choices, ▪ engaged students in diverse cognitive and metacognitive processes, ▪ included individuals and social forms of learning, and ▪ allowed multiple ways of demonstrating learning and knowledge
Providing opportunities for choice and control over challenge	▪ allowing students' choice and decision making, ▪ scaffolding students' meaningful choices, and ▪ supporting control over learning
Fostering self-assessment	▪ creating opportunities for students' self-reflection, self-monitoring, and adjusting of learning
Offering teacher support	▪ providing resources and instrumental supports, and ▪ co-regulatory opportunities between the teacher and student(s))
Providing opportunities for peer support	▪ offering opportunities for peer-to-peer support group activities, ▪ co-regulation of learning, and assessment.
Culturally Responsive Teaching Pedagogical Practices (CRPPs)	
Descriptions	Examples
Creating a culturally responsive and caring environment	▪ having students share their histories including cultural backgrounds, strengths, and interests
Establishing cross-cultural communication	▪ creating opportunities for social interactions about personal or cultural issues
Designing cultural diversity in curriculum content	▪ adjusting and situating curriculum content to connect with students' prior knowledge and lived experiences by using multicultural textbooks
Establishing cultural congruity in classroom teaching and learning	▪ matching class instruction with students' prior experiences and cultural background

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.

For the ESRF, we created a display of each student's ratings, on concentration (as an indicator of engagement), and the four motivationally-related self-reports (i.e., perceptions of challenge, enjoyment, importance, and interest). We also calculated the mean, minimum and maximum, and the modal responses across students on each type of rating. Displays were constructed to help us to see how students' perceptions about the task shifted across days and were related to their self-reported concentration.

To code observational data on students' engagement in specific contexts (e.g., different subjects, the complex task), field notes from observations and transcripts of debriefs were reviewed 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 describe involvement in a learning activity (e.g., arranging seats and gathering textbooks in preparation for lessons) were not coded as engagement. Whenever we flagged a link between teachers' practices and engagement in our displays, we then accessed other forms of data to look for patterns to understand how particular practices may have facilitated different students' engagement in specific contexts.

3.5.4. Associations between teachers' practices and students' engagement

Data displays of teachers' practices and students' interactions in specific contexts were created to interpret patterns between enacted practices and students' participation in them (Miles et al., 2013). Students' profiles across different data sources were cross-analyzed for recurring patterns.

5. Findings

5.1. Practices Enacted in Ms. Venus Classroom

To address the first research question that involved the identification of observed practices enacted in Ms. Venus's classroom to support students, we looked at teachers' practices both in the classroom context as a whole, and specifically through the complex task. We also built on the three main categories derived from our framework (see Anyichie, 2018; Anyichie & Butler, 2017) to interpret our coded observations. Teachers' and students' debriefing and interviews, complex task instructions, and student work samples were cross-checked to confirm observed practices.

5.1.1. Teacher practices in the overall classroom context

One major finding in the overall classroom context was that Ms. Venus enacted *classroom foundational practices* that combined self-regulated learning pedagogical practices [SRLPPs] and culturally responsive pedagogical practices [CRPPs] by deliberately working towards both gaining knowledge about her students and creating a caring, safe, supportive environment. For example, to learn more about her students, at the beginning of the academic year, she designed some activities such as ice breakers, know yourself games and bioglyphs. For example, she made bioglyphs with her students to help them share some information about their family. She provided them with bioglyph keys (e.g., strands on hair to tell birthday month, freckles on face to indicate the date of birth, two ears to indicate having a brother and a sister, one earring to indicate having a sister, three earrings to show three sisters etc) [Interview].

The use of bioglyphs suggests that Ms. Venus created opportunities for students to draw ideas from their personal experiences, family, and culture (CRPP).

As part of her creating a caring, safe and supportive environment, Ms. Venus reported scaffolding students' knowledge and experience of caring for one another (SRLPP). For example,

she emphasized the need for students to say words of encouragement. During the interview, she stated that:

> this year we've done monthly words of encouragement, so you have a secret buddy who you have to watch for the month and then you try to come up with positive comments for them, and you present that and try, the class tries to figure out who your partner was, and, um, I choose the partners but it becomes something that they, they focus on positive re-enforcement. Trying to make somebody, um, somebody's day, being kind overall. Um, I think once you establish a strong classroom tie between the students, and between teacher and students, it makes for an easier year because they understand you and then you understand them [Interview].

Furthermore, the students in Ms. Venus class described experiences of working in a safe, caring and supportive environment. For example, participants explained how: "… we study together…" (S2, interview); "…she's easy going and you learn at your own pace…" (S3, interview); "… everyone is nice, one day my leg was hurting, and my friend got it banded for me…" (S4, interview).

Ms. Venus also co-constructed classroom participation structures with the students including class guiding rules and expectations (SRLPP). For example, she described that:

> we have rules posted by the sink which the students have come up with together and are expected to follow…when something is bothering a student or certain students, they can bring it up at our weekly class meeting. If they feel uncomfortable sharing it in front of the class, then, they have the option of putting in an anonymous comment into the class meeting box [Debriefing and Field notes].

The lead researcher was not present to observe Ms. Venus and her students co-construct their class participation structures. However, during class discussions and instructions, students raised their hands before asking or answering a question and clapped in response to the teachers' clap while drawing their attention.

The complex task also contributed to building classroom foundational practices (e.g., by focusing on gaining and sharing knowledge of learners). For example, some of the sections of the complex task created opportunities for student choice and control over the information they are sharing about their histories (SRLPP) and what they were bringing into the classroom context such as a Me collage (CRPP). Taken together, these findings indicate that Ms. Venus build across CRPPs and SRLPPs in developing and enacting classroom foundational practices.

Secondly, Ms. Venus *designed instructional practices* within the complex task "Getting to Know Yourself and Your Classmates in other Contexts". A review of instructions showed how the teacher integrated CRPPs and SRLPPs into the complex task. For example, her instructions asked students to:

> 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… After completing the interviews, think about what you have heard from people at different stages in their lives [Complex Task Instructions].

In the above instructions, Ms. Venus offered opportunities for student choice making and exercising control over the interview questions (SRLPP), interviewing family members (CRPP); and reflecting on the information they were generating from family members (CRPP/SRLPP).

Overall, the task was "complex by design," including different sections with specific products and deadlines (SRLPP). Across sections, Ms. Venus wove together both SRLPPs and CRPPs. For example, the first section of the complex task, "Organize and Plan," asked students to make plans and discuss how to meet each of the deadlines with the teacher. This finding suggests that Ms. Venus created opportunities for students' strategic action and self-monitoring (SRLPP). The section on "Technology" asked the students to discuss the use of technology in their family and life. This finding shows that Ms. Venus created opportunities for students to connect this classroom activity with home and life experiences (CRPP). The section on "School: in the past compared to the present" asked students to generate interview questions of their choice (SRLPP), and interview any family member (e.g., parents, grandparents, aunts, uncles, sibling, cousins etc.) about their

personal experiences of school to gain a better understanding of learning in different places and times (CRPP).

Thirdly, *dynamic supportive practices* were observed as students' participation in the complex task unfolded, and during the observed mathematics lesson. For example, Ms. Venus provided feedback to students' individualized plans on how to meet deadlines for different sections of the complex task and their self-generated interview questions. To assess and generate feedback on students' moment-to-moment engagement experiences, Ms. Venus had students fill in the ESRF most times they worked on the task. Also, Ms. Venus was observed providing individualized written feedback on students' mathematics assignments.

Not every specific practice was directly supportive of SRL or CRT (e.g., direct instruction during math). Thus, some practices were not coded as either SRLPPs or CRPPs in our displays. But, looking across an activity or lesson, we could see how Ms. Venus wove SRLPPs and CRPPs together with other practices to create learning contexts that were overall SRL-supportive and culturally responsive. For example, as part of her classroom management, she surfaced what were expected behaviours with students, and supported students' time management by helping them keep track of when activities needed to be finished. During a mathematics review, she provided students with a choice of whether to approach her individually or as a group.

The data revealed that Ms. Venus' integration of SRLPPs and CRPPs varied across observed subjects. For example, SRLPPs were clearly observed in all subjects. However, Ms. Venus offered more opportunities for choice, self-evaluation, self-monitoring and self-assessment in mathematics than she did in social studies lessons (except in the complex task). Similarly, while the co-designed complex task included many types of CRPPs, those practices were not observed as often in other lessons and particularly not in mathematics. In a debriefing, and final interview, Ms. Venus, who taught the observed mathematics lessons, explained that she found it very hard to connect daily class teaching to student cultures. She also emphasized that only a few of her students had lived outside of Canada. On the other hand, Mrs. Pauline, during Language Arts, encouraged students to make connections between class reading activities and their backgrounds. For example, while reading the novel "Wonder" with the students, Mrs. Pauline asked the students to come up with some *precepts* based on their personal, cultural and religious values. Mrs. Pauline also communicated learning expectations to the students in ways that supported participation by diverse learners. These findings suggest that Ms. Venus and Mrs. Pauline varied in how they integrated SRLPPs and CRPPs into lessons across different kinds of subjects.

In sum, through triangulation of data from classroom observations, teachers' and students' debriefing interviews, teacher and student final interviews, and a review of complex task instructions, we found that both Ms. Venus and Mrs. Pauline enacted SRLPPs and CRPPs to support culturally diverse students, although to different degrees in different subjects. Our findings also showed that, especially in the complex task, Ms. Venus integrated practices from each of the three main categories of the CR-SRL framework.

5.2. Students' Engagement

Our second research question focused on how students' engagement may have been associated with observed teacher practices. To start addressing this question, we identified students' engagement in both the overall classroom context and complex task.

5.2.1. Students' engagement in overall CR-SRL classroom context

To identify students' engagement in the classroom as a whole, descriptive statistics were calculated to examine students' experiences of engagement as reported once on the SEI survey at the end of the study. This included their perceptions both of the classroom environment and the complex task within it. Table 3 shows that students' ratings of overall engagement in classroom activities were on average above the "medium" level on the five-point scale (from 0 to 4) (*M* = 2.7, *SD* = 0.8; *Min* = 2.6, *Max* = 3.1). Examination of the four dimensions of engagement (i.e., agentic, cognitive, behavioral and emotional) showed that students' self-reported engagement was similar

and above medium on each (Agentic, *M* = 2.7, *SD* = 0.9; Cognitive, *M* = 2.7, *SD* = 0.8; Behavioural, *M* = 2.7, *SD* = 0.9; and Emotional, *M* = 2.8, *SD* = 0.6) (see Table 3).

Table 3
Participants' self-reported engagement in the classroom overall

Descriptive Statistics (N = 6)	Agentic	Cognitive	Behavioural	Emotional	Overall
# of items	5	5	5	5	20
Mean	2.7	2.7	2.7	2.8	2.7
SD	0.9	0.8	0.9	0.6	0.8
Minimum	2.0	2.2	2.4	2.2	2.6
Maximum	3.2	3.4	3.0	3.4	3.1
Scale	0 – 4	0 - 4	0 – 4	0 - 4	0 - 4
Ajin	3.2	3.0	2.8	3.4	3.1
Anusha	2.8	2.4	2.8	2.4	2.6
Edwardo	2.4	2.6	2.8	2.6	2.6
Emelda	2.0	3.4	3.0	2.2	2.7
Rachel	3.0	2.6	2.4	3.0	2.8
Nana	2.6	2.2	2.6	3.0	2.6

Note. Rating and Coding Scheme based on the SEI Survey; Scale: 0 = strongly disagree, 1 = disagree, 2 = medium, 3 = Agree, and 4 = Strongly Agree.

To examine individual differences more closely, the bottom half of Table 3 presents individual students' experiences of engagement as reported on the SEI survey (i.e., average ratings across the five items per scale). Findings suggest that Ajin's overall engagement in classroom activities was relatively high (*M* = 3.1) compared with peers, whose overall levels of engagement appeared quite similar. Examination of four dimensions of engagement (i.e., agentic, cognitive, behavioral and emotional) showed that all the students had medium to high ratings in all the dimensions. However, some of the students had relatively high ratings on particular dimensions (e.g., Ajin and Rachel were relatively high in their ratings of agentic engagement). Overall, our results indicate that student participation in classroom activities varied to some extent across individuals.

5.2.2. Students' engagement in the complex task

To identify students' engagement in the complex task, we calculated descriptive statistics (e.g., Mean, Mode, Minimum and Maximum) on students' ratings on the ESRF. Combining across their day-to-day reports, Table 4 shows that participants reported a medium level of engagement (i.e., Concentration: *M* = 2.5). They perceived the complex task to be moderately important (*M* = 2.5); interesting (*M* = 2.4); very enjoyable (*M* = 3.2); and not very challenging (*M* = 0.7). To complement mean scores, given the small sample, we also calculated the modal response on each scale. Those findings suggested that most of the students were highly engaged (Concentration, *Mode* = 4) and perceived the complex task as highly interesting (*Mode* = 4), important (*Mode* = 3), and enjoyable (*Mode* = 4) but generally not challenging (*Mode* = 1). These results suggest that, while for the most part, students were engaged and valued the task, there were, nonetheless, variations in student perceptions and engagement.

Table 4
Self-reported perceptions and engagement in the complex task across days

	Engagement	Perception of	Motivation		
	Concentration	Challenge	Importance	Enjoyable	Interesting
ESRF Responses *	21	20	21	21	19
Mean	2.5	0.7	2.5	3.2	2.4
Mode	4	1	3	4	4
Minimum	0	0	1	1	0
Maximum	4	2	4	4	4
Scale	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4

Note. * = Number of responses provided by all the students across days.

Further, to identify students' engagement during the complex task as it unfolded over time, we examined individual students' self-reports across days (see Table 5). Note that, due to the diverse characteristics of this class (i.e., mixed grades), combined with choices students had in how to complete the activity, most of the students worked on different sections of the complex task on any given day. Therefore, it is difficult to compare students' reactions on a given day (since they often refer to different parts of the task). Most interesting is that Table 5 reveals variations in students' perceptions across days. For example, Ajin's ratings of importance varied from 1 to 4 across different parts of the complex task.

Finally, Table 5 also suggests that students' motivational perceptions were related to their self-reported concentration. For example, Ajin reported the highest levels of engagement on days (6, 9, and 10) when he perceived the task to be most enjoyable, important, and relatively interesting. Nana reported the highest level of concentration on day 7 when she found the class activities to be most important, interesting, and enjoyable. Rachael's relatively high reported concentration on Days 6 and 7 were also associated with relatively high perceptions of interest and enjoyment.

Our conclusion that concentration was linked to students' perceptions of the complex task was supported by a review of the reflective explanations students gave alongside their ESRF ratings and of the observational and interview data. For example, on Day 9, Ajin's description of his work in the task suggested high levels of engagement:

> …the interview was interesting and challenging… I tried it several times with my friend because we were messing up with some part... I learned a lot about my friend … it took us about 3 hrs to complete few minutes interview; …this project created a bond between me and my parents as I got to know more about their lives. I felt my parents supported me…[Interview].

Ajin's high concentration ratings on Day 9 fell on the only day when he judged the task to be of highest importance and very interesting. He explained that on that day, the task "helped me bond a bit better with family and friends" [ESRF]. Notably, he perceived the task/project to be moderately challenging on that day. But he nonetheless sustained his concentration. He described how he persisted through multiple versions of his interview: "I felt like we were messing up a lot …I just kept on trying until I got a good one" [ESRF].

On Day 7, Nana judged classroom activities to be important, enjoyable and interesting. When accounting for her high concentration, she explained: "I like it, so, I did well" [ESRF]. On Day 6, Nana described how her moderate interest and enjoyment in writing supported her to concentrate, explaining that she tried to work even when "I got distracted and I could not work" [ESRF]. Similar to Nana, Rachael described how, because of her high interest in story writing, she stayed focused and "got into it" [ESRF]. On Day 6, Anusha expressed how, because of her high interest in getting to know more about her family's education, she "…did a pretty good job concentrating… got two pages of work done". Edwardo's engagement was low overall. For example, he described how his not finding what he worked on Day 10 to be important and interesting led to his low concentration: "because I…got distracted… didn't know how to finish" [ESRF]. Overall, ESRF, observational, and interview data combined to suggest how student engagement was linked to their perceptions of classroom activities on a given day.

5.3. Links between Student Engagement and Teachers' Practices

To complete our analyses related to our second research question, we examined links between students' self-reported engagement and teacher practices, both in relation to the classroom context as a whole and to the complex task.

5.3.1. Links between students' engagement and teachers' practices in overall classroom context

To establish connections, we created data displays to relate students' self-reported engagement with teachers' practices across observed subjects and days. We cross-checked quantitative findings (on the SEI) with teacher and student debriefing data to support interpretations. Because we were

Table 5
Individual participants' self-reported perceptions and engagement in the complex task across days

| | Engagement | | | | | | Motivation | | | | | | | | | | | | | | | | | |
| | Concentration | | | | | | Importance | | | | | | Enjoy | | | | | | Interest | | | | | |
Days /Students	6	7	8	9	10	11	6	7	8	9	10	11	6	7	8	9	10	11	6	7	8	9	10	11
Ajin	4	2	X	3	4	X	3	1	X	4	2	X	3	1	X	4	4	X	1	2	X	3	3	X
Anusha	4	X	1	X	X	X	3	X	1	X	X	X	3	X	3	X	X	X	1	X	1	X	X	X
Edwardo	2	X	X	X	1	3	1	X	X	X	1	1	2	X	X	X	3	2	1	X	X	X	1	0
Emelda	4	1	3	X	3	4	2	4	2	X	2	4	4	4	4	X	4	4	4	4	2	X	4	4
Nana	2	3	X	2	1	X	3	4	X	3	2	X	2	4	X	3	2	X	2	4	X	3	3	X
Racheal	3	4	2	X	X	X	3	3	3	X	X	X	4	4	3	X	X	X	4	3	1	X	X	X

Note. Days = Days students submitted ESRF Forms. Majority of the students worked on different sections of the complex task on each day.

aware that SEI measured students' retrospective reports of engagement just once at the end of the term, we were cautious about connecting ratings with specific classroom practices.

Overall, findings from the SEI suggested that students' engagement (*Min* = 2.6; *Max* = 3.1) could be conceptually associated with Ms. Venus' practices. For example, Ms. Venus' creating a safe and supportive classroom could be connected theoretically with students' self-reported emotional engagement. For example, Ajin's high emotional engagement (*M* = 3.4) could be associated with his perception of the teacher and students as being supportive: "I feel like great, I feel like in my old school when someone cries or like sad, no one will do anything to them. I feel like … the teacher and kids are really more supportive than most of others [Interview]. Similarly, Emelda's relatively high-engagement (*M* = 2.65) might have been associated with her perceptions of positive peer support in her classroom. It should be noted that, in this class, students only sought help from the teacher after consulting with two other students. Emelda described how she took advantage of that opportunity. She said: "…sometimes I get my friends to read over my work …and fix like grammar or something that doesn't make sense…" [Interview]. The lead researcher also observed Emelda reworking some of her mathematics assignment after seeking help from the teacher. Emelda remarked that her conversations with the teacher were helpful in solving some of the questions that were tough for her [Debriefing].

Student engagement during Math reviews also could be associated with Ms. Venus SRL and dynamic supportive practices. During two of the mathematics reviews with each of the three grades, students were observed listening, looking at the board and taking notes, and asking and answering questions. At those times, Ms. Venus was observed supporting her students through modelling and scaffolding. For example, she was observed, on one of the days, discussing fractions with grade 6 students at one of the three boards at the different corners of the class:

> 9:05am. T. [writing a fraction on the board] says "how do you solve this" [writes addition of two fractions]. SS. [silence & listening] and T. [solves the fraction while writing it on the board; and at the end] says [pointing the added fraction] "I will accept it but you've bonus if you simplify it, which is same as to put to lowest term" [writes 4: 4,8,12, that is, how to break down denominators to lowest term].
> T. [writes another fraction] and says, "how do you solve this?" SS. [talks and T writes], T. calls S1. and S2. and says "…are you following what's he's saying? [S1 and S2 nodding]
> T. [pointing at what is written on the board] says "you can have improper fraction in mixed fraction, whole number", what do we have? [SS responding]
> 9:12am. T. "subtraction is done the same way; do you want to go over it?" SS. [nodding and says no, and picking their seats leave and say], thanks Ms. XXX [thanking teacher for the review].
> T. grade 7, you can come in for review [three girls walk to the board section]
> T. [writing a fraction on the board] says "how do you find the fraction"?

During the above lesson, the students shared their thoughts with peers as the teacher engaged them in direct instruction, modelling, and scaffolding their learning about fractions in Math. Most of them continued solving their mathematics problems after their own grade group review. Similarly, on another day, students were observed working on their individual mathematics assignment after receiving personalized feedback from Ms. Venus. Ms. Venus' individualized feedback and regular practice of metacognitive questioning may have facilitated students' above medium and relatively high cognitive engagement (*Min* = 2.2; *Max* = 3) in overall classroom activities (as reported on the SEI).

In sum, students were moderately engaged overall, based on the end of study survey. Evidence combined to suggest how that generally positive engagement could be associated conceptually with many of the kinds of practices that Ms. Venus and Mrs. Pauline were using including SRLPPs and CRPPs.

5.3.2. Links between students' engagement and teacher practices in the complex task

To examine links between teacher practices and students' engagement during the complex task as it unfolded across days, we looked at reflective written justifications for students' ratings on the

ESRF and linked self-reported and observed engagement to observed teacher practices in specific contexts (i.e., sections of the complex task). Again, we cross-checked these findings against other data such as task instructions and student work samples. In this section, we draw on multiple sources of evidence to probe into those connections more deeply.

Above, we described how students' engagement could be related to their perceptions of the complex task on particular days (i.e., as challenging, interesting, important, or enjoyable). Further, observations identified how those perceptions could be related to the contexts in which they were working. For example, Ajin's engagement and motivation on Day 9 was linked with opportunity to interview family member (CRPP). Similarly, observations, samples of students' complex task work samples and interviews combined to suggest high levels of engagement in the task. For example, student folders documented how they made multiple drafts of their work (e.g., their 'Me Collages'). Students' persistence in creating and refining drafts of their collages could be connected with the choices they had in what to include in their collages (SRLPP) and the options they had to include things with personal relevance (CRPP).

Emelda. To identify links between students' perceptions of different features of the classroom context and their participation within them, we close by giving a more detailed account of Emelda's experiences. We chose Emelda to illustrate patterns in our findings because she completed the highest number of ESRFs. Also, similar to other participants, Emelda's perceptions and engagement varied across days. Her case thus provided an opportunity to illustrate how students' perceptions and engagement could be linked to classroom practices on particular days.

Emelda was an 11-year-old, grade 5 girl who was born in Canada. She loves animals, reading, Art and roller blading but does not like Social Studies. She explained: "I can read a super thick book in less than one day… I hate Social Studies. I don't like learning" [Work Sample]. Although Emelda does not like Social Studies, she participated in the complex task as part of her Social Studies learning activity. Table 6 shows that across five days she responded to the ESRF, Emelda was working on two sections of the complex task including: (1) Writing a story about the past (Days 6 and Day 11), and (2) Creating a collage (Days 8 and 10). Overall, she perceived these sections of the task as not challenging. However, she was motivated because of her perceptions of the task as interesting, enjoyable and important and reported high-levels of concentration on the complex task except on Day 7.

Table 6

Emelda's perceptions and engagement in the complex task

ESRF		Engagement	Perception of	Motivation		
Days	Complex Task Context	Concentration	Challenge	Importance	Enjoy	Interest
Day 6	Writing story about the past	4	1	2	4	4
Day 7	Coco [Teacher's Bird is brought to the class].	1	0	4	4	4
Day 8	Collage	3	1	2	4	2
Day 10	Collage	3	0	2	4	4
Day 11*	Writing Personal Story	4	0	4	4	4

Note. * = Not observed

Surprisingly, Emelda reported low levels of concentration on Day 7, in spite of very high perceptions of importance, interest, and enjoyment. Further examination of observational data showed that on this day, the teacher brought her cockatoo bird to class (Coco). Emelda was so excited and highly motivated by that visit that she ended up spending class time on that day writing about the bird. Thus, while her self-reported concentration on the complex task was very low, she was very engaged (e.g., cognitively, emotionally, and behaviourally) in class activities. From an SRL point of view, her concentration in writing about the bird could be associated with opportunities created in this class for students to take up short personal projects during "work block times". Her choice of writing about the bird also speaks to her agentic engagement in terms

of leveraging opportunities for a motivationally supportive environment to advance her learning experiences. However, as a lover of animals, Emelda spent a lot of time with the bird. Thus, she explained that rather than focusing on her task, "I was too busy petting the bird" [ESRF, Day 7]. Examination of her work (i.e., on essay writing) showed that she did concentrate well in her observations and descriptions of the bird. So, observational data and document review support a conclusion of emotional, behavioural, cognitive and agentic engagement in relation to Emelda's concentration with Coco. This finding illustrates how classroom activities and SRLPPs (e.g., choice) can allow students to feel very motivated and engage in what they are interested in at least at the classroom level. This also illustrates the value of gathering contextual data that aids in the interpretation of students' responses to surveys (here the ESRF).

In contrast, Emelda was very engaged in the complex task on other days. Her highest-level of concentration on Days 6 and 11 could be related to opportunities to write a personally relevant story of her choice (SRLPP). She reported finding it "fun to write" (i.e., emotional engagement) about coming "back as a dog in the past" [ESRF, Days 6 and 11]. Emelda's relatively high concentration on Day 8 and 10 could be associated with opportunities to design a personally relevant collage (CRPP) with pictures of her choice (SRLPP). For example, on Day 8, Emelda was observed thinking aloud while working on her collage (i.e., cognitive engagement). She reported: "I was doing pictures for this thing called "Me Collage"; and because it was about everything that relates to me, I took pictures of guinea pigs because I have a really cute guinea pig…Cuz a lot of it related to me and it was different categories that it related, and I just worked out a lot where they went to [Interview]. Her perception of the task as enjoyable and interesting may have contributed to her high concentration rather than becoming distracted by what other students were doing (she "…decided to ignore them") [ESRF, Day 10].

The above findings suggest that Emelda's relatively high-level of engagement across days (Days 6, 8, 10, & 11), as indicated by her concentration ratings, and her perceptions of the learning context (i.e., the complex task) as interesting, important and enjoyable, could be linked to the ways in which Ms. Venus integrated CRPPs and SRLPPs into her classroom.

6. Discussion and Conclusions

In this paper, we report findings from an in-depth case study of one elementary school classroom where Ms. Venus and Mrs. Pauline were supporting their culturally diverse learners' engagement by building on a CR-SRL framework (Anyichie, 2018; Anyichie & Butler, 2017). We described the kinds of instructional practices, including CRPPs and SRLPPs, the elementary school teachers enacted to support all learners in their culturally diverse classroom; students' participation in enacted practices; and how students' engagement might have been associated with their participation in those activities.

First, we found out that the two teachers enacted practices that wove together CRPPs and SRLPPs. We found clear evidence of the three major dimensions of the CR-SRL framework including *classroom foundational practices, designed instructional practices and dynamic supportive practices* in her classroom. One finding was that Ms. Venus used SRLPPs across subjects especially in mathematics but struggled to enact CRPPs as fluently across subjects. This finding suggests that certain practices might be easier to enact across subjects than others. It is also possible that Ms. Venus was more comfortable with enacting SRLPPs because of the help she was getting from PD workshops about the use of SRL in supporting students' learning. Also, her not enacting CRPPs in mathematics could be that she did not find it easy connecting her mathematics instructions to students' background or that she did not consider it relevant as she expressed that the few non-Canadian students in her class might have integrated into their new environment. However, her collaborations with the lead researcher must have eased her difficulty of connecting classroom activities with students' background as the three dimensions of CR-SRL framework were all embedded into the complex task. This finding, similar to the findings of researchers in the United States (e.g., Gray et al., 2020), suggests a positive impact of collaborations between teachers and

researchers in designing practices in support of their students' learning (Anyichie, 2018; Anyichie & Butler, 2017, 2023a,b; Anyichie et al., 2023; Butler et al., 2012; Butler et al., 2013; Mor & Mogilevsky, 2013; Perry et al., 2008). Future research can examine teachers' perceptions about the needs of culturally-diverse learners (e.g., assumptions about their having "integrated" if they have lived in a context for a period of time) and how that influences their provision of culturally-responsive practices. Research can also focus on teachers' experiences about working with researchers in designing CR-SRL practices and how such collaborations might impact their practice change.

Second, the findings of this study suggest that *classroom foundational practices, designed instructional practices and dynamic supportive practices* were associated with culturally diverse learners' engagement in both the overall classroom context. Our analysis showed that all the participants had above medium and relatively high levels of engagement in overall classroom activities. We could not directly link their overall engagement to specific practices in classroom since the SEI measured their engagement in all the class activities across the whole term. Similarly, it was difficult to explain the variations in student experiences of the four dimensions of engagement (i.e., agentic, behavioural, cognitive and emotional) in the classroom as a whole. Thus, our findings add to previous research about challenges of using retrospective self-reports in measuring student engagement (Csikszentmihalyi et al., 2017; Fredricks & Mccolskey, 2012; Greene, 2015; Sinatra et al., 2015). However, our observational data and ESRF were helpful in uncovering possible associations between specific teacher practices and student engagement.

Furthermore, we noticed that students' engagement in the complex task was directly associated with SRLPPs and CRPPs. Analysis of individual students' perceptions of the complex task as it unfolded overtime in terms of whether it was interesting, important, enjoyable, challenging, and their participation in them revealed important variations in patterns of engagement across days. Consistent with prior research, the presence of SRLPPs and CRPPs seemed to be associated with an increase in student engagement and motivation (Anyichie, 2018; Anyichie & Butler, 2018; 2019; 2023a,b; Anyichie et al., 2018; 2023; Gay, 2010; Kumar et al., 2018; Wolters & Taylor, 2012). Most of the students judged the task to be very important and interesting when there were opportunities to connect with family, friends and favourite topics. This finding suggests benefits of an integrated CRPPs and SRLPPs on culturally diverse students' engagement (Anyichie, 2018; Anyichie & Butler, 2017; 2023a,b; Anyichie et al., 2023).

We also found out that student engagement as measured by concentration was related to their motivational aspect of engagement (i.e., perceptions of interest, importance and enjoyment). Similar to the case of Emelda, most students reported high-level engagement when they perceived the task to be of high interest, important and enjoyable. This finding extends previous research that shows how students learning engagement is linked with their perceptions of the classroom context including instructional practices, teachers and peers (Anyichie et al., 2023; Butler & Cartier, 2018; Jang et al., 2016; Jones et al., 2021); and confirms findings that students tend to be highly engaged in activities they judge to be interesting, important and enjoyable (Anyichie et al., 2023; Anyichie & Butler, 2023a; Ainley, 2012; Patall et al., 2016; Strati et al., 2017). Also, these findings add to previous reports about how SRL, engagement and motivation are situated in context. For example, researchers in Finland (e.g., Järvenoja et al., 2015) and the United States of America (e.g., Nolen et al., 2015) have shown that student SRL engagement and motivation can be better understood when studied within the context of their learning experiences. Again, the findings of this current study contribute to previous results on practices with great potentials of facilitating culturally diverse students' engagement in classroom. For example, previous studies have highlighted the benefits of connecting classroom activities to student homes, cultural backgrounds and lived experiences (Aceves & Orosco, 2014; Anyichie et al., 2016 ; Bingham & Okagaki, 2012; Gay, 2013). Future research should investigate how student cultural backgrounds might be contributing to their perceptions of a complex task that integrated CRPPs and SRLPPs.

This study also contributes by uncovering methodological strategies for the study of engagement as situated in context. Our in-depth case studies helped us to see the dynamic interaction between student perceptions of contextual features and their engagement in them (Anyichie, 2018; Anyichie et al., 2023; Butler & Cartier, 2018). Most research in student engagement are conducted only through self-report. A case study design enabled us to collect multiple sources of evidence (e.g., observations, documents, teacher and students interviews/debriefing, student self-report and survey) to examine how engagement of this small sample of students unfolded in context. For example, the use of ESRF was beneficial in advancing our understanding of students' real time engagement. However, the limited number of participants in this study hindered our ability to identify consistent patterns across students and days. We suggest that future research can extend our study by involving more teachers and students from different classes to advance understanding about: (1) associations between an integrated CRPPs and SRLPPs and student engagement across sites, (2) variations in perceptions and engagement across individuals in specific contexts, and (3) internationalization of the findings.

This research adds to SRL by providing tangible examples of how to design SRL-promoting practices in ways that are meaningful and relevant to students' cultural backgrounds. Also, it adds to culturally responsive and relevant pedagogy by drawing attention to the importance of empowering culturally diverse students' engagement within the context of culturally situated classroom instructional practices.

In conclusion, we reported in this paper how we examined practices enacted in one elementary school classroom including CRPPs and SRLPPs, and how observed practices could be associated with student engagement. Extending on previous literature surrounding CRT, SRL and engagement theories, this study reveals how an integrated approach can be associated with culturally diverse learners' engagement. Based on findings reported here, we conclude that educators can better facilitate culturally diverse learners' engagement by designing classroom contexts especially complex task that integrate CRPPs and SRLPPs.

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