

Accessing the Curricular Play of Critical and Creative Thinking

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Abstract

A three-year collaborative research project in a K–6 elementary school is underway. The collaboration entails participating educators and their students exploring curricular enactment that embraces critical and creative thinking within its conduct. This article reveals whole-school efforts over Year One to build educators' and students' confidence to do so, sustaining such curricular practices. Chronicled as a case study, narrative inquiry fittingly unfolds the particularities encountered within the specifics of the case during Year One. Educators' belief in the worthiness of curricular play, as well as concretely negotiating critical and creative thinking with their students, arises as a necessary issue to address in order to invest in the research intents over three years. The integral role of participants' commitments to professional growth through curricular play and experimentation, actively seeking resources, entering wholly into curricular-making efforts, conversing sincerely with colleagues through inquiry conversations, and seeking organizational structures that support and strengthen curricular-making efforts, are found to be key to fostering the pedagogically oriented context needed to grow and sustain project intents.

Keywords: collaborative inquiry, curricular enactment, creative thinking, critical thinking, education, play, professional growth

Les enjeux curriculaires de la pensée critique et créative

Résumé

Dans le but d'explorer les diverses dimensions d'un curriculum axé sur la pensée créative and critique, des enseignants et des chercheurs universitaires participent à une recherche collaborative d'une durée de trois ans. Située au sein d'école élémentaire, les résultats de la première année de la recherche sont présentés. Le bouillonnement actuel des systèmes

éducatifs engagés dans des processus complexes de réforme et d'adaptation permet d'examiner les défis associés aux processus de transposition curriculaire. L'article établit un rapport entre les concepts suivants: l'engagement des participants vis-à-vis de leur propre développement professionnel, l'expérimentation par le jeu, le défi de trouver des ressources curriculaires et la nécessité de reproblématiser les assises d'une théorie curriculaire pour formaliser un plan d'action opérationnel. Les différentes étapes de ces orientations curriculaires sont concrétisées dans la réalité d'un système éducatif complexe.

Mots-clés : curriculum, collaboration, orientation curriculaire, problématisation, pensée critique, pensée créative, développement professionnel

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Introduction

We are engaging in a three-year collaborative research project in a K–6 elementary school, comprising 650 students, 38 teachers, one First Nations advocate, 16 additional staff members, and two school-based administrators, which got underway in August 2016. Working alongside three university-based researchers, participating school administrators and educators explored curriculum understood as genuine inquiry that deliberately negotiates the learning terrain that unfolds, rather than reducing inquiry to following a pre-determined inquiry-model for curricular enactment. An assumption undergirding this effort is that practice-based research is understood as an integral teaching habit, informing curricular enactment on an ongoing basis. Research then entails educators continually calling their curricular practices into question; asking themselves what they are orienting their practices toward, and why they are doing so, on an ongoing basis (Cochran-Smith, 2003; Griffiths, Thompson, & Hryniewicz, 2010; Guskey, 2002; Halbert & Kaser, 2015).

In Canada, the British Columbia (BC) Ministry of Education (2016) initiated curricular transformation plans, oriented toward deeper learning, flexibility to build on particular strengths and needs, concern for the big ideas undergirding and integrating all subject matter, with assessment as an ongoing accompaniment of learning. The BC curricular plan foregrounds curricular enactment's importance. It is, after all, educators' curricular enactment that matters. Thus, seeking ways to concretely enable educators' curricular enactment to see and act accordingly through the creation of learning contexts conducive to the particulars of students and contexts are key. Educators' curricular task entails drawing students into the depth and complexity of learning across all subject matter. Critical and creative thinking become necessary, characterizing the ensuing curricular enactment. But, as critical and creative thinking are poorly understood within the conduct of curricular enactment, it is important to find ways to more fully understand their nature and role within all learning.

Critical thinking, rather than being thought of as oppositional stances, entails ongoing discernment. Through the processes of discerning and making meaning, creative thinking becomes critical thinking's ally. But, creativity is typically described as an admirable quality in others or as an unexpected pleasurable "find" or "happening" in situations rather than as a fundamental human capacity to create meaning. Thus, too often, the critical-creative shaping of students' inquiries is apt to be thwarted and even denied in

classrooms (Macintyre Latta, 2013; Finn, 2015; Hansen, 2005; Sawyer, 2004), as creativity is increasingly valued as a competitive commodity in the global knowledge-based economy (Hargreaves, 2011). This article confronts this challenge and aims to incite critical-creative curriculum enactment, exposing the inquiry-guided learning conditions. Worldwide, the integral role of the educator toward creating the required learning conditions in these regards has been repeatedly underestimated and undermined (Campbell & Groundwater-Smith, 2010; Grimmatt & Halvorson, 2010). Ongoing practice with critical and creative thinking for educators and their students within the conduct of curricular enactment is a necessity that our collaborative research project foregrounds early on, during Year One. This article explores the whole-school efforts to capacity-build educator and student confidence in order to sustain inquiry for the long term. Specifically, this article will reveal:

1. How critical and creative thinking within curricular enactment fosters an inquiry stance in teachers and students.
2. The need to invest in educators' capacities to sustain inquiry, become embodied curricular habits, and articulate the learning significances for all involved.

Context: Curricular Conditions for Inquiry

There is much in place that contributes to the intents of this research. The BC curricular plan's emphasis on the competencies of critical and creative thinking alongside communication (and personal and social awareness and responsibility) positions educators to consider the concrete negotiation of what these competencies might look and feel like within curricular enactment. Finding ways to provide access for educators to the lived consequences of these competencies is key. It is only through directly questioning and experiencing the responsibilities for one's curricular practices that the necessary capacities and sensibilities for educators to respond to students and situations in fitting ways, promote meaningful learning, and articulate the significances for all involved, become embodied curricular habits. Early on, within Year One, it became evident that the collaborative project must consider the necessary conditions, supports, and sensibilities to foster educators' authority and capacities, furthering students' learning opportunities for internalizing, synthesizing, and integrating curricular understandings. An inquiry stance on

the parts of educators and their students is assumed, valuing curiosity, experimentation, adaptation, diversities, and mistakes as a route to learning. But, given the 40-plus years of preoccupation worldwide with compliance and uniformity concerning education policies and practices, the BC curricular plan will need to be enacted with educators willing to seek the ongoing creation of curricular conditions embracing inquiry, cultivating the necessary capacities. Given that these capacities have become increasingly estranged to all involved over the years, heightening educators' attention toward the learning possibilities and powers within curricular enactment seems to be the place we must begin. Two inter-related assumptions undergird this stance.

1. Willingness to Play

The deliberate interplay of teaching with curriculum supports the enactment of the BC curricular transformation plan and invites participants to enter into play. Nussbaum (2010) explains how “play teaches people to be capable of living with others without control; it connects the experiences of vulnerability and surprise to curiosity and wonder, rather than to crippling anxiety” (p. 101). It is such play, encountered between self (subject) and other(s) (world), that is valued as social, emotional, physical, and cognitive development, with many early childhood theorists and educators understanding play as fundamental to all learners/learning (Macintyre Latta, 2013; Edwards, Gandini, & Forman, 2011; Mitchell, 1950; Paley, 2004; Thompson, 2007; Wasserman, 2000; Wiebe et al., 2016). These play-based approaches—including Bank Street, Creative Curriculum, Reggio Emilia, and poetic and arts-based inquiry, among others—encourage learners to take time to explore in-depth connections, take ownership for their ideas, examine alternatives, and develop understandings that each learner can take pride in. The educator's role within play-based approaches demands an ongoing attentive gaze that does not separate teaching from curriculum but concomitantly sees and acts to continually further learning growth. But, such attentive gaze is often foreign. Nussbaum's (2010) description of “crippling anxiety” is evidenced through education's preoccupation worldwide with structuring of teaching experiences that compartmentalize knowledge, separating pedagogy from content, knowledge from interests, and theory from practice (Groundwater-Smith & Mockler, 2009). It is through restricting and tightly containing ways to know and be in classrooms, for both teachers and students, that insecurity with play is

generated, perpetuated, and sustained. The result is long-held curricular practices that (1) repress teacher and student self-understandings, (2) disregard pedagogical tone, and (3) disregard plurality and natality (birthing of new ideas) within learning processes. These practices discourage play with student connections to subject matter; deter preparation and organization of learning contexts that foster playful, participatory thinking; and avoid interaction and deliberation that precipitates learning play through growth and transformation (Macintyre Latta, 2005). The long-term consequence is that little attention is given to the play of critical and creative thinking within internalization and integration of teacher/student thought. Thus, the roles of play within curricular enactment have not been commonly valued nor concretely experienced, rarely reaching beyond early childhood learning experiences.

2. Reorienting Educators Toward Internal Learner/Learning Attention

Dewey's (1904) articulation of how educators need to learn to concomitantly see and act on the relational complexities present within all learning situations, arises as the necessary starting place for all learning. These relational complexities are made visible through attending to what Dewey (1938) terms the "powers and purposes of those taught" (p. 45). As students share their histories, beliefs, strengths, and challenges, these form the curricular making, narrating the individual/collective thinking that emerges. Curricular enactment that respects and reflects these given contributions requires a willingness to accept and dwell within the relationships present and already at play. It is within the apprehension of these relationships that all involved can access critical and creative thinking in action and begin to envision the learning possibilities. The necessary attentive gaze to do so draws educators' attention to what Dewey (1904) terms "internal attention." Dewey juxtaposes internal with "external attention," which disregards the relations at play and draws educators' attention to predefined learning expectations and results (pp. 22–23).

It makes sense that resistance and hesitancy is the first response from educators invited to play with critical and creative thinking, reorienting toward internal student attention within curricular enactment. Given little familiarity with such play, a lack of integrity between curricular beliefs and practices keeps problematizing efforts (Hanson & Cherkowski, 2015). The lure to simply label and identify curricular steps and related tasks that separate knowledge away from the particularities of given students lies in

the ease established and sustained by negating the presence of any complexities. Such negation dismisses differences in students, teachers, and contexts, assuming a generic sameness. Finding ways for educators to experience the lure of attending to complexities in their curricular practices has become our collaborative research task. We pursue ways educators might resist the compulsion to halt and control learning experiences, allowing the play of curricular moments to unfold, accepting their challenges and shifts. Completely immersing self within curricular moments and then releasing these moments demands an elemental response. “When,” “why,” “how,” and “what” an educator knows is always contingent. The fragile momentary understandings attained suggest an organizing dynamic all its own. This is the play on which educators and their students must linger in order to locate critical and creative thinking within their practices and attend to the learning significances. It is increasingly clear to us that curricular play must be actively enacted and brought into being in order to cultivate the needed educator confidence to enter into and continue to play.

Seeking a Fitting Approach: Methods and Focus

Our collaborative research project invited researchers and teachers-as-researchers to co-develop, study, and document curricular enactment that oriented toward eliciting critical and creative thinking (see: Macintyre Latta, 2013; Cochran-Smith & Lytle, 2009; Erickson, Mitchell, Minnes-Brandes, & Mitchell, 2005). Integrity to the process character of such curricular enactment resulted in focused attention on ways to cultivate and advocate for lived theory/practice intersections in this setting (Dana & Yendol-Hoppey, 2014; Edmondson & Striedieck, 2012; Zeichner, 2010). Initial participation was facilitated, as school administrators and one educator assisted in the development of the proposed research. Thus, the considerations underlying this effort were of common interest and derived from a shared understanding of the research intents. The collective quest for accounts of critical and creative curricular enactment in action is ongoing. This entails multiple means of data collection, and the continual invitation to participate in the research project is extended to the entire school. Drawing on case study research, data collection takes into account both individual and social features, including focus groups, individual interviews, classroom artifacts, and extensive field notes (Stake, 2005).

Chronicled as a case-study, with additional time and attention on the particulars of the given context, the experiential accounts of educators invested in the project's intents to foster critical and creative student thinking were intended to provide narrative mediums to access theory/practice intersections. However, access to these experiential accounts was limited at the onset, as 12 educators—though expressing interest in the project—shied away from having researchers document their curricular enactment in their classrooms. The assumption of research as an ongoing habit of teaching was not a trusted practice of these educators. The needed trust in themselves, in the research team, in the new provincial curriculum, and in the school district administrative supports for these efforts, were all tentative. Seeking ways to productively respond, the research team invested in lunch-hour inquiry forums held bi-monthly, aimed at fostering professional agency and the needed trust to embrace the project's intents. These forums were purposefully designed to invite educators into the interplay of critical and creative thinking, inciting ongoing reflective practice regarding their curricular enactment. Educators' interaction and deliberation were key features of these emergent forums, with participants coming to appreciate how time together in interaction and deliberation makes visible the needed direction for further efforts in addition to the needed changes, creating room for continual refinement.

Engaging in such narrative inquiry is very much in accord with the teacher-researcher stance taken throughout this project, invested in curriculum-making (Clandinin & Connelly, 1992; Craig, 2013). Researchers attended to ongoing field notes, reflecting their varying perspectives while documenting the bi-monthly meetings bringing educators and researchers together. We concurred that cultivating the needed space and time to collectively confront, negotiate, articulate, and reconsider this evolving account, invited educators to participate as teacher-researchers. So, a mobilizing narrative developed, supporting the practices and directions taken, embracing the *in situ* particularities entailed as we proceeded. A theorizing record started to take shape, narrating the case as it unfolded within this particular school setting.

Operating both inductively and deductively throughout, data collection and analysis continues to be necessarily reflexive, with the research team meeting regularly, continually foregrounding the interfaces across the data collected, its interpretations, and the research literature situating the project. This article is representative of such interplay, offering an interpretive accounting, synthesizing the narrative unfolding to date. Such

interfaces are characterized by Locke, Feldman, and Golden-Biddle (2015) as organic, shaping each other and thus interdependent and inseparable. In the midst of Year One of this project as we configure these interfaces into patterns, seeking ideas that narrate why these patterns are there in the first place (Bernard, 2011), the theorizing record discloses a persistent pattern: participating educators give varied expression to an insecurity with the nature of inquiry itself. The permeating presence of this individual/collective insecurity, prioritizes this contextual need. It is key that, as we proceed with the intents of the project, participating educators become more familiar with the nature of inquiry in order to foster critical and creative thinking within curricular enactment across disciplines and interests in a K–6 elementary school. Inquiry’s emergent nature calls researchers’ and educators’ attention to embodying critical and creative thinking within the conduct of the research project itself, in order to further mobilize these practices within educators’ curricular enactment in classrooms.

In what follows, participants’ experiences of the curricular terrain encountered over Year One situated the conduct of our research. As the narratives of experience unfolded and participating educators strongly indicated the need to attend to the nature of inquiry within its enactment, four interrelated themes characterized the features and directions taken. These themes are identified as cultivating mindset, inquiry conversations, operationalizing supportive structures and resources, and fostering spaces for educators and students to play with and through inquiry.

Year One

As we initiated the collaborative research project embracing inquiry as an operative stance for all involved, educators’ apprehension of the relationships present and already at play within all learning situations immediately arose as key. Educators needed to apprehend their roles as inquirers in order to position their students to be inquirers. Educators needed to apprehend what inquiry-guided curricular enactment orients toward and articulate why it matters. Conversing with participating educators, they readily agreed with the inquiry stance but struggled with how this translated into practice. Ongoing grappling with translations to practice emphasized to all of us the importance of apprehending the internal relationships at play within given learning circumstances. When educators

insisted on seeking certainties within learning processes and products, their focus tended to be more oriented toward external attention. It is this pull toward certainties that suppresses trust in the curricular agency to be ascertained through internal attention. Educators' external curricular attention further reduces awareness of the complexities through limiting opportunities for learning interactions and debates, thus restricting and thwarting differences. Negotiating differences of all kinds are, then, less familiar and less trusted as being productive within curricular enactment. Educators' external curricular attention curtails what has been encountered and thus constrains what curricular possibilities can be envisioned.

The administrative team within this school relayed their identities as lead teachers, seeking ways to foster an inquiry culture in their school and enable their faculty to experience the possibilities and powers of internal attention toward learning for themselves and their students. Both the principal and vice-principal articulated how they desire their authority as leaders to not be imposed but flow from their shared commitments. Empowering teachers and students to author their own inquiries and invest in learning as inquiry-guided conveyed their individual and collective efforts. The vice-principal explained how these efforts have to be "based on relationships of trust. We need to see ourselves as learners, on a journey together" (Interview #1, Oct. 20, 2016). The shared tone and invitation to their school community is that their administrative roles are not as managers. The principal explained how, "That conception of principal as manager misunderstands education" (Interview #1, Oct. 20, 2016). Attending to the tone of ongoing communication permeating all aspects of the school community, common spaces for people to be together, and the school organization and structures, the administrative team became cognizant of embodying within the workings of the school, supports for curricular play that access education's generative nature. Such access was understood as being primary to fostering internal attention inciting genuine inquiry. The vice-principal reflected on how "play with time/space to work together" was key. However, the vice-principal also insisted, "Educators' ideas matter. Initially, these opportunities fell flat when administration tightly directed them" (Interview #1, Oct. 20, 2016). Both school administrators committed to investing in opportunities for educators to participate, actively ensuring opportunities are accepting, inclusive, and welcoming, for all interested in professional growth through inquiry.

Play Spaces

The purposeful embodiment of inquiry manifests within the workings of the school over Year One as themes generating invitational spaces for educators to play. These spaces take varied forms, including those described below.

Cultivating Mindset. One way the administrative team designed for the embodiment of inquiry within school culture was through cultivating a growth mindset. Paying attention to mindset means paying attention to the consequences of educators' and students' thinking. If the culture of learning in a school understands learning to be an experience of continual growth, participants within that culture (e.g., students, teachers, administrators, parents) will more readily accept and nurture learning as ongoing. Learning requires careful attention in the moment to guide deeper, richer, more rigorous learning in ways that nurture the individual in relation to the collective learning culture. Growth mindset assumes an attitude toward learning as always unfolding. We see growth mindset as a habit of mind that values the educational space of play; a culture of growth makes room to attend to process. The growth learning terrain resists an over-emphasis on future orientation and settles into the present. The landscape of the moment reveals multiple connections and pathways, resting places to sit with the discomforts of the unknown, and places to be curious. The administration team deliberately called attention to this learning terrain at a school assembly, setting a tone and initiating experiences that the entire school community would recall again and again as a growth mindset takes hold and transforms learning. An example from researcher reflective notes is as follows:

When the principal's cell phone rings you hear the revving of a motorcycle engine; energetic and always poised to engage in action this seems appropriate. But the ringtone also calls to mind the first time the principal introduced herself to the staff at the first whole school staff meeting. She introduced herself by telling personal stories and anecdotes. One was the story of how she came to earn her motorcycle license. It was a humorous story of repeated mistakes, misunderstandings, and failures. She concluded her story by saying, "*I invite you all to pay attention to your learning this year; even and particularly when it involves failing.*" I think of this story again as the principal gathered the whole student body together to investigate mindsets for learning in a school assembly. Armed

with a shopping bag filled with balloons; the principal chose two students from the audience. Two young grade three students were given blown up balloons to create balloon animals, however they are not shown examples of the final product. Within the context of the unknown, the students learned through a process of trial and error. The learning involved experimentation and beginning again. The principal encouraged and gave small suggestions to push the learning forward. The audience, themselves unsure, also formulated their own theories and suggestions based on their previous experiences and what they noticed in the present moment. The process of making the balloon animals unfolded through attention and feedback. After the activity, with the balloon animals in hand, all the students reflected on the value of attempting, refining, and collaborating in their learning. This was an example of how learning can be revealed as a recursive experience of play. In the end, the balloon animals did not look the same. It is in the experimental play that the depth and richness of understanding that there are many ways to create is awakened. These processes are not accessible when learning overlooks process and so, it was worthwhile to have the opportunity to come together to witness and experience learning as ongoing; to understand how initial frustrations will give way to new approaches and inform previous understandings. (Researcher Reflection, Oct., 5, 2016)

Through the modelling of growth mindset, the researchers, administrators, teachers, and students had the opportunity to play in new ways (Macintyre Latta, 2013; Paley, 2004; Wasserman, 2000). The change in view away from a more fixed mindset, where learning is tightly oriented, toward a singular outcome, toward a growth mindset, signals new ways to understand curriculum and to design for curricular enactment. Creating balloon animals was a window into a critical and creative space. When learning is revealed as growing, shifting, evolving, the critical and creative competences of teachers and students are foundational. At the assembly, learning required critical creative attention as teachers and students engaged with, listened to, and interpreted the making of the balloon animals. In the example, the principal attuned to the learning of the students. As she noticed how as the students played with the balloons, she gained knowledge about the students that translated into responsiveness. As the balloon animals began to take shape the principal was part of a dance of critical and creative thinking, as she relied on students'

physical and verbal expressions to decide when the students ought to be left to struggle and when to redirect through feedback; decisions were made moment to moment.

Critical creativity in teaching is part responsiveness to student learning, and part teachers shifting and growing themselves. Returning to the storied reflective time at the first staff meeting, it is important to emphasize that the administrative team created spaces to model growth mindset with students and created an example to provoke teachers to see how they might support such attention to growth of thinking. Growth researcher Carol Dweck (2015) explains that it is difficult for teachers to create learning spaces that allow for student growth if their own growth is not valued and encouraged: “If teachers believe that their own skills can be developed, each student provides an opportunity for them to learn more about their craft. To me, the motto of such a teacher might be the following: Every student has something to teach me” (p. 244). When a teacher develops a relational understanding of student learning, then teachers become more involved in curricular play, critically and creatively seeking meaningful curricular encounters. We see this deliberate seeking of meaning when both administrators articulate the richness in their own learning, calling themselves “students of learning” (Interview #1, Oct. 20, 2016). And, the lived integrity to this mindset of growth becomes increasingly apparent to all.

Inquiry Conversations. Lunch gatherings every two weeks began in the second month of the research during Year One and continue to date. These meetings were intended to provide an opening for interested educators to be part of an ongoing inquiry conversation, exploring the nature of curricular inquiry throughout the school year. The research team assumed the responsibility for facilitating these, cognizant of being integral to the nature of inquiry itself, as we unpacked it together. “Knowledge” and “curriculum” are terms that initiated the conversation as it was very clear that these terms are commonly understood in ways that conflict with the lived terms of inquiry-guided curriculum. The BC Curriculum Plan gives educators license to orient how to think about the nature of knowledge and the nature of curriculum as lived in classrooms very differently from traditional interpretations. Thinking about these terms differently is key to navigating the BC curriculum plan. Knowledge, rather than being a thing to cover or provide to students, entails knowledge-making—positioning students to adapt, build, and make meanings. Collectively we considered what learning orients toward if learners are primarily

receivers of knowledge, alongside what learning orients toward if learners are positioned to be creators of knowledge. The following simple framework emerged:

LEARNER AS RECEIVER	LEARNER AS CREATOR
transmission	transformation
linear	non-linear/linear
measurement/end product	growth/process/creation
certain	uncertain
Learner as Receiver as a NOUN	Learner as Creator as a VERB

We discussed how these conceptions of learners/learning as receiver and creator, orient practices very differently. And, how the curricular consequences hold significances such as:

- Orienting toward transmitting of knowledge places value on predetermined ways of thinking that discounts multiplicities.
- Orienting toward predetermined ways to learn particular content results in generic products and discounts more fluid purposeful learning experiences, divergent learning processes, and varied learning products.
- And, orienting toward prefigured ways of being and doing in classrooms ends up masking differences as catalysts in coming to know self and others. Opportunities to learn with and through others' experiences are thwarted.

So, the BC Curriculum, rather than being a document to follow, entails developing relationships among students, teacher and subject matter. However, curriculum as a relational movement of thinking, positioning educators to see and act to further this movement, needs much greater visibility and tangibility for educators to embrace. Curricular practice within such inquiry-guided contexts is severely lacking. So, our morphing conversations responsively needed to find ways to encourage attempts and offer concrete examples of educators attending to students' thinking to serve as springboards for moving students' minds, as well as springboards for other educators to re-envision their practices.

The film *A Case of Drawing to Learn* (Performanetics, 1991) was shared with participating educators during one of the inquiry conversations (Fieldnotes, Oct. 2016). It provided a medium to look inside the terrain when moving individual/collective student thinking. Re-tracing the learning features that seven-year-old Jake encountered as his

thinking developed regarding how a bike works resulted in our ability to map out a terrain that included vulnerability, tentative thinking, mistakes, reworking of ideas, locating gaps in understandings, generating questions, and finding thinking agency, ownership, and pride. We characterized Jake's thinking as critical and creative thinking, working together as allies, manifesting a movement of thinking. Turning to the imagery of the film to recount moments during Jake's sense-making, we attended to the critical-creative shaping of his inquiry. It is within these moments that Jake's own questioning, confronting, and challenging of his own thinking opened into new and enlarged thinking. Our hope is that Jake's sense-making conversation accentuated attention to the features of teaching for inquiry and elicited more and more concrete practice in educators' own classrooms. We also hope that educators envision Jake's drawing serving as a platform or entry into conversations across all sense-making, and extending into ways to foster such movement of thinking with large groups of students. In these ways, other artifacts, such as graphs, tables, models, photos, worksheets, dramatizations, and so on, might allow for learning interactions and deliberations. But, the pressing question and underlying concern arising from this conversation with educators remained: "How do you actually teach for inquiry?" The concern that the film depicted one-on-one (Jake and his grandfather) negotiation and not an inquiry-guided classroom in action was also problematic. There was much overall interest, but coupled with persistent skepticism in regarding teaching for inquiry with larger groupings of students.

As our conversation continues over the year, we will return again and again to the film and recall the features Jake encountered throughout the learning terrain. We envision that curriculum-making practice may provide a bridge for educators to see and act on the room that opens up for moving students' minds. We seek ways to engage educators in a cross section of shared curriculum-making experiences to be collectively unpacked. We envision educators bringing their own curriculum-making experiences in their classrooms to this conversation, for all to grapple with together. It is the room to make meaning that we intend this ongoing conversation to continue to foreground. What kinds of assignments provide such room for students to enlarge and deepen their understandings? What is entailed for teachers and for students embracing inquiry in their classrooms? What is entailed for learning contexts? As a research team, we continually reiterate our interest in supporting all efforts to attend to curriculum-making. We invite communication through follow-up questions, ideas, and further considerations. We relay that educators might take

up inquiry in multiple forms and that we are willing to be involved in differing ways to support all efforts. The authorizing of inquiry is a conversation begun, but our attention to the lived terms of inquiry as participatory in nature, vigilant to the question(s), organic in form, and always turning back on self-understandings (Macintyre Latta, Buck, Leslie-Pelecky, & Carpenter, 2007) calls all of our attention to the process character—the necessity of taking up inquiry through inquiry itself.

Operationalizing Resources in Support of Play. The educational leadership team attempted to incite inquiry through inquiry by embedding collaborative educator preparation time into the daily schedule of the elementary school. Each Monday afternoon from 1 p.m. to 2:15 p.m., the principal and vice-principal are responsible for facilitating all students across one grade level in a critical and creative learning experience. The vice-principal clarifies the purposeful experimentation with professional planning time. She states, “We are playing with collaboration time. Everyone can count on it within our school structure. Every Monday we can release up to 6 teachers with some creative administrative structures in place” (Interview #1, Oct. 27, 2016). An example from researcher reflective notes is as follows:

The administrative team, along with the assistance of one of the researchers and two student teachers, facilitated a learning experience introducing and considering the nature of coding with 71 grade one students. In keeping with the focus on play as space to promote inquiry, students are first brought outside for a rousing game of Kings & Queens (running around with foam batons). Engaging in everyday pedagogy with the aim of building knowledge as vibrant matter across space and time provides a framework for critical engagement (Duhn, 2012). Once the game was over, students were ushered into the large space of the music/arts room. The game generated a calmer group of students than was apparent before. Accordingly, they invited students to consider the relationship with mind and body, leading them artfully towards an awareness of embodied learning. Building on this emergent kinesthetic awareness, students were presented with an experiential representation of coding in which they assumed the roles of cursors moving North, South, East and West. Reminiscent of Whitehead’s (2001; 2007) concept of physical literacy this type of embodied learning creates a holistic understanding of a physical way of being and knowing in the world. Whitehead’s set of seven characteristics used

to establish physical literacy in the classroom takes life with focus on the fifth and sixth characteristics of physical literacy. The fifth characteristic describes an established sense of self as embodied in the world which engenders self-esteem and self-confidence. The sixth characteristic states that this sensitivity to our embodied state leads to fluent self-expression and to empathetic interaction with others. (Researcher Reflection, Oct. 3, 2016)

The afternoon spent outdoors and indoors provided a memorable experience, purposefully designed for learner/learning interplay, powerfully embodying self-negotiating concepts of inner esteem and inner confidence and their significances for teaching and learning. Within this embodied state, a heightened communicative experience leading to fluent self-expression and empathetic interaction can provide space where critical and creative pedagogies are enacted via the re-storying of teaching and learning coding in an embodied manner (Ragoonaden, Cherkowski, & Berg, 2012). And, we envision that these embodied understandings will be returned to again and again as the school year unfolds.

Often for the first time in their careers, educators can take the time during the school day opened up by the administrative team to collaborate and to inquire into new directions emanating from the BC curriculum. As part of the process, interested educators make arrangements ahead of time by completing a very brief sketch of their intentions and submitting a form a week or so in advance. The intent is to provide much needed preparatory time for educators, allowing them to discover and to explore diverse perspectives in a grounded, accountable manner. Two participating educators ask the research team and four teacher candidates to join them as they plan for a unit of study on the Canadian fur trade. Both educators share their many ideas and resources. They explain how they have a large block of time within the school day to enable learning connections. The big ideas that cut across the BC curriculum for social studies serve as threads that weave varied disciplinary connections together. As we attend to educators' planning, in the process, the potentially rich learning terrain for their students is clear. The potential invites further ideas and connections from the teacher candidates and the research team, so there is no shortage of ideas.

One of the resources, a local text, *Go Back to the Root: A Learning Resource on Syilx Families* (Okanagan Nation Alliance, 2013), prompted a discussion on how to integrate Syilx Nation member communities, alongside other First Nations, Inuit, and Métis

(FNIM) perspectives into curricula. It is imperative for education to make greater contributions to the societal discourse relating to Indigenous understandings with commitments to interconnectedness, reciprocity, relationality, reverence, and respect (Archibald, 2008; E. R. Atleo, 2004, 2011; M. Atleo, 2009; Battiste & Henderson, 2009; Cajete, 2010; Cannon, 2012; Cohen, 2001; Four Arrows, Cajete, & Lee, 2010; Ritchie, 2012). We take up these commitments toward learning, drawing on Indigenous epistemologies that view relationships between humans, earth, and others as generative, all-embracing, and always historically situated. Through this learning, Ritchie (2012) argues educators can begin to create new pedagogies that explicitly counter the colonial exploitation of Indigenous peoples and the earth, and that enact the interconnectness that exists. Drawing on Maori and Western scholars' teachings and writings, Ritchie urges educators to question and interrogate the cultural habitus of the ecological catastrophes and social injustices of our times through processes of de-narrativisation, un-storying, and re-narrativisation. Cannon (2012) explains how "change must start by troubling, and teaching others to trouble, the interpersonal and institutional normalcy of things—the tendency to not name, know, or otherwise mark settler privilege" (p. 33). Within our collaborative co-planning experience, troubling entailed reflecting on what kinds of stories are told in early childhood practices? What powerful stories are silenced? The co-planning group envisioned curricular experiences that might bring their students to these questions too. The fur trade curricular-making group embarked on considering the impacts of beliefs, values, and culture and how students might confront these. Some of the questions generated were as follows:

How can we get students to directly feel the contradictions of an economy based on money instead of an economy derived through living off the land? How can we re-story the curriculum emphasis on fur trading posts as places constructed for fair exchange? What ways can we get students to imagine the lived consequences in their own lives? (Researcher Reflection, Oct. 24, 2016)

The wealth of ideas that was elicited from these questions could quickly become one learning task after another. And, it was actually through doing so that this caution confronted all of us and served as a reminder as we co-planned. Inquiry-guided curricular practices are interdependent with planning for learning that allows room for students' ideas, capabilities, needs, and challenges in conversation with questions and in accordance with teachers' strengths and contextual needs. Inquiry-guided curricular practices

necessarily begin with what is given, and, the place to begin is with what students, teachers, and context bring to the situation. So, it is not curriculum as plan to tightly follow. It is not curriculum as a series of assignments. It is a curriculum plan that serves as a springboard for responsive teaching. And, together we thought about how this preparation is more thorough and time consuming, for sure. We thought further about how it embraces uncertainties as productive.

Doll's (2009) four R's of curriculum development helped envision the necessary rich, related, recursive, and rigorous curriculum-making from within its conduct for participating educators. Trusting the complexities that learners bring must form the terrain to cultivate curricular richness. Enabling learners to see and act on relations as modes of interaction and mediation creates room for speculation, projection, and invention of meanings. Revisiting, reconsidering, and reconstituting previous understandings is a recursive undertaking that strengthens learning through seeing anew, again and again. The rich, related, and recursive curricular terrain that unfolds, entails a rigorous search for learning continuity. It is such rigorous searches that prompted us to add another R: rhythm—to describe the co-curricular making movement that we envision ensuing, as students and teachers live the curriculum. The rhythm is found within the movement as teachers and students take up inquiry. The resource, *Go Back to the Root: A Learning Resource on Syilx Families* (2013) suggested new questions: What kinds of experiences/scaffolding will form the needed ground for student inquiry concerning the fur trade? What kinds of assignments will foster this rhythm? What will educators attend to and why as lessons unfold? What will students attend to and why as lessons unfold? We are honoured to share in this important undertaking, but, we remind ourselves that it is the educators who know their students and context best. It is our hope that they will continue to share with us their planning efforts and engage us as allies in support of their efforts as they follow through on their curricular plans.

The play spaces of cultivating mindset, inquiry conversations, and operationalizing supportive structures and resources offer experiential space and time for educators to perceive their way into the thickness of learning situations and not shy away from the relational complexities. Space and time to perceive what this thickness wades into and why, prompts educators to seek and seize possibilities for their curricular practices. We are all genuinely excited as we anticipate what will unfold as the curriculum is enacted and anticipate the pathways that might offer more rich, related, recursive, and rigorous

learning ventures. The play spaces layer into each other and are intended to foster educators' confidence and authorize more and more curricular play. It is only through concrete enactment that its educative significances will take life and play on. It is this vitality and associated learning strength that the research team, alongside the school administrators, are acquainted with and see much potential within, and have invested accordingly. A "practiced receptivity" (Davey, 2006) with the playful learning terrain is understood as primary to teaching for critical and creative learning experiences. Negotiating the contingent learning terrain is the one constant, but educators and their students need to practice what such contingencies offer to learning and gain a trust and attunement within processes that afford all involved access to the needed learning habits and ways of being. The school-level administrators, with participating educators and the research team, have begun a three-year journey to explore and document the learning significances emerging through practiced receptivity with critical and creative thinking in action. It is already clear that it is only through educators' belief in the worthiness of curricular enactment for critical and creative thinking that greater commitment will be made possible.

Conclusion

Critical creative thinking positions all involved as inquirers—adapting, changing, building meaning individually and collectively. The learning culture that this project ventures into reveals glimpses into the power and possibilities of curriculum-making, reframing education toward learner/learning growth and well-being. However, it also calls attention to the struggle to reframe education in these ways and the tensions that persistently detract from these efforts. The research opportunity afforded by this multi-year collaboration with school administrators, participating educators, and the research team, with the mandate of the provincial curriculum to teach for critical and creative thinking through inquiry, brings resources together to begin to offer a counter curricular narrative. It is a journey just begun and it will be a much-needed long-term investment in educators', students', and communities' curricular-making capacities. The curricular conditions, supports, and educator sensibilities, the entrusting of learning to educators and their students, the cultivation of shared language to articulate the significances for all involved, and the research documenting, disseminating, and mobilizing of long-term significances for all

involved cannot be undermined through outside pressures for evidencing student knowledge assessed through measures and tests that betray the makings of knowledge as experienced in these settings. Our collaborative inquiry is bursting with potential through the shared commitment to curriculum-making as a vital medium for embodying and strengthening the roles of education within all institutions, communities, and beyond. It is potential we humbly feel privileged to cultivate and it is potential that suggests educators must acquire a “research disposition” (Tack & Vanderlinde, 2014) that understands research as an ongoing habit of all educators’ curricular enactment.

Our collaborative efforts, though just begun, suggest directions for research concerning school leadership that Cherkowski (2016) and Cherkowski and Walker (2016) articulate as the need for purposeful professional supports and development for leaders. These supports will enable them to see and act on the curricular habits and ways of being that principals (and others) are positioned to ask educators to embrace. Similarly, Thomson (2011) articulates the importance of pedagogically oriented leadership in creative schools. She states, “...the head not only gave permission for experimentation and development to occur but also sought out new intellectual resources, worked alongside and in conversation with teachers, and changed management structures to support the new directions” (p. 459). We are increasingly cognizant of the integral role of such leadership commitments as we attend to how the administrative team depicted in this study embodies professional growth through curricular experimentation, actively seeking resources, entering wholly into curricular-making efforts, conversing sincerely with educators through inquiry conversations, and seeking organizational structures that support and strengthen curricular-making efforts. This pedagogically oriented leadership is interdependent with deep familiarity with the receptivity encountered through such curricular enactment. In this case, both administrators acknowledge play’s primary role within their own lives and their embrace of play as making visible and tangible learning significances to be found through attunement to curricular-making processes such as experimentation, observation, deliberation, dialogue, and interaction.

Given such acknowledgement alongside the research team’s shared commitments to play’s roles within curricular enactment, the multi-year study can invest in the parts-to-whole movement we see strengthening critical and creative thinking in classrooms. The parts-to-whole movement reflects how we envision the play spaces that are described as cultivating a mindset, encouraging inquiring conversations, and operationalizing

supportive resources, forming/informing/reforming each other. It is the learning sustenance to be gained for all involved that our collaborative research project will continue to unfold. Theorists, documenting and articulating the powers and possibilities of play within curricular enactment, have important educative and leadership roles to assume, partnering with schools and other educative institutions, so that these collaborations can access critical and creative thinking capacities to transform human understanding, fostering ways to live well in the world with others.

Additionally, encountering educators' hesitancy and needed confidence-building as our project gets underway holds important implications for teacher education programs. Finding ways for teacher education programs to purposefully partner with schools and community settings—to grow professional knowledge and create programs of study that assume inquiry as stance—need to be thoughtfully planned and implemented over multiple years. Reframing education needs a concerted, coordinated, long-term collaboration that fosters the needed practiced receptivity for prospective educators alongside practicing educators to access critical and creative thinking's possibilities for learning of all kinds.

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