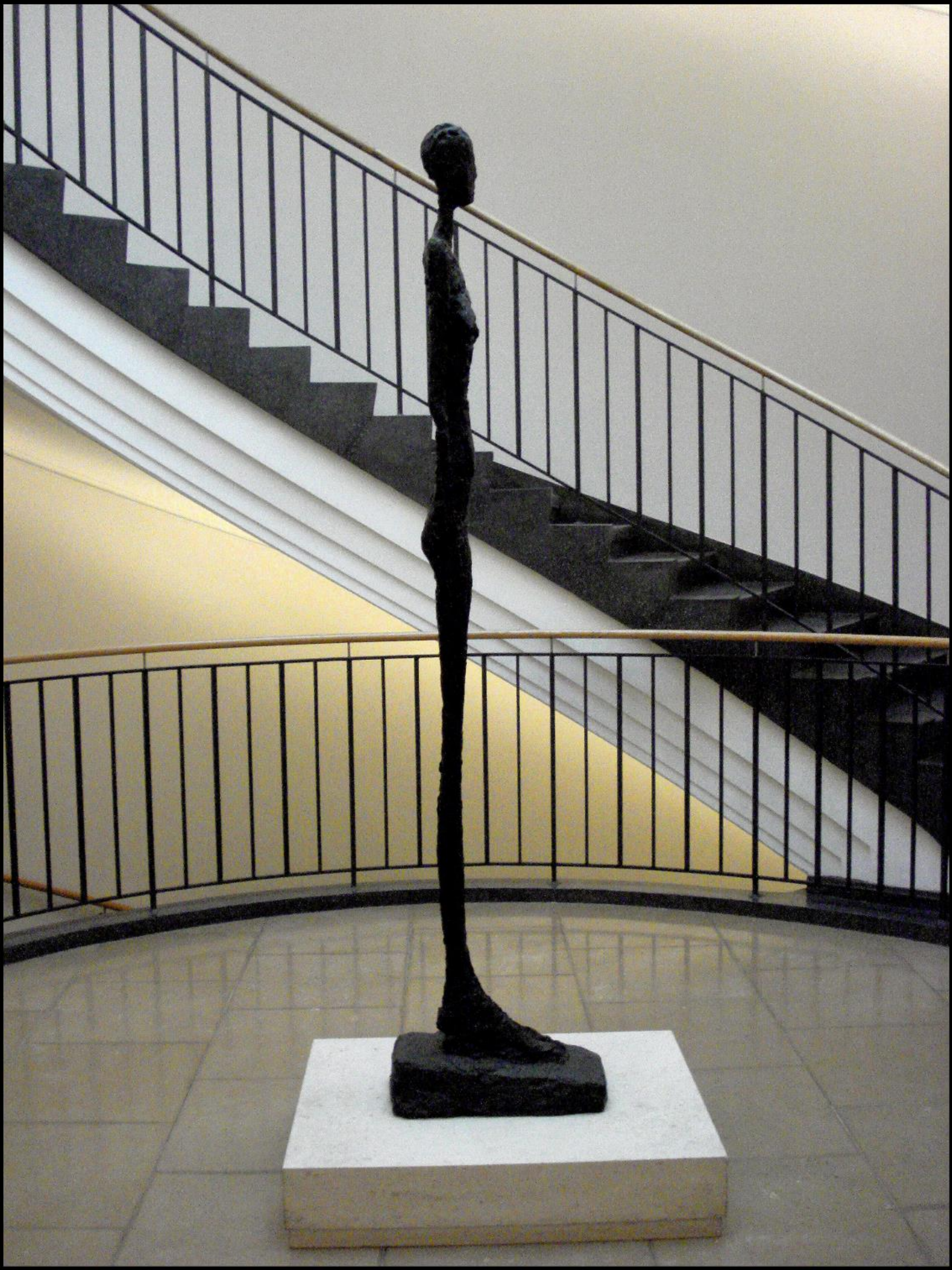
Brock Education

A Journal of Educational Research & Practice



Vol 24, No.2 [2015]

Table of Contents 24(2)

Editorial

Themes on the Meaning of Professionalism and Setting New Directions for Policy and Practice
Dolana Mogadime p. 1

Articles

Conceptualizing How Mature Teachers Can Influence Students' Growth in Learning
Nancy Maynes, Blaine E. Hatt p. 4

Teachers as Researchers: A discovery of Their Emerging Role and Impact through a School-University Collaborative Research
Ken Chi Kin Chow, Samuel Kai Wah Chu, Nicole Tavares and Celina Wing Yi Lee p. 20

Understanding the linkage gap between L2 education researchers and teachers
Ibtissem Knouzi, Callie Mady p. 40

Well-being and human-animal interactions in schools: The case of "Dog Daycare Co-Op"
Laura Elizabeth Pinto, Donna Foulkes p. 60

Bringing Policy and Practice to the Table: Young Women's Nutritional Experiences in an Ontario Secondary School
Sarah K. Gray p. 74

Curricular Critique of an Environmental Education Policy: Implications for Practice
Douglas D. Karrow, Xavier Fazio p. 88

Listening to Voices at the Educational Frontline: New Administrators' Experiences of the Transition from Teacher to Vice-principal
Denise E. Armstrong p. 109

Book Review

Against Common Sense: Teaching and Learning toward Social Justice
Kim Radersma p. 123

Cover Design: Peter Vietgen ***Cover Layout: James Windjack***

Editorial:

Themes on the Meaning of Professionalism and Setting New Directions for Policy and Practice

Dolana Mogadime
Editor
Brock University

I welcome the work of being the new Editor of Brock Education Journal. The related tasks situate me in a position where I can: support colleagues and the larger academic community; as well as carry forward the vision and scholarly reputation of the journal. I have the absolute pleasure of gaining knowledge, appreciation and value for the intellectual work for which my colleagues endeavor and labour. The fruits of which may be fully enjoyed by our readers. As a research journal of many years, Brock Education has been a source of insight and I look forward to continuing this tradition and to moving it in new directions that represent the current educational landscape.

The articles featured in this issue take up notions of professionalism as it occurs across a broad range of educational terrains. Multiple educational theories and research approaches are employed to strengthen and support professionalism across the continuum from pre-service and in-service teacher education to school leadership. Reading across these articles, students' and educators' points of views are envisioned that push for a meaningful appreciation of learning and for changes in the ways that facilitate envisioning learning more broadly.

Many of the articles share a commitment to empirical studies as they each carefully report on the ongoing research projects that faculty members, teachers in schools and students have both forged and participated in. They invite us in to learn about the commitment to professional learning that takes place through collaborative university-school partnerships and research endeavors from national and international contexts. Moreover, readers stand to gain valuable knowledge from conceptually based research inquiry that details in-depth analysis of policy and then further provides insights into understanding the policy to practice gaps.

Research themes concerned with professionalism

Maynes and Hatt's article, 'Conceptualizing How Mature Teachers Can influence Students' Growth in Learning' is based on their research study with faculty advisors who work with pre-service teachers. Within their capacity as advisors they take on multiple roles as instructors, mentors/evaluators of pre-service teachers. The authors' central question is: "Do mature teachers have a stronger focus on student learning than less mature teachers?" By documenting the elements of mature teachers' practice that focuses on 'student learning' rather than on 'teaching' Maynes and Hatt's work assists teacher educators and professional developers to access knowledge about ‘consciously competent professionals’ who have undergone a profound shift that increases optimal student learning.

Chow, Chu, Tavares and Lee’s article investigates the role of teacher-research on in-service teachers’ professional development in Hong Kong. Teachers from four primary schools participated in focus group interviews about a “school-university collaborative research project that promotes collaborative inquiry project-based learning (inquiry PJBL)”. The authors delineate the impact of teacher-research on professionalism by examining four dimensions: knowledge enrichment, school culture, teaching practice and curriculum design. The findings are quite instructive for international audiences. Of interest is evidence about the benefits of teacher research that directly result from university-school collaboration.

Knouzi and Mady’s article takes on a twofold approach in its reach into supporting professional knowledge for both pre-service and in-service teachers. Their work “describes a study of an online learning environment that sought to increase L2 teachers’/teacher candidates (T/TCs) access to research and to enhance communication between L2 T/TC and researchers by providing a mutual space for such interaction.” The authors created a virtual space to facilitate communication between the otherwise desperate groups and in doing so redressed “one of the causes of the linkage gap identified in the literature, namely the lack of a shared space.” This kind of work paves the way to new conceptualizations for the future landscape of education.

Pinto and Foulkes’ article report on an ongoing innovative school-based research project that examines the impact of a vocationally-oriented cooperative program on students’ well-being. Their study “draws on Martha Nussbaum’s (2000) account of the nature of human well-being in order to explore the role of animals in formal education settings.” Pinto and Foulkes incorporate a research design that places students’ voices at the centre to arrive at an understanding about positive effects of animals in educational settings. Their study sheds a light on a largely underexplored area - the potential social and health benefits of dog-human interaction.

Research themes concerned with policy and leadership

Gray’s article is based on a study that examines, “eating behaviours and nutrition knowledge of young women in an Ontario secondary school.” Twenty semi-structured interviews with female students between the ages of 14 – 17 provide insight into how young women negotiate and resist nutrition messages they receive within the school environment that can be in conflict with Ontario Ministry of Education nutrition policy. Gray queries about the impact school environments and parental influence has on adolescents’ knowledge about nutrition.

Karrow and Fazio’s policy analysis article is organized into two sections, the first of which “provides a curricular critique of an environmental policy framework called Acting Today, Shaping Tomorrow” (2009). Answers to the following two curricular questions: “What should be taught?” and “How it should be taught?” frame the critique.” The second section, engages with the limitations of using a typology of integrated curriculum referred to as ‘selective infusion.’ Karrow and Fazio’s work goes beyond a critique to advance a set of “recommendations for improving the policy framework from a pragmatic curricular perspective.” The balance the authors attain between critique and setting new directions are as informative as they are instructive.

Armstrong's article pushes the boundaries as it examines transitions professionals undergo from teaching to administration. By utilizing a qualitative research approach that is informed by the voices of vice-principals, she identifies the following obstacles they undergo, "ambiguous legal and institutional configuration of the vice-principalship, inadequate preparation for challenging front line managerial and disciplinary roles and inappropriate transition support." Armstrong's research results surmise that substantive change needs to occur during these transitions and that concerted coordinated efforts to bring about change are required by "school districts, policy makers, professional associations and regulatory bodies." Armstrong argues that supportive coordinated efforts for the transition from teaching to administration stand to better support leadership challenges facing schools today.

This issue brings together research that both contributes to the conversation on professionalism and sets a new pace for thinking through its extended meaning in relation to teachers, educators and aspiring school leaders. Furthermore, the work featured in the journal provokes debate about the capacity and vision for research to become a harbinger for positive change.

Conceptualizing How Mature Teachers Can Influence Students' Growth in Learning

Nancy Maynes
Nipissing University

Blaine E. Hatt
Nipissing University

Abstract

This article has two purposes. First, it reports the first year results from focus group methodology conducted to determine how teacher characteristics may influence students' learning. Second, the article establishes a framework to support ongoing research related to the professional maturation of teachers. Both of these research outcomes are presented in diagram format. Plans for further research into the teacher characteristics that were identified by the first year of research into this topic are presented and discussed.

Keywords: teacher preparation, teacher maturation, students' learning

Nancy Maynes is an Associate Professor at the Nipissing University Schulich School of Education. She is a former school principal and focuses current research of issues related to improving student learning outcomes, including methods for hiring the most promising teachers.
Email: nancym@nipissingu.ca

Blaine E. Hatt is an Associate Professor at the Nipissing University Schulich School of Education. He is a former school principal and focuses current research of issues related to creativity, and improving student learning outcomes, including methods for hiring the most promising teachers.
Email: blaineh@nipissingu.ca

Introduction

Our research started with our belief that there may be some teacher characteristics, viewed by those who assess the work of teachers, as being strongly related to how the teacher's students learn. Student learning is complex, and may be a function of many variables and influences in the student's life. However, many would agree that the professional efforts of the teacher are an essential influence to the student's learning success. Indeed, Cochrane-Smith and Power (2010) identify trends in teacher education programs with some relating to heightened teacher accountability for students' learning. Recognizing what characteristics may relate to or even predict improvements in students' learning has the potential to guide many teacher preparation decisions. Such recognition could influence the trajectory of any teacher's professional development path once they enter the profession.

Research calls for accountability measures that emphasize the impact of teacher preparation programs and pathways on student learning outcomes (Cochran-Smith, Gleeson & Mitchell, 2010; Noell & Burns, 2006) or evidence of teacher candidate learning outcomes from their programs (Pecheone & Chung, 2006). Recent research shows that the relationships between teachers and their students have many complex impacts on the students (Roorda, Koomen, Spilt, & Oort, 2011). However, the complexity of factors that may influence students' learning outcomes makes assessment of these influences very difficult.

To address this complexity, we propose to envision student-learning probabilities from the perspective of imaging of the teacher. When we engage in imaging, we consider the essential characteristics that would identify what is required to meet a goal. In this instance, we consider what characteristics are required for a teacher who can make student learning their highest priority. That is, if the teacher has the skills and dispositions to focus on student learning rather than focusing on their teaching, it seems logical that their instructional actions will be different. These actions will support improvements in student learning. Our purpose, then, becomes the task of uncovering the beliefs of knowledgeable professionals about what skills and dispositions they felt were characteristic of teachers who focus their instructional efforts on ensuring that students learn. To frame a research question, we juxtaposed these characteristics against those of a less mature teacher, who might focus on teaching as opposed to focusing on students' learning. Therefore, we envisioned this change in professional focus as a shift in thinking and asked the question, "What skills and dispositions characterize a teacher who has shifted their focus from their teaching to their students' learning?" Secondary to this initial question was an interest in considering possible growth points in a teacher's career where such a critical shift in their focus could be expected to occur as a function of professional development. Since the focus on students' learning is not an absolute, we could expect that a maturing teacher would become increasingly focused on students' learning, as opposed to being focused or not focused. We asked, therefore, "Do mature teachers have a stronger focus on student learning than less mature teachers?"

Perspectives and Theoretical Framework

Teacher preparation programs attempt to expose pre-service teachers to the practices, accreditation requirements, and continuous climate of performance assessments that characterize the profession of teaching (LeCornu & Ewing, 2008). Various jurisdictions across Canada do this through programs that have a variety of structures and timelines, including part-time programs, single year programs, two years of preparation, and concurrent programs. Programs typically include an apprenticeship element or practicum component, sometimes supported by ongoing mentorship through individual or small group connections with a faculty advisor. These counseling-mentorship supports may be on-line chat groups. However, it is evident that teacher preparation programs acknowledge the limitations of the program time, and access to pre-service teachers, as factors in determining the extent to which pre-service teachers can be prepared for the complex realities of professional responsibilities in a classroom (Darling-Hammond, 2010). Graduates of all teacher preparation programs require and receive further support in their professional preparation after graduating from their program through professional development available to all teachers or through specialized supports made available to new teachers. The hiring practices of a school jurisdiction, the induction processes used by employers, the novice teacher induction supports available to new teachers within a school, the on-going professional development available to teachers during employment, and the career trajectory aids made available to experienced teachers are all part of the preparation of teachers to manage the challenging task of ensuring student learning.

A critical part of maximizing the impact of all of the teacher preparation supports available to teachers throughout their careers should be focused on a single shift in teachers' thinking. As increasingly shown in research studies, this shift is being described as growth in teachers' skills, allowing them to shift from focusing on their teaching toward focusing on their students' learning (Darling-Hammond, 2000; Boyd, Lankford, Loeb, Rockoff, & Wyckoff, 2007; Coltfelter, Ladd, & Vigdor, 2007; Wilson, Floden, & Ferrini-Mundy, 2001). On a minute-to-minute basis in the classroom, teachers must make instructional decisions. Teachers may need to learn to make each instructional decision on the basis of its impact on students' learning (Abbot, 1991; Darling-Hammond, 1992) and to be prepared to contribute to students' learning (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2007; Darling-Hammond, 2006). Increasingly, teachers have been called upon to demonstrate public accountability by showing the impact of their instructional decisions in terms of student performance data (Stratham & Ware, 2001). While efforts to collect student performance data in the classroom may be authentic and focused on big ideas, enduring understandings, holistic goals that influence attitudes and beliefs (e.g., knowing, doing, being), the measurement of instructional impact also serves other masters. Public accountability requirements have resulted in practices that reflect the accumulation of hard data that can be reported in absolute numbers, such as percentages or numbers of students meeting standards, to address public confidence in the educational system.

Classroom testing is often used to amass this type of data and the testing in some contexts may include high stakes (pass-fail) single event opportunities for students to demonstrate learning. Teachers faced with this disparity in messages about the purposes and processes of assessment and the types of data that appear to be given status and value as evidence of student learning, receive confusing messages about their professional role. Authentic assessment foci direct teachers' attention toward the learning. Accountability focused assessment directs attention toward the teaching. This disparity may make the professional maturation of a teacher more difficult than it should be and may delay or derail the critical shift in teachers' growth required to ensure that teachers' instructional decisions are filtered through their ability to impact students' learning (Maynes & Hatt, 2013).

Darling-Hammond (2010) identified strong clinical practice, strengthened coursework that focuses on student learning and development, and opportunities to connect coursework in teacher preparation directly to practice in much more extensive practicum experiences as critical aspects of effective teacher development that have the potential to produce this shift in the teacher's focus. This continuum of teacher preparation needs to be focused on maximizing its various stages' (Figure 1) and their respective contributions to the professional maturity of the teacher. Teacher growth is the result of pre-service learning, hiring practices, novice teacher induction, in-service professional development, and career trajectory choices. These teacher preparation approaches need to be coordinated to provide a single clear message about the goal of all instructional efforts; student learning. Such development may not occur to its full extent in the teacher preparation program but may result from later professional development at some point in a continuum of growth. However, many researchers (Boyd, Lankford, Loeb, Rockoff, & Wyckoff, 2007; Darling-Hammond, 2006; Darling-Hammond & Bransford, 2005) identify well designed practicum experiences and opportunities to connect theory to practice as essential skills will help new teachers feel better prepared to contribute more to student learning.

Figure 1: The Various Stages of Professional Growth to Teachers' Professional Maturity

Teacher Preparation Coursework
↓
Extensive Practicum Experiences
↓
Effective Hiring Practices
↓
Novice Teacher Induction
↓
In-Service Professional Development
↓
Career Trajectory Choices

In order to re-conceptualize our vision of teacher preparation as a continuum of supports that focus all efforts on the professional goal of improving students' learning, a theory of how to do this is needed. Theory provides the capacity to conceptualize phenomena in sophisticated ways (Trier, 2009) and increases our focus of efforts from disparate sources of professional support. If researchers understand the elements that create or contribute to the shift in teachers' focus towards students' learning, we can support teachers' professional growth more effectively (Chen & Rossi, 1983; Donaldson, 2007; Rogers, Hacsi, Petrosino & Huebner, 2000; Coulter, 2010). Our investigational focus then becomes: *What are the elements that characterize a teacher's shift in focus from focusing on their teaching to focusing on students' learning?* If we can identify these elements, we have a unique opportunity to align the various stages of their professional growth to achieve a conceptually unified focus of efforts. Such a view of the characteristics that contribute to a teacher's professional maturity would help teacher educators and professional developers focus on the importance of teachers' access to knowledge about teaching (Darling-Hammond, 2000; Wilson, Floden & Ferrini-Mundy, 2001).

Before we turn our attention to identifying how we went about conceptualizing this shift in professional focus for teachers, it is necessary to address the role of the apprenticeship and practicum experiences that are an element of teacher preparation (Darling-Hammond, 2010). Induction mentorship is also becoming increasingly common and even legally mandated in some jurisdictions as a stage of professional development of new teachers (Ontario Ministry of Education, 2010). This practice seems to be well founded in research. Teachers are more likely to address substantive changes in their professional performance if they have access to the professional practices of other teachers (Coulter, 2010). The value of having the professional guidance of a mentor teacher focused on a conceptualized end product that represents a shared vision of the desired learning of the novice teacher is strongly evident in research (Fullan & Langworthy, 2014; Schmoker, 2005). Higher student achievement is affected by several kinds of teacher characteristics (i.e., teacher's experience, test scores, and regular licensure all have positive effects on student achievement) (Clotfelter, Ladd, & Vigdor, 2007; Boyd, Lankford, Loeb, Rockoff, & Wyckoff, 2007). Therefore, if everyone is working toward the same learning goals for the teacher candidate in their practicum and in their novice teacher mentorship, the outcomes are more likely to be achievable. If teacher associates, faculty advisors, and mentors understand the common elements to be addressed in the new teacher's learning, they have a better chance of ensuring that learning, avoiding conflicting messages about priorities, and optimizing learning time during both practicum and in-service observation opportunities. The vision becomes the direction, and the direction becomes the filter for learning efforts. If these apprenticeship opportunities are further aligned with the other aspects of teacher preparation (Figure 1), the impact is optimized, and the priorities of the profession are clear to all stakeholders. While this may seem like an oversimplified approach to reaching the end goal of optimizing student learning, the following ideas will provide an expanded vision of the elements that are part of the professional shift in thinking that is required of teachers and the complexities of this vision (Le Cornu & Ewing, 2008) will be presented.

Methods

This article outlines the outcomes of the first year of a three-year study. Over the three years of the study, we will attempt to 1) identify the elements conceptualized to represent a shift in teachers' professional focus from focusing on their teaching to focusing on students' learning, 2) work with various jurisdictions that include a faculty of education and coterminous school boards to identify hiring, induction, and in-service practices that support the conceptualized shift in teachers' professional focus, and 3) work with personnel in these jurisdictions to strengthen the vision and focus of support efforts provided along the teacher professional growth continuum to ensure a sustained and explicit focus on professional growth that will support students' learning.

During the first year of the study, our purpose was to clarify the perceived elements of the professional shift in focus that moves from focusing on teaching to focusing on students' learning. We felt that faculty advisors working with pre-service teachers as both instructors in their professional preparation programs and mentors/evaluators within the context of their practicum experiences were in an ideal position to provide insights based on their observation of several pre-service teachers both academically and professionally. Therefore, using a purposeful sampling approach, a group of seven faculty members who served in both of these roles was invited to participate in a focus group investigation. In the university context that was used in this study, these seven people were the only people among the faculty who served in both roles. All seven members of this group agreed to participate in this study. Research ethics approval was sought and given to interview and transcribe data from these sources for the purpose of conceptualizing the elements that may be attributes of a teacher's professional focus on students' learning.

In focus group discussions, these faculty advisors engaged in a conversational interview approach and qualitative research methodology to address a prompt that directed their conversation. During three focus group meetings, participants were led to consider the elements of practice and provide examples they had observed that would provide evidence of pre-service teachers who had made a professional shift in their thinking from focusing on their teaching to focusing on students' learning. During the three focus group meetings, each approximately 90 minutes long, researchers made audio-recordings of the discussions and made summative notes of key points. Following each meeting, the researchers transcribed recordings and examined data for recurring themes and observations (Creswell, 2012). Transcriptions were presented to focus group participants at each successive meeting for the purposes of verification, clarification, and member checking.

As recurring themes were evident in transcriptions and supported by follow-up discussions, saturation of ideas was reached. Ideas were repeated and reinforced with further examples from the experience of various participants. The decision was made to attempt to capture the main points of discussions in a diagram that would represent the elements of teachers' conceptual shift in focus for ease of access by a broad audience. This accessibility was necessary to move the study into its second year and provide background concepts to a broader audience and more diversified set of participants. The resulting diagram has the value of capturing program theory in an easy to access and understand format. It also provides a conceptual approximation of how a program should operate to its optimal strength as program efficacy might then be achieved by conceptualizing the influences on program functions and by identifying their potential impacts (Chen & Rossi, 1983; Donaldson, 2007; Rogers, Hacsi, Petrosino & Huebner, 2000; Coulter, 2010).

An additional and critical advantage of the conceptual diagram is to provide a filter for the efforts that should *not* become central aspects of the limited resources in time and funding available along the teacher maturation continuum (Figure 1). While many current in-school professional development efforts involve professional learning communities, focus on student achievement, and examine ways to improve student achievement (Abbot, 1991; Darling-Hammond & Snyder, 1992; Darling-Hammond & Goodwin, 1993; Little, 1990; Strathan & Ware, 2001; Coulter, 2010; Grossman, Wineburg & Woolworth, 2001; McLaughlin & Talbert, 2001; Rozenholtz, 1991), these efforts have competition. There is a tendency to focus some professional time and attention on current "hot" topics that may be characterized by narrowness of vision or a focus on one population or a single issue to the detriment of a broader focus on student achievement regardless of the issue or population. As new trends are highlighted in teacher preparation contexts, the larger vision of preparing teachers to impact students' learning can be submerged. Cochrane-Smith and Power (2010) identify ten such emergent trends in teacher preparation. While some of these trends incorporate a focus on students' learning, an equal number of emerging trends do not. In a recent research report Henry, Bastien, and Fortner

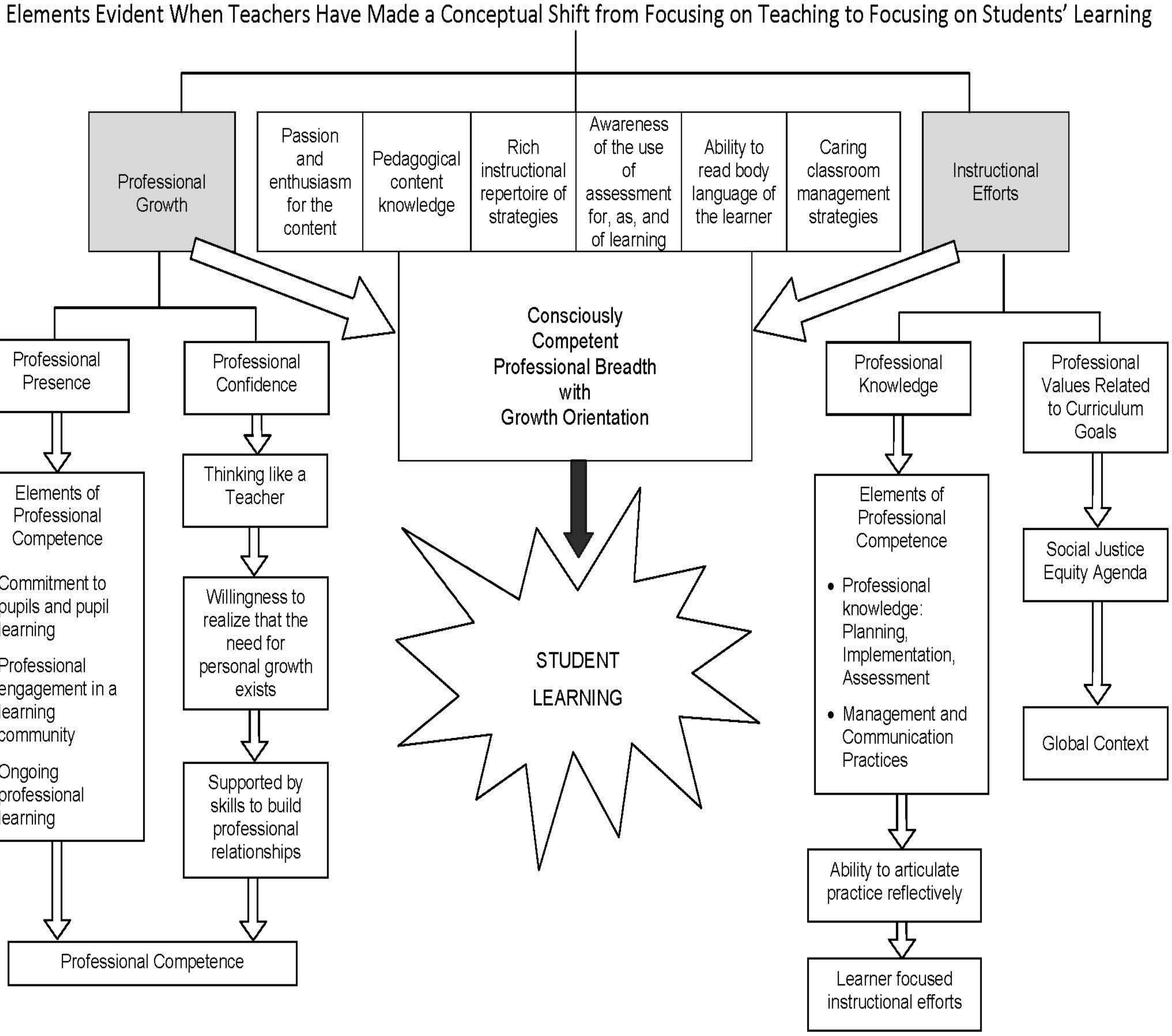
(2011) conclude from their work that "…in light of novice teachers' significant capacity for growth, improving their initial effectiveness as rapidly as possible seems to us to offer the greatest promise for improving student performance" (p. 279). The conceptual diagram provides a broader vision of strategies to extend the student learning focus of teachers at all levels of their careers (Timmons, 2009; Jordan & Stanovich, 2004). It has the potential to become the overarching framework that can provide filters to direct time, resources, and professional energy to the most promising aspects of the complex dynamics in schools.

Results

After three focus group meetings with the seven participants in the first phase of this study, their ideas were captured in diagram format. This study started with the premise that during their tenure as teachers, continuous growth and maturation as a professional will result in a shift in professional focus away from teaching actions and toward students' learning. All participants in the focus group discussions had experience as classroom teachers, faculty of education professors engaged in teacher preparation programs, and faculty advisors involved in practicum supervision including mentoring. All participants unanimously agreed that this shift in teachers' focus is a characteristic that reflects the teacher's increasing professional maturity. Their involvement in the focus group discussions was indicative of their willingness to examine the impact of specific activities on performance and their belief in the necessity of improvements in teaching as a professional characteristic (Allen, 2004). All participants agreed that a clearer conception of the elements that contributed to a professional focus on learning was timely and necessary as a filter for program improvement efforts in a pre-service context. Willingness to participate in this research was also indicative of participants' belief that individual actions and dispositions are critical to creating a focus on students' learning. In the program change process, a positive program change would include application of a consistent vision of the elements present when teachers focus on learning (Maynes & Hatt, 2011). The conceptions that resulted from this first phase of our research will help us frame the next two years of this study to see learning as a function of teaching (Phelan, 2009) rather than as a function of students' efforts to learn and to see the enterprise of teaching as "a site of possibility" (Phelan, 2009, p. 106) to influence learning.

The elements of the shift in focus towards focusing on students' learning are presented here in the form developed through focus group interaction (Figure 2).

Figure 2.


Elements Evident When Teachers Have Made a Conceptual Shift from Focusing on Teaching to Focusing on Students' Learning
Professional Growth
Passion and enthusiasm for the content
Pedagogical content knowledge
Rich instructional repertoire of strategies
Awareness of the use of assessment for, as, and of learning
Ability to read body language of the learner
Caring classroom management strategies
Instructional Efforts
Consciously Competent Professional Breadth with Growth Orientation
STUDENT LEARNING
Professional Presence
Elements of Professional Competence
• Commitment to pupils and pupil learning
• Professional engagement in a learning community
• Ongoing professional learning
Professional Confidence
Thinking like a Teacher
Willingness to realize that the need for personal growth exists
Supported by skills to build professional relationships
Professional Competence
Professional Knowledge
Elements of Professional Competence
• Professional knowledge: Planning, Implementation, Assessment
• Management and Communication Practices
Ability to articulate practice reflectively
Learner focused instructional efforts
Professional Values Related to Curriculum Goals
Social Justice Equity Agenda
Global Context

To create this schematic, data collection, analysis, and conceptual formulation were connected in a reciprocal and recursive sense. Examination of emerging themes during the different meetings provided opportunities for participants to guide analysis and facilitate the process of diagramming. The diagram was subjected to the four requirements identified by Strauss and Corbin (1990). Specifically, 1) the fit between the diagram and the 'shift in conception' phenomenon, including its evolution from diverse data and its adherence to the universal reality of experienced Faculty Advisors; 2) the ability of the diagram to support understanding of this shift in thinking for teachers; 3) the applicability of the conceptualizations in this diagram to broad contexts; and 4) the potential of the diagram to provide direction for its applicability and to support reasonable action related to teachers' professional growth.

Understanding the Result: A Consciously Competent Professional

The data contributes to the major theme of a *consciously competent professional*, and six additional attributes necessary to be defined in this manner, along with supporting skills, attitudes, and dispositions. The central element in this shift was identified as the conception of a consciously competent professional, with professional and instructional breadth and growth orientation. This person's focus of instructional and professional actions would improve students' learning. According to the data, the consciously competent professional teacher, who focuses on students' learning, would require a cadre of attributes to support instructional efforts. These characteristics include: passion and enthusiasm for the subject content, pedagogical content knowledge, rich instructional repertoire of teaching strategies, awareness of the various productive ways that assessment data can be used, sophisticated ability to read the body language of the learner, and caring classroom management strategies.

Passion and enthusiasm for the subject matter provide a platform for engaging students' interest. By demonstrating this passion and enthusiasm, the teacher motivates and provides reasons for students to attend to new ideas. Teachers develop engaging learning strategies when they have an interest in a topic and students benefit from having high levels of interest involved. Both positive and negative teacher-student relationships have been shown to have medium to large impacts on students' engagement (Roorda, Koomen, Spilt, & Oort, 2011).

Pedagogical content knowledge is a level of comfort and familiarity with a topic that allows teachers to engage examples and non-examples and to explain, clarify, and expose students to complex opportunities to consider consolidations and applications. Consolidation and opportunities to apply learning support students' internalization of new ideas. This attribute allows teachers to anticipate common misconceptions and provide learners with opportunities to examine and consider various aspects and perspectives about a topic. Strong pedagogical content knowledge allows teachers to differentiate effectively because they can provide variations within the scope of central ideas to respond to students' interests, learning profiles, prior learning, and readiness.

A necessary attribute of teachers who focus on students' learning is *a rich instructional repertoire of strategies* for use during the instruction, consolidation, and application components of lessons. Being able to vary approaches allows teachers to provide learning opportunities that maximize students' ability to learn through their preferred learning styles. The ability to select direct instruction through modeling, or to choose from among a rich variety of indirect approaches such as project-based learning, problem-based learning, cooperative learning, web quests, or inquiry, provides both exemplar exposure and experiences to support internalization of central concepts.

Awareness of the possible uses of assessment is an essential attribute of the teacher. Teachers who focus instructional efforts on students' learning arrange opportunities to gather assessment data *for, as* and *of* learning (Earl, 2008; Earl, 2010) and include assessment that is embedded and non-intrusive. The learner has a role in self and peer assessment. Learning and assessment of the learning become seamless.

Teachers who focus on students' learning can *read the body language of the learner*. This body language provides early signals that learning is happening or that the student's grasp of the learning is problematic. The ability to understand the body language of the learner allows teachers to adjust learning opportunities through "reflection-in-action" and remain sensitive to the potential for adapting content, processes, or products to improve learning.

Caring classroom management strategies are essential to ensuring the preeminence of learning as a focus in the classroom. Through the appropriate, supportive, and proactive use of rules and routines in the classroom, teachers who focus on students' learning ensure that learning time is optimized, that the focus on learning is a central filter for all decisions, that learning happens in responsive and flexible environments, and that respect for individuals is the guiding premise.

All six of these attributes must be present for a teacher to be considered consciously competent professional. These essential attributes are expanded and enriched by *professional presence* and personal *professional confidence.*

A teacher's *professional presence* in the classroom projects a sense that the teacher is in charge, has a direction and is guided by a sense of purpose. Elements of professional competence that relate to a teacher's professional presence include: their commitment to students and their learning, their engagement in a professional learning community through cooperative professional growth, and their commitment to ongoing professional learning. Conscious competence is deepened by the person's ability to think like a teacher. This ability to think like a teacher includes their ability to focus efforts on issues and strategies that can impact students' learning and expanding their conceptual repertoire of professional knowledge to encompass concepts that enable the operation of effective practice. Being open to professional growth is critical to the teacher's ability to expand their realization of the need for personal growth and extend their capacity and willingness to grow. Professional growth is seen as a function of the desire to improve student learning. Recent research (Henry, Bastian, & Fortner, 2011) reports the tendency of teacher growth, as measured by increases in their students' learning, plateaus after their third year of teaching. However, professional growth that is supported by the interpersonal skills to build professional relationships may offer support for continuous growth (Figure 1) that is reflected in the teachers' actions and measureable in the students' achievement data. These supports may further professional growth through cooperative stimulation and constructive peer mentoring and collaboration. Professional competence is the outcome of the coexistence of professional presence and professional confidence.

Professionally competent breadth with a growth orientation is supported by the teacher's instructional efforts and the cadre of skills they develop to support these efforts. Instructional efforts are enriched by the teacher's professional knowledge and their professional values in synchronization with curriculum goals. Elements of the teacher's professional knowledge include their knowledge of effective curriculum planning, implementation, and assessment, as well as their management and communication practices with related stakeholders such as students, parents, guardians, support agencies, care providers, administrators, and policy makers.

In a learner-focused environment, the teacher's ability to reflect and articulate their professional practice is key to their ability to use, improve, expand, and actualize practice when needed. When the teacher can name and describe what they do, they have the advantage of reflective and responsive use of what they do. Reflection allows the teacher to understand the impact of specific actions in an instructional context on specific outcomes in student learning. When all instruction is focused on what the student is learning in relation to the time and effort spent, an economy of effort characterizes the instruction. The instruction becomes responsive and learner focused.

The cadre of specific skills and a set of professional values that synchronize to the current curriculum goals of the jurisdiction support instructional efforts. Each curriculum guideline identifies knowledge, skills, and values that are contextualized in the expected learning outcomes of the jurisdiction. The teacher who has made the conceptual shift toward focusing on students' learning will be able to understand, teach, and exemplify the values that are espoused in a guideline. These values will often relate to the big ideas or enduring understandings of the subject. Additionally, they reflect the commonly espoused values of the community and evolve in the context of general social awareness. These values will include and are encompassed by a social justice equity agenda and relate to the global context. The professional values related to curriculum goals that are held by the teacher will be reflective of the inclusive social objectives of the era. They will be understood and modeled for students in the classroom context. The classroom norms of behaviour are used to model and practise the predominant social norms of the society.

The diagram (Figure 2) represents the conceptual shift at end point. Thus, the elements presented in the diagram represent the attributes that require development in order to make the conceptual shift from focusing on teaching to focusing on student learning. The diagrammatic conception can be used broadly in pre-service and in-service contexts to guide professional discussions, growth plans, professional evaluations, and school improvement efforts. It has the potential to provide direction about reasonable actions related to teachers' professional growth along the continuum from pre-service preparation to professional maturity. In addition, the conceptual diagram allows researchers to consider the potential impact of situational factors such as the curriculum, work factors, resource limitations, space constraints, the learning setting, the interest of the students, classroom disruptions, the intensity of reform on student learning (Kennedy, 2011) and to consider how "fundamental attribution error" (p. 597) may cause assignment of some effects to the wrong causes. The details of the conceptual diagram provide specific and particular direction about theorized attributes that may promote learning. Such details provide structure for further investigation.

If this diagram was used to inform the next transition in teaching from the pre-service program to hiring, hiring practices could be anticipated to change significantly. For example, interview methods might include examination of the candidate in a classroom context to determine the extent of their focus on students' learning (Maynes & Hatt, 2014). Additionally, interview questions might change in focus. Performance based questioning that attempted to determine the candidates' skill from anecdotes about past experiences would provide indicators of the candidate's ability to sustain a focus on learning. Questions could be generated directly from the conceptual diagram and concentrate on the main elements of the teacher's professional knowledge and dispositions, their professional growth, and instructional efforts, beliefs, and commitments. These questions could be designed to target the outcome of student learning. This extension is the focus of the second year of this research study, now underway. By extension, the conceptual diagram provides a framework for interviewers to filter interviewee responses to questions; the "look-for's" of the answers. Similar applications could be anticipated to support design of induction programs for novice teachers, in-service programs, and career trajectory paths.

Scholarly Significance

This research had two purposes: to identify teacher characteristics that might influence students' learning; and to establish a framework to support ongoing research related to the professional maturation of teachers. Both of these purposes have been summarized in diagram format. A diagram has the potential to capture the unique features of a concept in relation to each other and to inform future actions. For these purposes, Figures 1 and 2 were designed. By providing the key concepts in diagram form, researchers have tried to capture key characteristics and support plans for future research in easily accessible format.

Figure 2 anticipates teachers' instructional actions with corresponding positive changes in students' performance when the program elements at the pre-service, hiring, novice teacher induction, in-service, and teacher career trajectory paths are considered (Elsmore, Peterson & McCarthy, 1996; Coulter, 2010). The diagram is timely as this investigational focus is also the subject of a very large meta-analysis of previous research to identify correlated impacts on students' learning (Roorda, Koomen, Spilt, & Oort, 2011). Second, the diagram is the schematic that informs the next two phases of our research.

During year two of this project, researchers will partner with several school boards that have coterminous faculties of education. We intend to examine the pre-service programs to determine the extent to which pre-service courses are addressing the elements conceptualized to contribute to a shift in teachers' professional focus. This aspect of the research will be discussed by examining course outlines against an analysis framework reflective of the diagram (Figure 2) and interviewing a sample of faculty to determine their beliefs and instructional goals within the pre-service program. Hiring practices within coterminous boards will be examined. In-service opportunities within the boards will be investigated to determine their contribution to the elements. Novice teacher induction and mentoring programs will be reviewed for their goals and activities to align these programs with the conceptual elements that contribute to a shift in professional focus. Finally, teachers in later years of their career will be interviewed to determine the nature of the supports they seek and acquire to extend their career trajectories, and the extent of alignment of these trajectories to the elements of the shift in focus will be determined.

During the final year of this project, researchers will work with coterminous faculties of education and school boards to plan for the alignment and improvement of teacher preparation supports. Alignments and improvements are anticipated to have an impact on student learning. Strengthened student learning is the goal of school improvement. We expect that our research will support ways that professionals go about this enterprise in the future. In the words of Coulter (2010), this study should "restore the logic chain of program theory" in relation to the alignment of teacher education and professional growth. This research agenda provides a fit between the conceptual diagram that describes elements of teachers' professional shift in focus and the professional growth continuum for teachers. It has the potential to provide direction for reasonable action related to the examination of a consistent message about what is valued in teachers' professional growth (Strauss & Corbin, 1990). The conceptions presented in this paper have also been used to develop a book about alternatives ways that school boards could address the hiring of new teachers (Maynes & Hatt, 2014).

Instruments and processes to help examine the continuum of teacher growth will be developed over the next year. The consistency of underlying conceptions for each stage of the process of teacher development will be central to the examination of artifacts and the design and analysis of interview data. It is our hope that Figure 2 will become a schema for visioning by those who provide services to the profession of teaching. It should also provide a valuable reference for those who wish to focus on student learning as the central element of pre-service program renewal and school improvement. In the words of Mitchell and Sackney (2009), "Awareness is the beginning but it can't be the end, so it is critical that there are strategies in place for people to move forward" (p. 90).

References

Abbott, A. (1991). The order of professionalism: An empirical analysis. *Work and Occupations*, *18*(4), 355-384.

Allen, M.J. (2004). *Assessing academic programs*: Boston, MA: Anker Publishing Company, Inc.

Boyd, D., Lankford, H., Loeb, S., Rockoff, J., & Wyckoff, J. (2007). *The narrowing gap in New York City teacher qualifications and its implications for student achievement in high poverty schools*. Washington, DC: National Center for the Analysis of Longitudinal Data in Education Research.

Chen, H.T., & Rossi, P.H. (1983). Evaluating with sense. *Evaluation Review 7*(3), 283-302.

Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2007). Teacher credentials and student achievement: Longitudinal analysis with student fixed effects. *Economics of Education Review*, *26*(6), 673-682.

Cochran-Smith, M., Gleeson, A., & Mitchell, K. (2010). Teacher education for social justice. What's pupil learning got to do with it? *Berkeley Review of Education*, *1*(1), 35-61. Retrieved from http://escholarship.org/uc/item/35v7b2rv. California: eScholarship.

Cochran-Smith, M., & Power, C. (2010). New direction in teacher preparation. *Educational Leadership*, *67*(8), 6-13.

Coulter, S. (2010). Using survey data to restore program theory of professional learning communities. AERA, Denver, CO.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating qualitative and quantitative research*. (4th ed.). Los Angeles, CA: Pearson.

Darling-Hammond, L. (1992). Doing what matters most: Investing in quality teaching. National Commission on Teaching and America's Future. Kutztown Distribution Center, Kutztown, PA.

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. Educational Policy Analysis Archives, 8 (1). Retrieved August 23, 2014 from http://bdgrdemocracy.files.wordpress.com/2011/08/teachereducation1.pdf

Darling-Hammond, L. (2006). *Powerful teacher education: Lessons from exemplary programs*. San Francisco, CA: Jossey-Bass.

Darling-Hammond, L. (2010). Teacher education and the American future. *Journal of Teacher Education 61* (1-2), 35-47.

Darling-Hammond, L., & Bransford, J. (with LePage, P., Hammerness, K., & Duffy, H.) (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco, CA: Jossey-Bass.

Darling-Hammond, L. & Goodwin, A.L. (1993). Progress towards professionalism in teaching. In G. Cawelti (Ed.), *Challenges and achievements of American education: The 1993 ASCD yearbook* (pp.19-52). Alexandria, VA: Association for Supervision and Curriculum Development.

Darling-Hammond, L. & Snyder, J. (1992). Framing accountability: Creating learner-centered schools. In A. Liebermann (Ed.), *The changing contexts of teaching* (91st yearbook, pp.11-36). New York: Teachers College Press.

Donaldson, S.I. (2007). *Program theory-driven evaluation science: Strategies and applications*.Mahwah, NJ: Erlbaum.

Earl, L. (2008). *Growing success.* Toronto, ON: Queen's Printer of Ontario.

Earl, L. (2010). *Growing success: Assessment, evaluation and reporting in Ontario schools.* Toronto, ON: Queen's Printer.

Elmore, R.F., Peterson, P. & McCarthey, S. (1996). Restructuring the classroom: Teaching,learning, and social organization. San Francisco, CA: Jossey-Bass.

Fullan, M. & Langworthy, M. (2014). *A rich seam: How new pedagogies find deep learning*, London: Pearson.

Grossman, P., Wineburg, S. & Woolworth, S. (2001). Toward a theory of teacher community. *Teachers College Record*, *103* (6), 942-1012.

Henry, G. T., Bastian, K.C., & Fortner, C.K. (2011). Stayers and leavers: Early-career teacher effectiveness and attrition. *Educational Researcher 40* (6), 271-280.

Jordan, A. & Stanovich, P. (2004). The beliefs and practices of Canadian teachers about including students with special needs in their regular elementary classrooms. *Exceptionality Education Canada, 14*, 25-46.

Kennedy, M. (2010. Attribution error and the quest for teacher quality. *Educational Researcher, 39* (8). 591-598.

Le Cornu, R. & Ewing, R. (2008). Re-conceptualizing professional experiences in pre-service teacher education: Reconstructing the past to embrace the future. *Teaching and Teacher Education, 24* (7), 1799-1812.

Little, J.W. (1990). The persistence of privacy: Autonomy and initiative in teachers' professional relations. *Teachers College Record, 91*(4), 509-536.

Maynes, N., & Hatt, B. E. (2011). Grounding program change in students' learning: A model for the conceptual shift in thinking that will support valuable program change in response to faculty of education reviews. In T. Falkenberg & H. Smits (Eds.), *The question of evidence in research in teacher education in the context of teacher education program review in Canada* (2 vols.). Winnipeg, MB: Faculty of Education of the University of Manitoba.

Maynes, N., & Hatt, B. (2013). Hiring and supporting new teachers who focus on students' learning. *Canadian Journal of Educational Administration and Policy.* (144), 1-37.

Maynes, N. & Hatt, B.E. (2014). *When the interview is not enough: A multi-stage high impact process for hiring new teachers*. Germany: Lambert Academic Publishing.

McLaughlin, M.W. & Talbert, J.E. (2001). *Professional communities and the work of high school teaching.* Chicago, IL: University of Chicago.

Mitchell, C. & Sackney, L. (2009). *Sustainable improvement: Building learning communities that endure.* Rotterdam, Netherlands. Sense Publishers.

Noell, G.H. & Burns, J.L. (2006). Value-added assessment of teacher preparation: An illustration of emerging technology. *Journal of Teacher Education, 57*(1), 37-50.

Ontario Ministry of Education (2010). *Teacher performance appraisal: Technical requirements manual. Retrieved from http://www.edu.gov.on.ca/eng/teacher/pdfs/tpa_manual_english_september2010l.pdf*

Pecheone, R., & Chung, R. (2006). Evidence in teacher education: The performance assessment for California teachers (PACT). *Journal of Teacher Education, 57*(1), 22-36.

Phelan, A. (2009). A new thing in an old world: Instrumentalism, teacher education, and responsibility. In F. Benson and C. Riches (Eds.), *Engaging in conversation about ideas in teacher education.* New York: Peter Land Publishing, Inc.

Rogers, P.J., Hacsi, T. Petrosino, A. & Huebner, T. (Eds.). (2000). *Program theory in evaluation: Challenges and opportunities*. New directions for evaluation, No. 87. San Francisco, CA: Jossey-Bass.

Roorda, D.L., Koomen, M.Y., Spilt, J. L. & Oort, F. J. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research 81*(4), 493-529.

Rozenholtz, S.J. (1991). *Teachers' workplace: The social organization of schools.* NewYork: Teachers College Press.

Schmoker, M. (2005). Here and now: Improving teaching and learning. In DuFour, R., Eaker,

R., & DuFour, R. (Eds.). *On common ground: The power of professional learning communities.* Bloomington, IN: National Educational Service.

Strauss, A. & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques.* Thousand Oaks: CA. Sage Publications, Inc.

Strathan, D. & Ware, A. (2001). *Achieving success in North Carolina Lighthouse Schools: Ananalysis of the dynamics of meaningful reform*. Chapel Hill: University of North Carolina, Center for School Leadership Development.

Timmons, V. (2006). Impact of a multipronged approach to inclusion: Having all partners on side. *International Journal of Inclusive Education, 10,* 469-480.

Trier, J. (2009). The 400 blows as cinematic literacy narrative. *Teacher Education Quarterly. 34*(3), 35-51.

Wilson, S.M., Floden, R.E., & Ferrini-Mundy, J. (2001). *Teacher preparation research: Current knowledge and recommendations: A research report prepared for the U.S. Department of Education*. Seattle: Center for the Study of Teaching and Policy.

Teachers as Researchers: A discovery of Their Emerging Role and Impact Through a School-University Collaborative Research

Ken Chi Kin Chow
Samuel Kai Wah Chu
Nicole Tavares
Celina Wing Yi Lee
Faculty of Education
The University of Hong Kong

Abstract

This study explored the impact of the role of teacher-researchers on in-service teachers' professional development, as well as the reasons behind the lack of a teacher-as-researcher ethos in schools. In the study, teachers from four Hong Kong primary schools participated in a school-university collaborative research project that promotes collaborative inquiry project-based learning (inquiry PjBL). During the project implementation period, the teachers took the dual role of the teacher and researcher. Six focus group interviews were conducted with the teachers to collect in-depth qualitative data on their experiences. The impact of this experience on teacher professionalism was examined from four dimensions: knowledge enrichment, school culture, teaching practice and curriculum design. The study provides evidence for the benefits of teacher research and sheds light on how university-school collaboration could contribute to engaging teachers in action research in their everyday classroom.

Keywords: Teacher research, school-university collaboration, inquiry project based learning

Dr Chow is the Principal of Sacred Heart Canossian School and the former Principal of Canossa Primary School. Besides his engagement as a school leader and administrator, he serves and holds currently various positions at the Education Bureau of Hong Kong where he gives advice on the development of learning and teaching for the local community. Email: ckchowa@graduate.hku.hk

Dr Chu is the Head and an Associate Professor (Division of Information and Technology Studies) and Deputy Director (Centre for Information Technology in Education) in the Faculty of Education, The University of Hong Kong. He has published over 200 articles and books including key journals in the area of game-based learning and gamification, information and library science. Email: samchu@hku.hk

Ms Tavares is a Senior Lecturer in the Faculty of Education, HKU. Her expertise ranges from ELT methodology, collaboration and inquiry learning to uses of information technology on teacher professionalism. She was recipient of her Faculty's Distinguished Teacher Award (2006), Knowledge Exchange (Team) Award (2010) and Teacher Effectiveness Award (2015). Email: tavaresn@hku.hk

Ms. Lee holds a Bachelor Degree in English and Spanish, and Postgraduate Diploma of Education in English, Secondary School. She has been involved in conducting research in the field of IT in Education, inquiry learning and development of 21st century skills with Dr Chu. Email: celinalee510@gmail.com

Introduction

In recent years, the Education Bureau (EDB) of the Hong Kong Special Administrative Region (HKSAR) has incorporated project-based learning (PjBL) into its General Studies (GS) curriculum in primary schools. The prime goals of PjBL are to facilitate students' development of basic knowledge, investigation skills and problem-solving capabilities (EDB, 2002). To explore the significance of this relatively new initiative, a school-university collaborative research project was carried out from 2009 to 2011 in four primary schools in Hong Kong. The project aims to promote collaborative inquiry project-based learning as well as to explore how teaching strategies can be adjusted to fit the implementation of inquiry PjBL. Teachers from four different subject areas, including: 1) Chinese Language, 2) General Studies, 3) Information Technology, and 4) Teacher Librarians, had worked together as a team to equip their students with the knowledge and skills needed for inquiry PjBL. This research project conducted by The University of Hong Kong presented the teachers with the opportunity to reflect on their own teaching practice through collecting empirical evidence from their own classroom. Participating teachers were engaged in conducting research through working with their colleagues at both intra- and inter-school levels and with university experts. Focus group interviews were conducted with participating teachers to investigate the impact of the role of researcher on teachers' sense of professionalism and the driving force and constraints that influence the establishment of a research culture in schools.

A closer look at the various factors affecting teachers' engagement with classroom-based research is believed to shed light on the implications for their continued professional development in schools. Furthermore, a study on collaborative modes between university and school, and among frontline teachers both within and across schools, is expected to provide government officials and school leaders with insights into effective ways of implementing curriculum changes and reforms in real-life situations in the Hong Kong classroom. This paper discusses the possible reasons for the lack of a teacher-as-researcher ethos, and the push-and-pull factors that affect teachers' willingness in taking up a researcher role.

Literature Review

The following literature review will focus on three major aspects of this research topic: (1) teacher professionalism, (2) teacher research in general and (3) the challenges of implementing teacher research in Hong Kong.

Teacher Professionalism

The term "teacher professionalism" appears very often in literature, but there has been little consensus on its definition. Scholars attach different meanings to teacher professionalism. For example, Hoyle (1980) describes professionalism as the quality of practice, which refers to (1) the manner of conduct within an occupation, (2) the integration of obligations with knowledge and skill among members of the profession, and (3) the contractual and ethical relations with clients. According to Tschannen-Moran (2009), teacher professionalism refers to teachers' perceptions that their colleagues take their work seriously, demonstrate a high level of commitment, and go beyond minimum expectations to meet the needs of students. Morrow and Goetz (1988) included 13 areas in their Likert-type questionnaire designed to measure teacher professionalism: (1) independent practice, (2) code of ethics, (3) licensing, (4) single major professional association, (5) exclusive practice rights, (6) body of specialized knowledge, (7) application of knowledge in professional practice, (8) collaboration among members, (9) candidate selection, (10) rigorous and protracted study/training period, (11) high status, (12) high compensation, and (13) life-long commitment. In spite of the diverse interpretations of teacher professionalism, it is evident that some areas are given greater prominence in the definition of teacher professionalism, such as the use of professional knowledge in practice and commitment to the profession.

Teacher professionalism is well established in the literature as an important determinant in the pursuit of educational excellence (Toh, Diong, Boo & Chia, 1996). In an attempt to deepen his understanding of professionalization and bureaucratization, Hall (1968, as cited in Toh, et al., 1996) identified five attributes that are regarded as most relevant to teacher professionalism: (1) use of the professional organization as a major referent, (2) belief in service to the public, (3) belief in self-regulation, (4) a sense of calling to the field, and (5) autonomy for decision making. Biggs (1994) suggested that teachers enhance their professionalism when they make active attempts to link and apply educational theories to their practice. Sellars (2012) highlighted deep reflection on teaching practice and education issues as an essential attribute in teachers' capacity. Frost, MacBeath, O'Donovan, Sapsed, & Swaffield, (2013) asserted that environments which sustain teacher professional growth are characterized by teachers engaging themselves in a theory-building process. As there is a lack of agreement on what contributes to teacher professionalism, this study aims to examine how engagement in action research fosters teachers' sense of professionalism. In particular, we look into professionalism in four aspects: (1) knowledge enrichment, (2) ability to reflect upon and improve one's own teaching practice, (3) strengthened confidence in one's ability to initiate changes in school culture, and (4) school curriculum design.

Teacher Research

Many labels have been used for the kinds of research that are conducted by teachers in the classroom and at school, such as:

(1) 'action research' (Elliott, 1991; Zeichner, 1993);
(2) 'practitioner research' (Zeichner & Noffke, 2001);
(3) 'collaborative inquiry' (Bray, 2000);
(4) 'critical inquiry' (Aaron, et al., 2006);
(5) 'self-study' (Bullough & Pinnegar, 2001), and
(6) 'teacher-research' (Cochran-Smith & Lytle, 1993, Cochran-Smith & Lytle, 1999; MacLean & Mohr, 1999).

Putting aside these different labels, teacher research is a process in which educators note 'problems' in the context of their own schools and classrooms and propose investigative methods appropriate to address the problems. Educators also systematically observe and analyze the results in the light of their professional knowledge, and share the results with others, while enacting change in their own classrooms (Bissex & Bullock, 1987; Cochran-Smith & Lytle, 1999; Goswami & Stillman, 1987; Kincheloe, 2003; Loughran, 2002; MacLean & Mohr, 1999; Myers, 1985). Teacher-research commonly makes use of qualitative data, including journals, oral inquiries and observational data (Cochran-Smith & Lytle, 1993) and is often reported in narrative forms of representation. As a powerful and applicable tool to examine and evaluate an issue or phenomenon in a systematic and rigorous way, school-based research carried out by teachers is believed to be an explicit and practical way of creating educational knowledge (Hargreaves, 1998).

Learning to teach is a lifelong process, so it is essential to provide ongoing and meaningful opportunities for professional development for in-service teachers to foster advancement in their pedagogical expertise (Atay, 2008). Teacher research has been proposed as a means to facilitate this professional growth of both pre- and in-service teachers, while promoting critical reflection, change and reform in K-12 settings (Roulston, Legette, Deloach, & Pitman, 2005; Rust, 2009; Rathgen, 2006).

Clausen, Aquino & Wideman (2009) cited an example of a learning community model which requires teachers to carry out research projects and reflect on their own practice during and after the projects, aside just acquiring knowledge from university experts outside school.

The authors believed that such a model could enable the teachers to become active in the learning process. Furthermore, teachers in a learning community are no longer seen as receivers of “ideal” knowledge, but they learn and construct, through real-life experiences, their pedagogical knowledge with the support of experts. Watkins’ (2006) interviews with practicing teacher-researchers, revealed that research was a vehicle for their professional learning. Through the ongoing and reflective nature of this type of research, in-service teachers acquire the skills of problematizing their seemingly good practices and ask questions about their daily teaching routine. Such reflection is important in developing plans of actions to find answers to the questions, make careful observations, draw conclusions from the evidence they gather, and use what is learned to facilitate changes in their own pedagogy (Shakir-Costa & Haddad, 2009).

Teacher research has also been shown to have positive effects on the professional competence of teachers since action research is a necessary and integral part of the process of developing teaching as an evidence-based profession (Furlong & Salisbury, 2005). Fullan (2013) found that one of the critical factors for more frequent innovative education is that teachers engaged in “professional development activities that involve the active and direct engagement of teachers, such as teachers conducting research or directly practicing new methods” (p. 43). Teachers’ ability and interest taking the role in leading first-hand research would be significant to bringing about innovative teaching and facilitating their professional development.

Teacher Research in Hong Kong: Challenges

For teacher research to take place in Hong Kong, a lot of consideration and work have to be taken into account to overcome the existing challenges. First, teachers in Hong Kong lack training in research skills. To be qualified as a registered teacher in Hong Kong, one is required to possess the approved teacher qualifications specified in the Education Ordinance (EDB, 2008). Most of the qualified teacher training programs, such as Postgraduate Diploma in Education (PGDE) program, equip pre- and in-service teachers with a variety of skills ranging from subject-specific knowledge in lesson and curriculum design to knowledge in education policies and moral education. However, research skills are very often not given much emphasis in the teachers’ training, and their ability to conduct classroom-based research is seldom a core component used to evaluate their performance.

Time constraint is another impeding factor. Apart from teaching and marking students' work, teachers who hold administrative positions such as coordinators of teams at school take charge of extra-curricular activities. They also join professional development programs to keep themselves abreast with the latest pedagogical and methodological developments amid the challenges brought about by the local education reforms. According to a survey, most teachers reported shouldering heavy administrative responsibilities requiring them to attend meetings, do clerical work, prepare proposals and reports, organize promotional activities for student recruitment purposes, and others (HKIED, 2010). The results of the survey have also indicated that a teacher worked an average of 9.8 hours on school days and spent about the same amount of time during weekends on school work. It is natural to say that with their preoccupation with these daily tasks, teachers can rarely spare time for research. The examination-led education system in Hong Kong is often said to be an explanation for teachers' non-engagement in research. This focus on examinations puts enormous stress not only on students but also on teachers. As the results of the students' performances in these examinations will affect their chances of further study as well as the banding of their respective schools, teachers admit experiencing pressure during the process of equipping their students with the knowledge and skills to perform well in the examinations (DAB, 2002). The exam-oriented education is perhaps a prime reason why there seem to be few teacher-researchers in Hong Kong.

Cultural factors also hinder the flourishing of teacher research. Traditionally, teachers have not been required as part of their duties to conduct research. In Hong Kong, there is a clear distinction between the role of the teacher as a practitioner and that of a researcher. Berger, Boles and Troen's (2005) study found that teachers were unfamiliar with or even intimidated by the concept of research. Some teachers were resentful of the idea of conducting teacher research as they regarded it as something "complex" and "sophisticated" such that only academics at universities could do (Campbell, 2003). Watkin's (2006) findings concluded from his interview with teachers that research is not something every teacher is keen on engaging themselves in. This view of educational research is very prevalent among teachers in Hong Kong, who tend to believe that research is solely done by university scholars, and they have a minimal role to play in it.

Even for teachers who are ready to take on a researcher role, channels or platforms for them to publish the findings of their study are found to be lacking. Hong Kong Education City Limited (HKEdCity) serves as a platform to bring teachers into the territory together. However, it is more often seen as a resource-sharing site instead of an official and authoritative avenue for the dissemination of research findings that are geared towards knowledge-sharing. Academic journals tend to have high standards for articles to be published, thereby deterring teachers from submitting their research findings for publication. There is a need for a school-teacher-based magazine, journal or network for teachers to fill this knowledge gap.

Research Design

In the light of the above, the present study explores and aims to address the following questions:

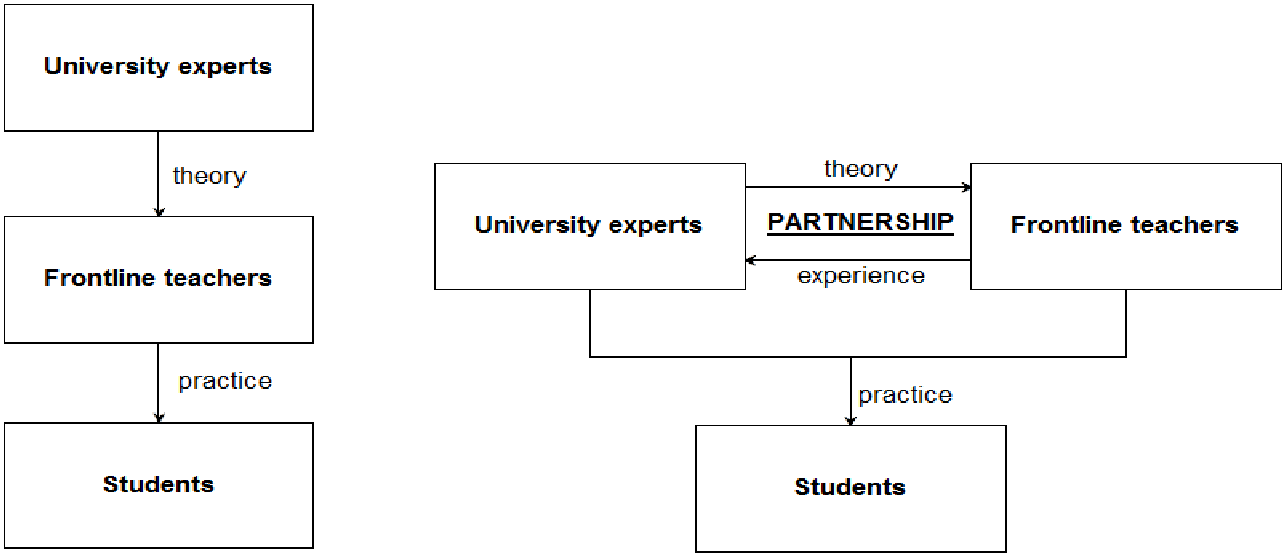
1. What is the impact of the school-university collaborative research project on teachers' teaching practices and their professionalism?
2. Is school-university collaboration a feasible alternative to overcome the obstacles faced by teachers in conducting teacher research?

3. What are the other factors that can help foster a research climate in schools in Hong Kong?

Thirty-two teachers from four primary schools in Hong Kong took part in the school-university collaborative research project. They included twelve Chinese Language teachers, twelve General Studies (GS) teachers, eight Information Technology (IT) teachers and four teacher librarians. Eight of the teachers were male, and twenty-four of them were female. Eight teachers took the role of teacher coordinators (TCs), responsible for meeting with the investigators from the university and guiding their colleagues at school in conducting the research project. TCs, occasionally accompanied by their colleagues, had regular meetings with the university investigators to reflect on various aspects of the research process and contributed to the refinement of their research design. In the monthly administrative meetings, teachers discussed with the investigators the ways in which the project can be carried out in their classroom setting more effectively. Specifically, the teachers were involved in developing, examining and refining the instruments used in the project, such as questionnaires. They also played a part in the data analysis and interpretation process. Some of these teachers were eventually the first author or co-author in several publications about the project, including six conference papers and five seminar papers. The publication list can be found in Appendix 1.

This project suggested that the ideal collaboration between university and schools is one in which teachers work closely with university experts in discovering new knowledge instead of relying on them. The difference between collaboration with and reliance on university experts is clearly depicted in the following figures:

Figure 1. Two Modes of Interaction between University Experts and Frontline Teachers.



Reliance on university experts

Collaboration with university experts

In the first situation (Figure 1 left), the frontline teachers count on the experts to provide them with theoretical knowledge to facilitate their students' learning. Their roles are thus passive recipients in the research process. In scenario 2 (Figure 1 right), the frontline teachers are partnering with the university experts in generating knowledge and theorizing their practice, through which students benefit from the renewed/revised practice. This collaborative model of school-university partnership should be advocated. In addition, it is hoped that teachers will take the next step in becoming teacher-researchers rather than merely relying on university experts, just being a part of their research agenda and/or serving as a simple bridge between the experts and the students.

This overall study looked at the impact of the teacher-researcher role taken by the participating teachers on their professionalism and professional development. Five focus group interviews were conducted with the thirty-two participating teachers to collect qualitative data on their experiences, comments and reflections on their role as teacher-researchers in the school-university collaborative research project. One additional focus group interview was done with the TCs. Each focus group interview lasted fourty-five to sixty minutes, with each group comprising five to ten teachers. An interview protocol with nine guiding questions was prepared. Questions tapped into teachers' understanding of their professional development along with the research implementation, such as: "What have you learned, in terms of teaching, from this research project?" "Generally speaking, since joining the research project, how would you describe the link between the project and your everyday teaching practice?" "Has your participation in the project changed your perception of teacher professionalism? If so, in what way?" Despite the nine guiding questions, the interviewer was not required to ask all of them in an interview. The interviewer would end the interview only when all teachers felt that they had enough time to share their experience in the project. All the interviews were audio taped and transcribed by research assistants. The data were primarily coded by a research assistant. A coding criterion was generated and a proportion of 20% of the data was coded by another research assistant in order to check the reliability of the coding scheme. The inter-rater agreement was over 90%. The section below will report on the findings of the study. All names mentioned in the section are pseudonyms to protect the privacy of the participants.

Findings

(1) What is the Impact of the School-University Collaborative Research Project on Teachers' Teaching Practices and Their Professionalism?

The impact of the school-university collaborative research project on the participating teachers' teaching in their everyday classroom and their professionalism was examined. From the focus group interviews, teachers, in general, reported that their engagement in the research project had a positive influence on their professionalism. In particular, they found significant influence in four leading aspects, namely knowledge enrichment, school culture, teaching practice and curriculum design.

Knowledge enrichment

The participating teachers indicated their overall perception that their knowledge of and skills in using different teaching methodologies have been boosted in the process of carrying out the research project with input from workshops facilitated by university experts. These teachers also felt they have gained more methodological knowledge and skills through taking part in experience-sharing sessions with colleagues at school and with other teacher participants, as part of the research project. A Chinese Language teacher, Claudia, acknowledged her advancement in IT and information literacy throughout the research period, with the assistance of the university experts. She reported, "My IT knowledge used to be basic. Before participating in the project, I often resorted to using Yahoo or Google. Now, at least I know what WiseNews[1] is when my students ask me about it."

Several teachers reported learning new IT skills, such as Web 2.0 technologies, especially in the use of PBworks — a Wiki technology that provides space for people to work collaboratively on a project online. GS teacher Christie expressed having greater confidence in using Web 2.0 technologies that she can now share with her students, "With Web 2.0 tools, students learn how to engage themselves in group discussions beyond the classroom. Their interactions are now of a higher quality, and I believe this is a good way to create an opportunity for them to help one another."

In addition to the improvement in IT and information literacy skills, teachers perceived sharpened knowledge of how to bring inquiry-based projects into their classrooms. Another Chinese Language teacher Louise, a TC, exclaimed, "I have gradually deepened my understanding of how to implement inquiry project-based approach. I now experience a great sense of satisfaction when guiding my students through a project like this."

The school-university collaborative research project seems to have offered the participating teachers an opportunity to learn from university experts and other teacher practitioners through regular meetings to discuss their research projects.

School culture

The school-university collaborative research project also played a role in heightening the teachers' sensitivity to the importance of cross-disciplinary collaboration and sharing as part of their professional development. Through sharing their experiences and reflections with colleagues within and outside the school, teachers came to realize that stronger cooperation and closer communication with colleagues all add up to contribute to the development of more effective teaching strategies. In the words of Chinese Language teacher Claudia:

> *We learn to work hand in hand with teachers of different subjects to ensure that the teaching plans and schedules all cohere to prepare our students well for their inquiry-based project. More importantly, given time constraints, we had to make every effort to avoid repetition in the teaching of similar skills.*

Collaboration among teachers did not only happen in schools. Because TCs attended meetings with the university experts on a regular basis, exchange of knowledge also took place among teachers from different participating schools. According to TC Louise, "It is not common for teachers in Hong Kong to share their teaching experiences with colleagues, be it within or outside schools. But this project made it happen."

---

[1] Wisenews is the largest Chinese database of published information including all 18 Chinese and English newspapers in Hong Kong and other top tier newspapers, magazines, newswires, TV and radio channels in Greater China. (http://www.wisers.com/corpsite/global/en/products/wisesearch.html)

Improvement in teaching strategies

Because of their active involvement in the project, the teachers were in an environment that engaged them in ongoing reflection on their original way of teaching and their daily experiences, with guidance provided by university experts. As GS teacher, Winnie stressed in an interview:

> *I used to study in a school that favored rote memorization and where the interaction between teachers and students has operated in a unitary direction. Now, I learn to teach using an inquiry-based approach and through collaborating with my fellow colleagues and university people.*

Carol, a Chinese Language teacher from the same school as Winnie, highlighted her discovery:

> *At the very beginning, we had a very shallow understanding of what project-based learning is. I thought that this approach is common practice in most schools in Hong Kong. We teachers focused too much on the final output, so we spent a great deal of time helping our students complete their work to perfection because we felt they did not have the ability to do so. With the guidance of and input from the university experts in our teaching and planning process, we began to discover what it means to be truly facilitating our students' learning when doing an inquiry project. We understood that it was much more crucial to focus on their learning process rather than simply on the end product.*

Ability to improve school-based curriculum design

The teachers' active participation in refining and implementing the research project was found to have led to profound changes in the curriculum design of various subjects at their schools. IT teacher Kitty described her experience:

> *We have revised our syllabus at school to teach students the skills in using PowerPoint and Excel in Primary 4 instead of Primary 5. We hope to give them the knowledge they need to make graphs and charts for their presentations based on their inquiry-based projects.*

Teacher librarian Tina also noticed curriculum changes in Library Studies at her school. She said, "The teaching of skills to help students with their information search to gather what they need online from different electronic databases has become a new topic for us."

Another teacher Chloe modified her school-based Chinese Language curriculum by giving her students more focused input on how to summarize and organize information. She also made every effort to ensure that what her students were learning in Chinese was in line with the teaching schedule of the GS curriculum:

> *Now that we are adopting inquiry-based learning in our teaching, we work closely with the GS teachers to guide students in completing their GS project. In*

> *the project, we felt that summarization and critical thinking skills are needed, so we introduced them sooner in our curricula.*

Engaging in the school-university collaborative research project helped the teachers to reflect on the pedagogical practices they had long been adhering to and to be exposed to new ideas. Felix, one of the TCs, also held the view that after trying out a collaborative teaching approach in his school, frontline teachers felt more empowered to review the curriculum critically at his school:

> *Because we had to work with the GS teachers in preparing our students for the GS project, we taught PowerPoint earlier in our teaching schedule. In the past, we felt very much confined to following the teaching guidelines and taught PowerPoint in Primary 4. Now we are convinced that even Primary three students have the ability to handle the skills of using PowerPoint. So we have exercised our professional discretion to move the teaching of this IT skill to the lower primary curriculum.*

There is therefore ample evidence to illustrate the growth in the participating teachers' pedagogical knowledge and professionalism to cope with the need for school-based curriculum changes to address their students' needs.

(2) Is School-University Collaboration a Feasible Alternative to Overcome the Obstacles Faced by Teachers in Conducting Teacher Research?

From the literature on what hinders teachers from classroom-based research and from what has been previously discussed in response to the first research question, school-university collaboration appears to be a possible solution to some of the deterrents. University scholars have the relevant expertise, knowledge and skills to support teacher-researchers both intellectually and technically in carrying out research studies in their classrooms. Participating teachers in this school-university collaborative research project have provided further testimony to this. When asked what was of greatest significance to her in the project, Chinese Language teacher Claudia remarked:

> *I have learned more IT and information literacy skills from the training workshops organized by experts at the university. For example, I am now aware that electronic databases can be a useful resource to gather information, and e-platforms can be a valuable avenue for students to have discussions online.*

Apart from hands-on training and new learning at the workshops, GS teacher Winnie suggested,

> *University experts may help prepare some practical materials such as teaching plans and guidelines to support teachers in their daily teaching and hence boost their confidence in experimenting with this new teaching approach.*

In addition to substantial knowledge input, this school-university collaboration has proven itself to have a positive impact on the school culture as TC Felix admitted:

> *School-university collaboration in conducting research helps promote and gradually shape the school culture as teachers who took part in the project become more open-minded and innovative, and are empowered with the courage to at least take the initiative to explore and attempt new teaching practices.*

Nevertheless, it has been observed that although some teachers realize that they can take greater initiatives in the research process, they do not see the value of further becoming teacher-researchers to advance their teacher professionalism and contribute to educational research. In the next section, the push-and-pull factors of fostering a research culture among teachers will be highlighted.

(3) What are the Other Factors that can Help Foster a Research Climate in Schools in Hong Kong?

Internal and external forms of support, collaboration among school principals, colleagues from both within and beyond the same teaching context, as well as with students and their parents are considered to be critical factors in the cultivation of a teacher-as-researcher culture.

Administrative support from school

School principals are deemed to play an integral part in the establishment of a school culture that encourages teachers to carry out research in their classrooms. As TC Tiffany opines,

> *Support from school administrators is essential to the implementation and success of research projects like this one. The principal in our school played a hugely influential part in urging all teachers to be involved.*

Moreover, the opportunity to share research outcomes at least with colleagues at school, if not across schools, is initially a kind of recognition of the time and effort teacher-researchers have invested in their work. This kind of intra- and inter-school sharing and knowledge exchange is believed to not only stimulate teachers to reflect upon their own teaching practices, but also act as an impetus for other teachers to see the potential benefits of engaging in classroom-based research. Implicit and explicit support for and close communication with colleagues is said to be a complementary force that is conducive to an environment that promotes research in the classroom. It is also imperative for the Academic Coordinator at school to oversee the timetables and teaching schedules of different subjects among various classes to create a common block for mutual exchange to facilitate the research process.

Parental support

Aside from collaboration among the teaching staff, parents' attitudes towards and support for research are vital since their consent must be obtained before any form of classroom intervention could take place. According to a teacher participant Lily,

> *Parents are very much concerned about their children's examination results and exert pressure on teachers to spend more time on textbook materials.*

This challenges teacher-researchers to strategically strike the right balance between the time and effort put into teaching and conducting research or integrating the two to ensure that their students' academic results are not sacrificed at the expense of research.

Changing the examination-oriented education system

As mentioned in the earlier discussion, examinations in Hong Kong have been recognized as a significant burden not only on students but also on teachers, taking away their time for classroom-based research and hence improvement of their teaching. There needs to be more in-depth and critical reflection on the part of the education sector and the government. The current education system needs to be reviewed for a new assessment framework with less stress laid on examinations and more on formative school-based assessments. The examination pressure on both students and teachers has to be relieved to create more room for teachers to engage themselves in classroom-based research which improves the overall teaching and learning experience. Only through such an overhaul could more teachers have the chance to experience being teacher-researchers and enjoy the benefits of classroom-based research.

Establishing a knowledge-sharing community

Last but not least, the sharing of teaching experiences among teachers across schools is yet to be a norm in Hong Kong. The university can be a vehicle that fosters inter-school sharing and exchange of knowledge and experience through seminars in which existing teacher-researchers from different schools share their first-hand experience and what they have learned from the process. An international survey (Mourshed, Chijioke & Barber, 2010) revealed that those school systems in the category of "from Great to Excellent" emphasize learning through peers and innovation. Their interventions at different levels of systems reflected that collaboration amongst educators and decentralized pedagogical rights to schools and teachers are among some practical ways to raising the caliber of teachers and principals. Further, the report indicated that the experience of sharing innovation from the frontline across schools was another factor that supported and encouraged teacher professional development and thus facilitated school innovations. This may be one of the ways to recognize the efforts of teacher-researchers and possibly serve as a channel to attract other teachers to join the teacher-researcher community.

Discussion

School Cultures for Fostering Teacher Research

Besides the benefits, such as knowledge enrichment, as derived from participating in this school-university collaborative project, the findings reveal that participating teachers also began their inquiry of teaching practice. With proper assistance and guidance from university academics, teachers started writing research reports (see Appendix 1) and presented their ability in analyzing their research outcomes. It needs to be noted, however that conducting teacher research can be quite difficult for some teachers. There is also a potential tension between research and other pressures being placed upon schools. For instance, the Hong Kong government has set many agendas for schools but doing research is rarely a priority for teachers (Watkins, 2006). Christenson, et al., (2002) reported that the lack of sharing culture among teachers is another common obstacle to teachers' involvement in research. The findings of this study; however, indicated that inter- as well as intra-school teacher sharing were supportive factors for fostering collaborative inquiry in teaching. Thus, the knowledge-sharing community is found to be a crucial platform for sustaining the environment for teacher research. On the other hand, some school principals and colleagues may not be supportive enough or may even be hostile towards teacher research. Both internal and external support and collaboration among colleagues, senior management as well as higher institutions such as universities are crucial motivators for teachers to conduct classroom-based research. These parties not only provide expertise and guidance but also contribute to the research culture in schools (Watkins, 2006).

Additionally, the structure of schools, such as the school culture and the management style of the school, can affect the outcome of teacher research. A school's culture seriously influences how teachers perceive and respond to teacher research (McDonald and Elias, 1983; Christenson et al., 2002; Mohammad & Harlech-Jones, 2008). MacGilchrist, Reed and Myers (2004) observed that the culture of a school is manifested in its daily life through the professional relationships among the teachers at school and other members of staff working with one another and their pupils and the school management (as cited in MacGilchrist, Mortimore, Savage, Beresford, 1995). In this study, it was found that teachers perceived support from administrators, and positive collaboration relationship among peers, as essential elements which contribute to an environment that promotes teacher research. School principals play a significant role in establishing the norms and structures that allow schools to develop and operate as professional learning communities (Louis and Kruse, 1995; Louis, Marks & Kruse, 1996). On one hand, the role of school administrators and their direct support are imperative for teacher research. Supportive and sympathetic school principals are essential for providing the necessary time and resources for teachers to conduct classroom-based research, through a reduction in teachers' normal teaching duties, for instance (Croasdaile, 2007).

Teachers immersed in school cultures that are supportive of and positive towards teacher research are expected to be more involved in classroom-based research. Apart from administrative support, colleagues' collaboration and attitudes towards research may affect the ongoing research process as well (McCown and Moss, 2002). In this study, it was found that although teacher research was not tangibly or intangibly rewarded within school, participating teachers did find motivation by participating in inter-school sharing where they could share their knowledge gained from their classroom research.

The Future of Teacher-Researchers

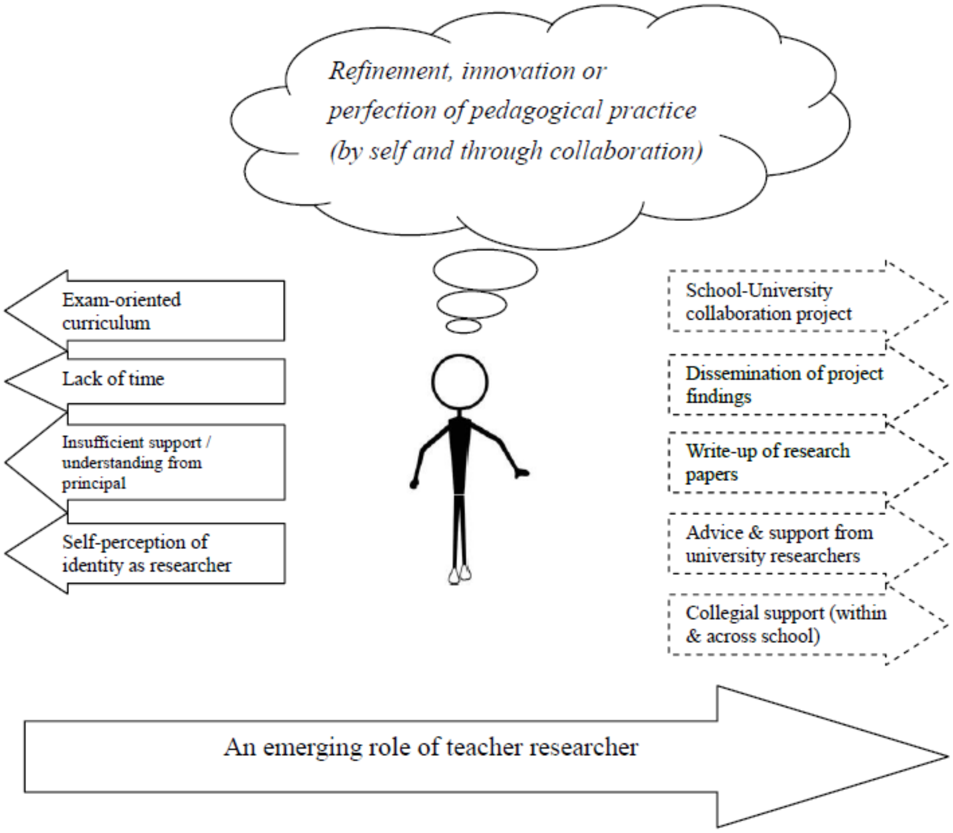
Some key factors that promote high-quality teacher research have been identified by Campbell (2003). These factors included:

- autonomy and control of research questions and project design by the teacher researchers;
- a high quality of support for research projects, robust processes of self-monitoring, critical reflection and evaluation;
- transparent procedures for the dissemination and promoting debate of research projects and findings;
- the establishment of critical communities in which teachers' research is made public. (p. 383)

Because of the emphasis on critical reflection, analysis and external authorization in research, teachers choose to conduct research instead of adopting other approaches such as curriculum development to examine their practice or address teaching and learning issues (Watkins, 2006). Overall, the essential role that teacher-researchers play in developing the knowledge base of teaching and learning should be acknowledged; both practitioners and academics have to develop a better understanding of how each party interprets and conceptualizes educational research (Watkins, 2006). The present study revealed that the university could be a vehicle that fosters inter-school exchange of knowledge. A knowledge-sharing community provides teacher-researchers from various schools a platform to share their experience and knowledge gained from their research process, and therefore, fosters their professional development. As such, interested teachers will be attracted to the teacher-researcher community under the guidance of academics from the universities. With appropriate training, motivation, as well as internal and external support, teachers should be able to carry out meaningful research in their classrooms (Watkins, 2006).

The following framework (see Figure 2) summarizes the push-and-pull factors of teacher research generated from the findings of this project and the discussion. Left-pointing arrows represent the pull factors, mainly derived from the school (teaching) context that hinder the existence of teacher research. The right-pointing arrows list the push factors, mainly contributed by the research supports from the university coupled with the collaborative efforts within school context that encourage teachers to carry out classroom research. The solid and dotted lines of the arrows represent the strength of the pushing or pulling effects on individual teachers. Solid lines indicate a stronger influence while dotted lines stand for a weaker one. The thinking bubble states the beneficial outcomes of teacher research when it is carried out successfully.

Figure 2. The Push-and-Pull Factors of Teacher Research.


Refinement, innovation or perfection of pedagogical practice (by self and through collaboration)
Exam-oriented curriculum
Lack of time
Insufficient support / understanding from principal
Self-perception of identity as researcher
School-University collaboration project
Dissemination of project findings
Write-up of research papers
Advice & support from university researchers
Collegial support (within & across school)
An emerging role of teacher researcher

Conclusion

It was evident that teachers who participated in this school-university partnership project to promote inquiry PjBL were growing in their professional knowledge and skills, reporting stronger collaboration with colleagues to make their teaching more effective, revising their curriculum in response to students' needs, developing a more open-minded attitude towards research and experiencing an innovative school culture that is conducive to teacher-research. All these are believed to enhance teacher professionalism and teaching competency.

The reasons for the lack of a teacher-as-researcher culture in Hong Kong can be attributed to macro and micro factors. Macro factors include the conventional role and duties of teachers, which do not involve research, and teachers' perceptions of "research" as something complex that only academics at universities can do. Micro factors such as the limited focus on research skills in professional teacher training and time constraints caused by the tension from tight curriculum schedule further deter teachers from engaging themselves in research. The widely agreed local examination-oriented education system adds to teachers' burden, rendering time and effort devoted to examination preparation instead of other initiatives like classroom research.

Both internal and external support is arguably viewed as the key for teacher-research. School principals play an integral role in cultivating a school climate that engenders colleagues' collaboration, encouraging and enabling more flexible modification of teaching approaches and pedagogies to meet students' needs. A collaborative model is one where, on top of university support, teachers need to be well-prepared to take on the dual roles of teacher-practitioners and teacher-researchers. Amid the challenges of ongoing education reforms in Hong Kong and in all parts of the world, it is envisaged that the development of the role of the teacher as practitioner-researcher may have the potential of enhancing teachers' professionalism and competency in advocating positive changes alongside the reforms. In addition, close collaborations between university researchers and frontline teachers would bring positive impacts on the credibility of education research by providing empirical evidence and practical insights arisen from actual classrooms.

References

Aaron, J., Bouchereau B. E., Commeyras, M., Dowling C. S., Daniell, B., Elrick, E., Vaughn, H. (2006). *No deposit, no return: Enriching literacy teaching and learning through critical inquiry pedagogy*. Newark: International Reading Association.

Atay, D. (2008). Teacher research for professional development. : *English Language Teachers Journal, 62*(2), 139-147. doi: 10.1093/elt/ccl053

Berger, J. G., Boles, K. C., & Troen, V. (2005). Teacher research and school change: Paradoxes, problems, and possibilities. Teaching and teacher education: *An International Journal of Research and Studies, 21*(1), 93-105.

Biggs, J. (1994). Student learning research and theory: Where do we currently stand? *Improving student learning: Theory and practic*e, 1-19.

Bissex, G. L. E., & Bullock, R. H. E. (1987). *Seeing for ourselves: Case-study research by teachers of writing*. Portsmouth: Heinemann Educational Books.

Bray, J. N. (2000). *Collaborative inquiry in practice: Action, reflection, and meaning making*. Thousand Oaks: Sage Publications.

Bullough, R. V., & Pinnegar, S. (2001). Guidelines for quality in autobiographical forms of self-study research. *Educational Researcher, 30*(3), 13-21.

Campbell, A. (2003). Teachers' research and professional development in England: Some questions, issues and concerns. *Journal of In-Service Education, 29*(3), 375-389.

Christenson, M., Slutsky, R., Bendau, S., Covert, J., Dyer, J., Risko, G., & Johnston, M. (2002). The rocky road of teachers becoming action researchers. *Teaching and Teacher Education, 18*(3), 259-272.

Clausen, K.W., Aquino, A.M., Wideman, R. (2009). Briding the real and ideal: A comparison between learning community characteristics and a school-based case study. *Teaching and Teacher Education, 25(3)*, 444-452.

Cochran-Smith, M., & Lytle, S. L. (1993). *Inside/outside: Teacher research and knowledge*. New York; London: Teachers College Press.

Cochran-Smith, M., & Lytle, S. L. (1999). The teacher research movement: A decade later. *Educational Researcher, 28*(7), 15-25. doi: 10.3102/0013189x028007015

Croasdaile, S. (2007). *What Makes Teachers Reflect to Improve Their Practice? Reflective Practice in a Social-Organizational Context*: Online Submission. Retrieved from http://eric.ed.gov/?id=ED505866

Democratic Alliance for Betterment of Hong Kong (DAB). (2002). *Hong Kong teacher stress survey*. Retrieved June 8, 2010, from http://www.dab.org.hk/UserFiles/Image/News%20centre/News/doc/2002/20021006poll. Pdf (in Chinese).

EDB. (2002). *General studies for primary schools curriculum guide*. Hong Kong SAR: Retrieved from http://cd.edb.gov.hk/kla_guide/GS_HTML/english/ch4/ch42.html.

EDB. (2008). *Teacher Training & Qualifications*. Hong Kong SAR: Retrieved from http://www.edb.gov.hk/en/teacher/qualification-training-development/qualification/teacher-training-qualifications/index.html

Elliott, J. (1991). *Action research for educational change*. Milton Keynes England: Open University Press.

Frost, D., MacBeath, J., O'Donovan, K., Sapsed, R. and Swaffield, S. (2013). *Sustaining Teachers' Professional Growth, 18th – 19th February 2013: A Report*. Leadership for learning: the Cambridge Network: University of Cambridge.

Fullan, M. (2013). *Stratosphere: Integrating technology, pedagogy, and change knowledge.* Toronto, Canada: Pearson Canada.

Furlong, J., & Salisbury, J. (2005). Best practice research scholarships: an evaluation. *Research Papers in Education, 20*(1), 45-83. doi: 10.1080/0267152052000341336

Goswami, D. E., & Stillman, P. R. E. (1987). *Reclaiming the classroom: Teacher research as an agency for change*. Upper Montclair: Boynton/Cook Publishers.

Hargreaves, D. H. (1998).The knowledge-creating school. *British Journal of Educational Studies, 47*(2), 122.

Hoyle, E. (1980). Professionalization and deprofessionalization in education. *World Yearbook of Education Professional Development of Teachers*. Londres.

Kincheloe, J. L. (2003). *Teachers as researchers qualitative inquiry as a path to mmpowerment*.UK: Routledge.

Lam, Y. L. J. (1983). Building school capacity for effective teacher empowerment: application to elementary schools with at-risk students. In R. Ogawa (Ed.), *Advances in research and theories of school management and educational policy*. Newbury Park: Corwin.

Loughran, J. J. (2002). Teacher as researcher: The PAVOT project. In J. J. Loughran, I. J. Mitchell & J. Mitchell (Eds.), *Learning from teacher research*. New York: Teachers College Press.

Louis, K. S., & Kruse, S. D. (1995).*Professionalism and community: Perspectives on reforming urban schools*. Newbury Park: Corwin Press.

Louis, K. S., Marks, H. M., & Kruse, S. (1996). Teachers' professional community in restructuring schools. *American Educational Research Journal, 33(4),* 757-798. doi: 10.3102/00028312033004757

MacGilchrist, B., Reed, J., & Myers, K. (2004). *The intelligent school*. Sage.

MacGilchrist, B., Mortimore, P., Savage, J., & Beresford, C. (1995). *Planning matters: The impact of development planning in primary schools.* London: Chapman.

MacLean, M. S., & Mohr, M. M. (1999). *Teacher-researchers at work*. Berkeley: National Writing Project, University of California.

McCown, R., & Moss, C. M. (2002). The value of and the obstacles to becoming a teacher researcher: Practicing teachers' understandings of action research. Paper presented at the *Annual Meeting of the American Educational Research Association*, New Orleans.

McDonald, F. J., & Elias, P. (1983).*The transition into teaching: The problems of beginning teachers and programs to solve them*. Summary report. Princeton: Educational Testing Services.

Mohammad, R. F., & Harlech-Jones, B. (2008). Working as partners for classroom reform. *International Journal of Educational Development, 28*(?), 534 – 545.

Morrow, P. C., & Goetz, J. F. (1988).Professionalism as a form of work commitment. *Journal of Vocational Behavior, 32*(1), 92-111. doi: 10.1016/0001-8791(88)90008-5

Mourshed, M., Chijioke, C., & Barber, M. (2010). *How the World's Most Improved School Systems Keep Getting Better, a report McKinsey & Company*. McKinsey & Company http://www.mckinsey.com/clientservice/Social_Sector/our_practices/Education/Knowledge_Highlights/How% 20School, 20.

Myers, M. (1985). *The teacher-researcher: How to study writing in the classroom*. Urbana: National Council of Teachers of English.

Rathgen, E. (2006).In the voice of teachers: The promise and challenge of participating in classroom-based research for teachers' professional learning. *Teaching and Teacher Education, 22*, 580-591.

Roulston, K., Legette, R., Deloach, M., & Pitman, C. B. (2005). What Is "Research" for Teacher-Researchers? *Educational Action Research, 13*(2), 169-190.

Rust, F.O. (2009).Teacher research and the problem of practice. *Teachers College Record, 111*(8), 1882-1893.

Sellars, M. (2012). Teachers and change: The role of reflective practice. *Social and Behavioral Sciences, 55*(?), *461 – 469*.

Shakir-Costa, K., & Haddad, L. (2009). Practitioner research success! *Science and Children, 46*(5), 25-27.

Toh, K.-A., Diong, C.-H., Boo, H.-K., & Chia, S.-K. (1996). Determinants of teacher professionalism. *Professional Development in Education, 22*(2), 231 - 244.

Tschannen-Moran, M. (2009).Fostering teacher professionalism in schools: The role of leadership orientation and trust. *Educational Administration Quarterly, 45*(2), 217-247.

Watkins, A. (2006). So what exactly do teacher-researchers think about doing research? *Support for Learning, 21*(1), 12-18.

Zeichner, K. M. (1993). Action research: Personal renewal and social reconstruction. *Educational Action Research, 1*(2), 199-219.

Zeichner, K. M., & Noffke, S. E. (2001).Practitioner research. In V. Richardson (Ed.), *Handbook of research on teaching (4th ed., pp. 293-330).* Washington, D.C.: American Educational Research Association.

Appendix 1. A list of publications with participating teachers' involvement.

1) Fu, O.H., Chu, S.K.W. & Kang, W.X. (2011). The affordances of wiki for primary-school students' group project work. Paper presented at *the International Conference on Addressing Student Learning Diversity in Hong Kong*, Hong Kong.

2) Chow, K., Chu, S.K.W., Leung, O. & Yu, S. (2011). Teachers as Researchers and the Development of Teacher Professionalism. Paper presented at *CITE Research Symposium 2011*, The University of Hong Kong, Hong Kong.

3) Law, H.C., Chu, S.K.W., Siu, F., Pun, B. & Lei, H. (2011). Challenges of Using Google Sites in Education and How Students Perceive Using It. Paper presented at *CITE Research Symposium 2011*, The University of Hong Kong, Hong Kong.

4) 余澤濤、方志新、郭惠娟、羅詩敏、朱啟華、葉珈甄(2011)。研究匯報：利用Google Sites在常識科進行協作式專題研習。

優質教育基金研究計劃研討會。香港：香港大學教育應用資訊科技發展研究中心。
(English: Yu, C.T., Fong, C. S., Kwok, W. K., Law, S. M., Chu, S.K.W. & Ip, I. (2011). Using Google Sites for Collaborative Inquiry Projects in General Studies. Paper presented at *CITE Research Symposium 2011*, The University of Hong Kong, Hong Kong.)

5) Chow, K., Chu, S. K. W. , Tavares, N., Siu, F., Chu, D., Ho, S. Y. (2010). *An emerging role of teacher-researchers in Hong Kong through a school-university collaborative research project*. Forthcoming at The 2nd East Asian International Conference on Teacher Education Research. The Hong Kong Institute of Education, Hong Kong. December 15-17, 2010.

6) Chu, D., Chu, S. K. W., Tavares, N., Siu, F., Chow, K. & Ho, S. Y. (2010). *Media awareness in the age of new media: A case study of Primary 4 students in Hong Kong.* Paper presented at ASIS&T 2010 Annual Meeting. Pittsburgh, PA, October 22-27, 2010.

7) 羅詩敏、朱啟華、鍾秀婷、許文俊、郭惠娟、張惠卿、余澤濤 (2010)。研究匯報：透過探究式學習改善小四學生的中文讀寫能力。

優質教育基金研究計劃研討會。香港：香港大學教育應用資訊科技發展研究中心

8) 謝錦玉、朱啟華、胡詠恒、潘樂輝、袁樂彤、嚴儲文 (2010)。長洲聖心學校協作探究式專題研習(inquiry PjBL)的進程分享。*優質教育基金研究計劃研討會*。香港：香港大學教育應用資訊科技發展研究中心

9) Fong, C.S., Chu, S.K.W., Tsang, G.W.K. & Mak, M.Y.K. (2010). How Web 2.0 enhances

collaborative teaching: the experience of Canossa Primary School. Paper presented at *the Quality Education Fund Project Seminar: Sharing the Experience*, The University of Hong Kong, Hong Kong, October 9, 2010.

10) Hui, O. S., Chu, K. W., Mak, Y. K., Yim, C., Pun L. F. & Liu, T. (2010). The roles of teacher librarians in collaborative inquiry project-based learning. Paper presented at *the Quality Education Fund Project Seminar: Sharing the Experience*, The University of Hong Kong, Hong Kong, October 9, 2010.

11) Law, H. C., Chu, S.K.W., Pun, L. F. & Huey, L. (2010). The role of Information Technology in collaborative inquiry project-based learning. Paper presented at *the Quality Education Fund Project Seminar: Sharing the Experience,* The University of Hong Kong, Hong Kong, October 9, 2010.

12) Chu, S. K. W., Chow, K., Wong, K. & Ng, J. (2011). Inquiry project-based learning with Wiki at Primary 5 level with a collaborative teaching approach. Paper presented at *QEF Project Dissemination Symposia: Applying a collaborative teaching approach to inquiry project-based learning with Web 2.0 at upper primary levels*, the University of Hong Kong, Hong Kong, June 30, 2011.

Understanding the linkage gap between L2 education researchers and teachers

Ibtissem Knouzi
Ontario Institute for Studies in Education of the University of Toronto

Callie Mady
Schulich School of Education
Nipissing University

Abstract

This paper reports on the results of a study that analyzed second language practitioners' and researchers' on-line interactions about six published articles written by the researcher participants. The project used Lavis et al.'s (2003) knowledge transfer framework and Graham et al. (2006) knowledge to action framework as foundations to create a shared space (an online forum) to facilitate dialogue and bring the two groups together, with the intent to enhance research access and utilization. We use text-linguistic analysis procedures to analyze the linguistic and ideational choices evident through the texts produced by the two groups online to understand how they shaped the direction and content of the interaction. The results reveal differences in the word choice and foci of the two groups and highlight the usefulness and limitations of the online forum. Discussion of the relevance of different aspects of the knowledge transfer frameworks used might enlighten future efforts to bridge the linkage gap.

Keywords: Linkage gap, Register analysis, Asynchronous text-based communication.

Ibtissem Knouzi is a PhD candidate at OISE-University of Toronto. Her research interests include second language reading and writing, discourse analysis and pragmatics, and sociocultural theory. She received her M.A in Applied Linguistics and B.A in English Language and Literature from the University of Tunis-Tunisia.
Email: i.knouzi@utoronto.ca

Callie Mady is an Associate Professor at Nipissing University in the Schulich School of Education, North Bay, ON, Canada. She holds a PhD from OISE of the University of Toronto with a focus on second language education. Her research interests include French as a second language education and multilingual language acquisition. In particular, her research focuses on minority populations in those areas—immigrants and students with learning difficulties.
Email: calliem@nipissingu.ca

Introduction

This paper describes a study of an online learning environment that sought to increase L2 teachers'/teacher candidates' (T/TCs) access to research and to enhance communication between L2 T/TC and researchers by providing a mutual space for such interaction. Given the acknowledged gap in interaction between education researchers and practitioners (e.g., Hemsley-Brown, 2004; Smylie & Corcoran, 2009) and the potential role of diverse discourse in creating such a gap (Cordingly, 2008, Sanders & Lewis, 2005), this paper explored the language used by T/TCs and researchers within the provided environment. In particular, the study explored if and how T/TCs' and researchers' linguistic and ideational choices differed and the implications of these choices for understanding the linkage gap.

Background

The Canadian Association of Second Language Teachers (CASLT) is an organization created to support L2 teachers. One of its goals is to facilitate sharing of information, with an accompanying strategic goal of disseminating research. Having identified teachers' limited access to research as a concern, CASLT, in partnership with the Canadian Modern Language Review, sought and received federal funding with a view to increase L2 T/TCs access to L2 research. CASLT, then, invited the second author to create a project to address the above goal.

Creation of an online space not only provided access to resources but also accessibility to T/TCs regardless of their location. The virtual space also aimed to facilitate direct communication between L2 researchers and T/TCs, thus addressing one of the causes of the linkage gap identified in the literature, namely the lack of a shared space (Davies, 2000; Hargreaves, 1996, 1997).

Rationale

Davies (2000) describes a gap between educational researchers and practitioners stating that the academic world encourages communication amongst academics to the neglect of communication with practitioners. As such, the academic writing valued amongst researchers is often less accessible to many T/TCs. Given the recent focus on data collection in schools as means to inform decisions (Ontario Leadership Strategy, 2011), increased access to research evidence could serve to provide additional information to educators who make daily decisions impacting children's education. This study sought to enhance communication between researchers and T/TCs while improving T/TC's access to L2 research.

Research Questions

The online space included a discussion forum for direct communication between researchers and T/TCs that allowed us to analyze their respective discourses. More specifically, for this paper, we share the analysis conducted to answer the following questions:

1. Does the researchers' language use differ when writing for publication and when posting on the forum? If yes, in what way?
2. How did the T/TCs respond to the texts of other teachers (i.e., forum posts) and those of the researchers (i.e., published articles and forum messages)?

Literature Review

The following section identifies the different factors that contribute to the creation of the linkage gap. The second section below explains the theoretical frameworks that guided the design of the study in general and the online shared space in particular.

Barriers and Challenges that Create the Linkage Gap

The relationship between research and practice is often described as tense or problematic across many fields (Davies, Nutley & Smith, 2000; Pfeffer, & Sutton, 2006) with practitioners questioning the relevance of research and researchers the potential to impact practice. Research reveals T/TC consult their readily available colleagues; and researchers more readily communicate with audiences of their peers (Rickinson, 2005) with little opportunity taken to communicate with each other. Such a lack of communication may be exacerbated by use of different registers with academic language being difficult to access for some who do not have enhanced research literacy. There seems to be, at best, a linkage gap defined as a lack of interaction between the two groups (Cooper, 2010) that persists in spite of repeated efforts to understand and address its causes. Enhancing communication between L2 T/TCs has the potential to increase knowledge building and collaborative problem solving through the pooling of intellectual and practical resources.

Calls to optimize communication between academics and practitioners have typically resulted in studies or interventions that have tried to identify the factors that create and foster the linkage gap, raise awareness of its repercussions, and propose conceptual frameworks to reduce it and “create a sustainable culture of collaboration and dialogue where theory and practice inform each other” (Allison & Carey, 2007, p65). However, these attempts to reduce the linkage gap seem to have limited success. Borg (2009) notes that teacher engagement with research remains a “minority activity” hindered by several interacting factors such as limited accessibility and comprehension. Nassaji (2012) maintains that the relationship between research and teaching remains problematic, saddled with several questions pertaining to the usefulness and relevance of research to teaching, and its ability to affect changes in teacher beliefs and practices. He underlines that skepticism is voiced by both researchers and teachers and concludes that both research limitations and differences in goals and orientations of the two groups contribute to the communication gap.

Correspondingly, the factors contributing to the linkage gap between researchers and teachers have been categorized as conceptual, organizational/institutional, and attitudinal. At the conceptual level, Bartels (2003) who compared academics’ and teachers’ assessment of education articles written by researchers and teachers concluded that the two groups validated and used research ideas differently. Researchers valued the argumentation processes based on objective data and explicit connections made to the previous knowledge shared by the larger educational community. Teachers appreciated articles that proposed information and ideas that had immediate relevance to the classroom experience. Ellis (2001) makes a similar distinction between researchers’ orientation to technical knowledge which is explicit and open to systematic empirical investigation and teachers’ practical knowledge which is rather intuitive and is rooted in lived classroom experiences. These differences in orientation may be one of the reasons for teachers’ low engagement with the typical research literature.

Borg (2009) identifies the incompatibility between teachers’ conception of research and their goals in reading the literature as another conceptual barrier. He surveyed 505 language teachers about what they consider quality research. Their definitions were aligned with conventional scientific notions of inquiry, valuing objectivity, statistics-based testing of hypotheses and variables, and the use of large samples. On the other hand, the same teachers stated that they turn to research looking for practical recommendations to enhance their classroom practices. Borg (2009) proposes that the teachers' restrictive definition of research explains why they find it "of little practical relevance", "dense", "dry" and ultimately shun it. In fact, the scientific literature that the teacher's value, is unlikely to propose the recommendations that they expect in a transparent language (c.f., Larsen-Freeman, 1998). Given that Borg's study was limited to teachers' perspectives without the provision for intermediary resources, it is not surprising they struggled to understand and interpret academic articles or failed to see any useful relevance to their practices (e.g., MacDonald, Badger & White, 2001).

At the organizational level, researchers and teachers seem to be positioned according to a number of binaries such as insiders vs. outsiders, experts vs. novices (Cochran-Smith & Lytle, 1999; Herrenkohl, Kawasaki & Dewater, 2010), which complicate the communication process and expose unequal power statuses. Allison and Carey (2010), for instance, speak of a feudal relationship between applied linguists and language teachers, a metaphor that captures both the hierarchical as well as the exploitative aspect of the relation. The authors explain that academics enjoy stature and recognition; they also rely on teachers as sources of data. The teachers' contributions to the research process are, however, undervalued. Ultimately, the academics' voice is the one heard and rewarded. Allison and Carey (2010) point out that the hierarchy may be imposed by institutional structures, but it is also internalized and accepted by the wider community that sees teachers in subordinate roles.

It may be argued that attitudinal issues underlie and, are in turn reinforced by, the factors identified above. Hattrup, Bickel and Gill (1993) explain how attitudes hindered the collaboration of academics and teachers trying to translate mathematical research into professional development materials for teachers. Researchers' desire to "empower" teachers by giving them access to simplified versions of research shaped the teachers' roles as passive recipients of knowledge, which in turn hampered effective communication. The authors explain that a real constructive dialogue between the two groups was made possible only when the teachers had the opportunity to contribute their expertise and negotiate the collaboration process.

The review of the barriers and challenges that hinder the transfer of research knowledge to practice suggests that teachers and researchers evolve in parallel but separate spheres, holding different goals, values and practices (Bartels, 2003; Nassaji, 2010; Kramsch, 1995). This, in turn, can create a linkage gap where communication between the two groups is hampered, leading to lost opportunities to: 1) Inform teachers' practices with insights gained from researchers; and 2) Apply researchers' efforts to address practitioners' immediate concerns. With a view to addressing the barriers to communication, an online environment was created for researchers and T/TCs to interact. The design of the online space was grounded in two theoretical frameworks: Lavis, Robertson, Woodside, Mcleod, and Abelson's (2003) knowledge transfer framework and Graham et al.'s (2006) knowledge to action framework, which offer practical steps to creating a common space to facilitate the exchange of ideas and expertise between researchers and practitioners.

Theoretical Frameworks

With the goal of increasing practical uptake of research evidence, Graham et al's (2006) knowledge to action framework includes a knowledge creation stage followed by an action cycle. Graham et al encourage users of the framework to consider Lavis et al's (2003) guiding questions (e.g., What should be disseminated? How should it be disseminated?) as applicable to the knowledge to action framework.

Applying the knowledge creation sequence as suggested by Graham et al, we (a) consulted with stakeholders (e.g., teacher educators, L2 consultants in three boards of education) to choose 6 pertinent articles and (b) created a support guide for each article that summarizes the research information in interview format for an easier,more accessible reading experience (i.e., What should be disseminated?).

In the action cycle, we created an intervention in the form of an online space accessible to the T/TCs and the authors of the selected six research articles; we then monitored and evaluated the use of the forum by the participants (i.e., How should it be disseminated and with what effect?). The online forum housed the resources (i.e., articles, support guides) and provided a space for asynchronous interaction between T/TCs and authors.

We evaluated the interactions between the two groups of participants through a detailed analysis of the linguistic and ideational choices evident in the texts they posted on the forum.

Methods

The following sections describe the context of the study, the profile of the participants and the steps we followed in designing and creating the online forum.

Context of the study

The study is the result of a collaboration between several parties. CASLT commissioned the study and circulated a call for participation on its website and at L2 teachers' conferences. The Canadian Modern Language Review provided access to research articles for the participants. The second author designed and moderated the online environment housed at her university, which was created to facilitate interaction between the writers of six research articles (also research participants) in the field of L2 education and a group of T/TCs. She also helped recruit FSL teacher candidates from Faculties of Education in Ontario.

Participants

Authors of the six articles used in the forum were invited and consented to participate in this project as contributors and research participants. Three of the six selected articles were co-authored therefore; the researcher participants included ten researchers from four countries (Canada, Hong Kong, New Zealand, and USA) who are also teaching professors at the graduate and undergraduate levels. Three authors are senior teacher educators from Canada and abroad. They all have extensive research and publication experience.

Teachers (*n*=9) were recruited through distribution of project information at conferences. A second group (*n*=35) consisted of students in a Canadian post-undergraduate FSL teacher education program who consented to participate. Eventually, in addition to the ten researchers, 52 T/TC participants had access to the password-protected forum, 34 of whom contributed to the discussion forum, the majority (*n*=25) were TCs.

Creation and use of common space

The on-line forum created for this project operationalizes two main precepts of the two Frameworks cited above: (a) creation of an easily accessible environment with the creation of a discussion forum and (b) provision of intermediary tools with the provision of guides to accompany the research articles.

The online space, a password protected website created for the purpose of this project, provided a forum to allow interaction between the researcher and T/TC participants for a week per article. For six consecutive weeks, one article was featured on the forum, each week. The T/TC participants and the author of the week's article could interact asynchronously to discuss any aspect of the published paper. Posting once a week in the forum was a graded course requirement for the teacher candidates but there were no constraints on the number or length of messages they could post.

Evaluation of the outcomes of the project took several forms. In the present paper, we mine all the forum messages (i.e., new posts as well as replies and comments to previous posts by other participants) posted by both groups. The conversations that took place in the forum produced a corpus of electronically accessible texts, which reflect crucial aspects of the linguistic and ideational choices that the two groups chose to adopt while interacting together. The following sections describe how the forum corpus was analyzed to determine whether T/TCs and researchers pursued a common agenda as they interacted.

The forum

Table 1 shows that in total, 122 messages were posted over the six-week period and that teachers posted more often and mainly in French.

Table 1

Number and Type of Forum Contributions

	Language Used		
	French	English	Total
Teachers	99*	3	102
Researchers	6	12	18
Moderator	2	_	2
Total	107	15	122

*Teachers may have chosen to use French to correspond to their language use in class.

Analysis procedure

The research questions were addressed through (a) a comparison of the keywords used by the researchers in their forum posts and their original articles, (b) an analysis of the number and type of references made by the teachers to the researchers' texts, and (c) an in-depth examination of the most frequent words used by the two groups of participants (T/TCs and researchers).

File preparation

The project participants had access to two types of texts, (a) the articles published by the researchers, and (b) the messages posted by the participants to the forum. The two text types were 'altered' in different ways to allow the automated quantitative analysis by the text analysis software *WordSmith* (Scott, 2012).

Published articles: Acknowledgements, abstracts, tables and reference lists, data excerpts/quotes and bios were removed from the text because they represent different genres (c.f., Hurt, 2010). In total, this subcorpus of published texts consisted of 27057 words in English (Articles of weeks 1, 3, 4, 6) and 13039 words in French (Articles of weeks 2 and 5).

Forum messages

The messages were proofread, and minor spelling mistakes were corrected. Quotations from the published articles or from other messages were deleted.

Corpus size and manipulation

Two sub-corpora constitute the data for the following analyses: the (altered) published articles and the posted forum messages, with a total of 73254 words. The project corpus was further divided into several sub-corpora according to the identity of the text author (teacher vs. researcher) and language used (French vs. English). The analyses will investigate the characteristics of *all* the texts written by *one single* author (keyword analysis), and the features of *all* texts written by a group of participants (e.g., all T/TCs).

Most T/TCs chose to write in French. Some researchers wrote and interacted in English, others in French, and others communicated in both languages. Consequently, for the keyword analysis that compares keywords used by the authors in their published articles and their forum messages, a decision was made to discard the work of the authors who published in English but interacted in French on the forum because we can't compare texts in two different languages (Author 1 and 4).

Word frequency

For the present project, four frequency lists were generated. A frequency list was retrieved from: (a) all forum messages written by T/TCs in French, (b) all forum messages written by T/TCs in English, (c) all forum messages written by researchers in French and (d) all forum messages written by researchers in English.

Keyword analysis

The keyword tool in *WordSmith* compares frequency lists generated for two sets of files, a target corpus and a reference corpus, and identifies words that occur significantly more frequently in the target corpus based on the norm established by the reference corpus (Romer & Wulff, 2010). Baker (2006) argues that the keyword list is a measure of 'saliency' while the frequency word list is simply a measure of 'frequency'.

Each of the words on the keyword list is assigned a keyness value, which estimates the keyword strength. Baker (2006) advises that keyword analysis results should be supplemented by concordance and collocational analyses to obtain a better understanding of the value and role of the salient words identified in context. Concordance analysis shows the target word in context. Collocation analysis shows the words that typically co-occur with a target word and the frequency and strength of the relation between the two items.

FINDINGS

To answer the first research question as to the impact of the online environment on researchers' language use, we conducted keyword analysis to compare the researchers' language use when writing for publication and on the forum. For this analysis, the texts of the forum messages written by each researcher were run against a reference corpus composed of the text of the article published by the same researcher (N=4; 2 articles were excluded).

The *Wordsmith* analysis showed differences in the writings of three researchers, namely Author2, Author3 and Author5. Table 2 presents the identified keywords, their frequency in the forum posts of the three authors and the Keyness value of each word.

Table 2

Keywords Used Significantly More Often in Forum than in Articles.

Author2			Author3			Author5		
KeyWord	Frq	Keyness	KeyWord	Frq	Keyness	KeyWord	Frq	Keyness
Vos(your)	6	32.32	Learn	15	31.36	I	7	36.51
			We	14	31.35	Important	7	24.75

We first noted that three out of the five terms are pronouns, which seems to indicate a less formal, more direct style. This is hardly surprising given the genre difference (article vs. forum post). What is interesting is the use and function of these pronouns.

In the case of Author 2, two researchers co-authored the published article and they posted one individual message each. They used the possessive pronoun "vos" (plural you) to acknowledge and/or praise the contributions as illustrated in the following excerpts.

> "De plus, j'aime bien vos soucis pour le vocabulaire." [2RC07F]
> (Also, I appreciate your concern for vocabulary)
> "Vous m'impressionnez avec vos observations perspicaces." [2RC07F]
> (You impress me with your insightful observations)

These instances suggest that the researchers acknowledged the social aspect of the forum exchanges and engaged in a virtual conversation with real interlocutors. In one message, Author2 quoted the message of a teacher and elaborated on her argument, which created a sense of an ongoing conversation with multiple turns.

> "Comme [TC name], j'aime beaucoup les stratégies comme le pense-partenaire-partage et le jigsaw." [2RC10F]
> (Like [TC name] I like strategies such as think-pair-share and the jigsaw)

There was one instance where one of the researchers for Week 2 offered advice to the T/TCs. This quote is written in a style that is unmistakably non-academic (cf., use of the imperative, casual punctuation, sentence structure). Also, it shows that the researcher had a distinct perception of the teachers as real addressees (unlike the rather undefined audience of a journal article) and acknowledged aspects of their professional identities by offering advice that would help them improve their teaching practices. .

> "Je vous encourage de bien travailler le vocabulaire avec vos élèves [...]travaillez des stratégies comme l'identification de mots connus." [2RC07F]
>
> (I encourage you to work on vocabulary with your students […] work on strategies such as identifying known words)

Author 3 was unique in that she addressed each teacher by name and commented on their previous post, answering questions, elaborating ideas, suggesting further reflections and offering references, which again indicates an awareness of the social aspect of the forum space, and a desire to mark an active social presence (Rourke, Anderson, Garrison, & Archer, 1999). However, when we looked at the context where these terms were used, we noted a caution and some distance in addressing the T/TCs. For instance, only one instance of the use of the word "learn" referred to teachers learning while all the other uses referred to language learners in a classroom context. As illustrated in the following excerpt:

> "L2 teachers really have to learn enough about the area and to get some real experience in it so that they can use it to help students learn." [3RC10E]

Author 3 seemed to avoid addressing the T/TCs directly and used a general reference (i.e., L2 teachers) instead. Therefore, it seems that Author 3 was cautious to not direct the participants as to what they "have to learn", but preferring instead to make a general statement encouraging all L2 teachers to learn. We identified two referents for the pronoun "we" as used by Author 3 in her messages. In one instance, the author referred to herself using the plural pronoun.

> "We're not saying that students' language production may be impeccable all the time. It all depends on what purpose students' language use serves." [3RC22E]

She also used the pronoun to signal her membership in specific groups. In one instance, she used 'we" to refer to the L2 research community in Hong Kong.

> " An alternative strategy that we suggest teachers in Hong Kong to use is to allow students' discussion in L1 (…)." [3RC22E]

Author 5's use of the term "important" in the citation below seems to indicate a less formal or careful style. In fact, he used the term in three consecutive sentences, a repetition that would hardly be tolerated in academic writing.

> "I agree that encountering words in many contexts is important. This is one reason why extensive reading is so important. Providing many opportunities for learners to use the words is also important for developing productive knowledge." [5RC09E]

He used the first personal pronoun mostly to express agreement (N= 5) with the T/TCs' posts or to present opinions and positions (N=2).

> "I agree that learning vocabulary should be interesting for students." [5RC02E]
>
> "I think a key here is planning to review these words at multiple points in the course." [5RC11E]

The keyword analysis suggests that authors adapted their register to the social requirements of the forum space. However, these adaptations are surprisingly minimal and limited to three researchers. One researcher seemed ambivalent about how to navigate the forum space. She acknowledged the presence of the teachers and recognized their contributions to the debate but was cautious about how she addressed them. Ultimately, a certain distance was maintained and the overall tone remained distinctly academic. For instance, several researchers offered reading lists and referenced their statements in an academic way. Author 3, for instance, provided the T/TCs with several references to consult and ended one of her posts referring to a framework that she developed, which is a reminder of her status as an experienced researcher. Author 2 closed her message wishing the teachers the best in *their* discussions, which, we believe, suggests that the researcher saw herself as a guest, with a limited role, rather than a partner in a conversation. The forum was essentially the teachers' space.

"Bonne continuation dans vos discussions." [2RC12F]

(Good luck with your discussions)

Teachers' Response to Published Articles, Researchers' and other Teachers' Forum

T/TC online responses. The following paragraphs will explore the T/TCs behaviour in the forum space. We will examine how the teachers responded to each of the available texts: the original published articles, messages posted by other teachers and messages posted by the guest researcher of every week.

T/TCs' responses to researchers' messages

There were only two instances where the T/TCs addressed the researcher directly; both occurred in Week 4. In the first instance, a TC addressed Author 4 by name at the beginning of his message therefore giving the forum message the format and tone of a personal letter to the author. In the second instance, a teacher thanked the researcher for her contributions to the field, and answered a question that was posed by the researcher in a previous message. This teacher knew the researcher personally and was, in fact, the instructor of a group of TCs. Apart from these two instances, there was no direct communication from the T/TCs to the authors. Even when researchers responded to a teacher by name, the T/TC did not write back. This seems to indicate a certain reluctance to interact directly with the researchers or acknowledge their presence in the same space.

T/TC' responses to published articles.

T/TCs did respond quite actively to the articles, often referring to them as "article", "study", or by naming the authors by last names as one would cite an academic paper. Table 3 shows the patterns of references to the six published articles, and identifies the types of statements that were taken up by the T/TCs.

Table 3

Number and Type of Reference to the Published Articles in Teachers' Messages

	Week1		Week 2		Week 3		Week 4		Week 5		Week 6	
	N	%	N	%	N	%	N	%	N	%	N	%
Total Number of posts	6		11		32		24		20		26	
Number of posts with clear references to article	3	50[a]	8	73[a]	13	41[a]	17	71[a]	9	45[a]	11	42[a]
Number of references	8		37		51		59		17		41	
Types of reference												
Direct quote	1	12	3	8	5	10	16	27	6	35	4	10
Agreement	3	37	14	38	11	22	12	20	4	23	7	17
Elaboration	6	75	24	65	34	67	37	63	9	53	30	73
Types of statements taken up												
Rationale	--	--	9	24	18	35	26	44	10	59	3	7
Design	--	--	22	59	--	--	3	5	--	--	--	--
Data	4	50	5	14	13	25	28	47	--	--	29	71
Discussion	4	50	1	3	6	12			7	41	9	22
Conclusion	--	--			14	27	2	3	--	--		

A Percentage of messages that contained references to the article (i.e., Number of sources/ Total number of posts for the week) All other percentages are calculated in relation to the total number of references (e.g., Elaboration in first week = 6/ Total number of references for week 1)

Three main findings emerge. First, 41% to 73% of the messages contained clear references to the article. T/TCs seemed to be more comfortable dealing with the academic persona of the authors. One possible explanation is that the teachers, who are familiar with writing critical responses to research articles retracted into that discourse and avoided engaging directly with the authors because they were not confident about what rules and conventions to use in that new situation.

Second, the T/TCs referred to the articles in three main ways: by quoting the authors verbatim, by expressing agreement with a statement and by elaborating on an idea or a statement.

> Direct quote: "Comme indiqué dans cette étude "careful planning for integrating content-language is important ([Author3], 2009)".
> (As indicated in this study […])
> Agreement: …une façon que je crois pourrait aider les jeunes à surmonter ce défi, tout comme [Author 3] nous suggère dans l'article. [3TC07F]
> (…one way that, I think, could help kids overcome this challenge like suggested by [Author3] in the article)
> Elaboration: "Reading the article's title immediately makes me focus on the desire to know what kind of education would be encouraging to our work […] because although this study was based in […] Chinese contexts, it may well be applicable to any educational context." [3TC32E]

As Table 3 shows, elaboration (53%-75%) and agreement (17%-38%) were the most common types of reference while the number of direct quotes (8%-35%) was relatively low. We also noted that there is an inverse relationship between the rates of reference types, especially clear in the case of the discussion of Week 5. Actually, Article 5 reports on a quantitative study the effects of pre-learning vocabulary on reading and writing performance and, therefore, included detailed statistical comparisons. It was possibly one of the most complex readings of the project. In turn, T/TCs seemed to be particularly cautious when dealing with this text, preferring to stay closer to the original (i.e., direct quotes), finding fewer opportunities for elaboration, and connections to lived experiences.

Generally, however, the high rate of elaborations indicates that T/TCs tended to appropriate the statements proposed in the articles by giving them personal meanings and significances. They seemed to translate the statements of the articles into teaching recommendations, using their lived experiences as a supporting reference, thus making the article's content more accessible and immediately relevant.

Third, the teachers were selective in the statements that they took up from the publications. A statement is defined as an idea unit from the article. In fact, we segmented the six articles into statements (N=35 to 79 per article) and coded each teacher reference to the article for the exact statement that the teacher was using. Table 3 shows that T/TCs commented mostly on statements presented in the discussion sections of the articles, where authors usually offer summaries and recommendations for practice.

The design section was the least commented on part except in the case of the article of Week 2 where the design section explained teaching scenarios. This is, in fact, another example that illustrates the central presence of the article in the forum and its role in shaping the content and focus of the T/TC' messages. In this regard, the articles seemed to have a more powerful and direct impact on the discussion than the researchers' contribution to the forum because the T/TCs responses were based on the articles.

Interaction among teachers

The interaction among teachers took several forms such as quoting or referring to previous messages; expanding on colleagues' arguments, thus giving a continuity and coherence throughout the message thread of each week.
Comme [TC name] a mentionné, tous les élèves dans nos salles de classe sont différents. [6TC14F]
(As [TC name] mentioned, the students in our classrooms are different.)

Je suis tout en accord avec « [TC name] » quand elle parle de l'application de UDL […]
Je suis en accord avec «[TC name] »; oui, c'est important de regarder aux IEPs [4TC08F]

(I agree with [TC name] when she talks about the application of UDL […] I agree with [TC name]; yes, it's important to check IEPs)
They also posed questions to engage the other teachers in conversation or redirect the debate:

[J]e ne voudrais pas qu'une minorité nuit à l'apprentissage de la majorité. Est-ce une mentalité défaitiste?" [4TC13F]

[I would hate to see a minority affect negatively the learning experience of the majority. Is that a defeatist attitude?)

"Y aurait-il alors des directions différentes prises par l'éducation ou ai-je totalement

tort?” [4TC01F]
(Would there be different directions to be taken by education or am I totally wrong?)

We also noted a few cases where teachers did not hesitate to disagree with their colleagues.
“Je crois que je ne suis pas tout à fait en accord avec [TC name] quand il dit
que (…).” [4TC14F]
(I think I don’t really agree with [TC name] when he says (…))

Agendas of teachers and researchers

A frequency list analysis was run for all the teachers’ French and English messages and all the researchers’ French and English messages. Table 4 below presents the first three most frequent words in each group of messages, after the elimination of all function words (i.e., determiners, articles). For this report, three tokens (students/ élèves; *je* as used by the teachers writing in French; *nous* used by the researchers writing in French) were investigated in detail by running concordance and qualitative analyses.

Table 4

Frequent words used by the participants in their posts

	Teachers				Researchers			
	French		English		French		English	
Rank	FRQ	Word	FRQ	Word	FRQ	Word	FRQ	Word
1	380	Elèves	10	students	23	élèves	39	students
2	339	Je			18	nous		

For the subsequent sections, we report findings per groups including numbers for both French and English messages.

Students/ élèves

The frequency of reference to students/ élèves was comparable across the writings of teachers and researchers. We conducted an in-depth manual analysis to identify the ideas/themes expressed in the sentences that contain these tokens.

Table 5 shows that both T/TCs and researchers wrote about students in a general sense, usually referring to L2 learners in a classroom context. It also shows that both groups made a few references to the student participants in the article of the week. T/TCs did refer to their own students, as well, often to recount anecdotes and give examples to support their arguments.

Table 5

Reference of the Words Students/ Élèves

	Teachers		Researchers	
	FRQ	%	FRQ	%
General	307	79	46	92
Own students	48	12.5	0	
Student participants in study	34	9	4	8
Teachers	1	.25	--	--

Analysis of the sentences containing the tokens Student/élèves by both teachers and researchers revealed five recurrent themes:

a. conceptualizations of the teacher's responsibility in facilitating student learning,
b. conceptions of what learning entails and how it happens,
c. reflections on the past and/or future classroom practice and experiences,
d. reference to the student-participants in the article,
e. categorizing students according of one identity aspect.

Using Nvivo 10, a research assistant coded 10% of the data, and inter-coder agreement was 80%. Table 6 below shows that teachers and researchers attended to all the themes but to varying degrees. T/TCs seemed slightly more concerned with defining teachers' roles and responsibilities than the researchers while the researchers focused relatively more on characterizing the learning process. Also, T/TCs referred more often to classroom experiences, than did the researchers. Table 6 suggests that while T/TCs and researchers shared a concern for optimizing learning for students, they differed in the stance they adopted (defining responsibilities vs. defining the learning process.

Table 6

Themes Associated with the Use of the Words 'Student/ Élèves

	Teachers		Researchers	
	FRQ	%	FRQ	%
Teacher roles and responsibilities	163	38.5	13	25
Conceptions of learning	145	34.5	24	46
Past/ Future classroom experiences	43	10	1	2
Reference to article	20	5	3	6
Categorizing students	54	13	11	21

The T/TCs seemed focused on the demands of their careers. Their statements mostly, had an authoritative tone to them, conveyed through the use of expressions such as "*il est très important de*" (it is very important to), "*c'est notre tâche de*" (it's our job to), "*les enseignants doivent*" (teachers must), "*il est impératif*" (it is imperative).

These statements suggest that the T/TCs used the forum space to project a strong professional identity and express their ideas on what works in the classroom. A similar authoritative and confident tone characterized their statements about conceptualizations of learning.

> "It is better to seek lessons in cycles and not in a linear fashion as students will have greater opportunity to learn significantly." [3TC32E]

On the other hand, the researchers' reflections on actual teaching practices were less frequent and overall more hedged. They used expressions such as "*It'd be helpful if*", "*it's most useful if L2 teachers can*", "*an alternative strategy that we suggest teachers to use*". Overall, the researchers did not seem to 'teach' the T/TCs what to do or how to do it. In general, teachers and researchers seem to have maintained distinct positions while interacting in the forum space, reinforcing the typical interests usually associated with each group.

First singular pronoun Je

The pronoun "je" (I) was the second most frequent token in the French teacher messages. *WordSmith* collocation and cluster analyses revealed that "je" occurred typically in three recurrent clusters: "je pense que", "je trouve que" and "je crois que" (I think/ I believe). A manual coding of the themes associated with "je" found that the pronoun was used to introduce opinions, express agreement, or (and most interestingly) to report on lived classroom and personal experience.

T/TCs used the forum space to voice their opinions about the relevance and effectiveness of certain teaching practices. They adopted a confident tone and did not hesitate to sanction or critique certain practices, often relying on the understanding and insights they gained from their experiences as language learners and/or teachers as support.

> "Je crois fermement à la valeur des jeux." [1TC01F] (I strongly believe in the value of games)

Teachers referred to the article of the week, either to build on the arguments advanced by the researchers or express agreement.

> "Je l'ai trouvé un peu surprenant d'entendre que les professeurs d'immersion négligent souvent l'intégration de la langue". [2TC12F]
> (I was surprised to hear that immersion teachers often neglect language integration).

The findings reported in Table 7 reveal a central position of the articles as a point of reference for the conversation. In fact, there were 69 instances where T/TCs expressed a positive opinion about the content of the article and 42 instances where the teachers underlined their agreement with a certain statement in the article (there were however, three instances of disagreement with the authors/articles related to issues of practicality and transferability to the classroom).

Table 7

Themes Associated with the Use of "je" in French Teachers' Messages

	FRQ	%
Express opinion/position	241	43.5
Article	69	
Teaching practices	190	
Other posts	9	
Classroom practices	123	22.5
Past	54	
Present	44	
Future	36	
Personal experience	119	21.5
Agreement	67	12
Authors	42	
TCs	31	
General statement	4	

First plural pronoun 'nous'

Table 8 presents the analysis of the use of the pronoun 'Nous' (We) in six contributions posted by researchers in French. The researchers used 'Nous' to refer to themselves, their co-authors and research team, mainly to discuss aspects of their published study. There were only two instances of 'nous' used as a general referent, and one reference to all the forum participants by a researcher who was also the moderator of the forum.

Table 8

Referent of Pronouns NOUS

	Researchers	
	FRQ	%
Reference		
Research team	7	44
Co-Authors	5	31.5
General	3	19
Forum	1	6.5
Research	14	87.5
Express position/ opinion	6	37.5
Article	4	
Practices	2	

Table 8 also shows the themes associated with the use of the pronoun 'nous'. The authors referred mainly to the research reported in the published article, mainly to explain some of the procedures or quote findings.

The following section summarizes and discusses the findings with reference to the conceptual frameworks of Lavis et al. (2003) and Graham et al. (2006).

Discussion and Conclusion

There is consensus in the literature (e.g., Graham et al, 2006; Cooper, 2010) on the need to identify, understand and then address the different types of gaps that exacerbate the distance between researchers and teachers. This project is based on the assumption that there is a linkage gap between teachers and researchers caused by differences in agendas and a lack of physical space to bring the two communities together. The project aimed to reduce this gap by creating a virtual space to facilitate communication within and between each group on issues of immediate relevance to the participants.

The findings indicate that researchers were aware of the social aspect of the forum space and adjusted their language accordingly. They specifically, acknowledged the presence and contribution of the teachers. However, although an online forum may have provided a medium for less formal interaction, the researchers maintained their distance and remained cautious not to tell teachers what to do, preferring instead to make general recommendations based on their research findings (e.g., Researcher 3 cautious use of 'learn' in reference to a general audience and not the T/TCs) and maintained a distance as evidenced by the language they used and how they used it. It is important to note, however, that these findings must be interpreted cautiously due to the limited number of researcher contributions. It would be advantageous for future research to gather more in depth qualitative data to bolster the findings. It may also prove beneficial to ensure articles and interactions are all in written in the same language for research purposes.

The T/TCs, on the other hand, seemed reluctant to acknowledge the researchers' presence in the same space. In fact, the published articles formed the nucleus of the conversations. This is consistent with the findings of a questionnaire administered at the beginning of the project and reported on elsewhere (Mady, 2013) in which teachers stated that unknown quality of research, availability of research articles, datedness and lack of transferability to their contexts were the main reasons impeding their use of research. It seems that given the project addressed all these issues by providing access to carefully selected high quality peer-reviewed articles recently published in the Canadian Modern Language Review, the teachers welcomed the opportunity to reflect on the articles and translate their theoretical recommendations into actionable messages (cf. the high rate of elaborations that built on published statements and integrating actual classroom experiences). The translation process was grounded in the T/TC' personal experience as language learners and professional expertise gained through classroom practices. In consideration of the question what to transfer to practitioners to encourage research uptake, Lavis et al (2003) suggest that researchers and/or intermediaries recommend actionable messages that can be taken from the research. In this study's context although actionable messages were provided in the support guides the T/TCs preferred to focus on the original articles and translate the information into practical implications for themselves providing direct links to their own experiences.

The actual presence of the researchers in the same space did not seem to encourage researcher/T/TCs interactions. Even when researchers addressed T/TCs by name, the T/TCs chose not to write back. The frequent word analysis revealed that T/TCs and researchers had slightly different agendas when writing for the forum. Unsurprisingly, teachers were more concerned with defining their future practices as supported by other research (e.g., Pennycook, 2005) while researchers focused on defining and supporting their own conceptualizations of learning.

Finally, the present paper aimed to evaluate the project for its usefulness in reducing the linkage gap and, more broadly, the project's operationalization of the Lavis et al. (2003) and Graham et al. (2006) frameworks. The findings seem to indicate that the 'creation of knowledge' step, in particular the selection and provision of selected articles, was the most successful aspect of the project, as it has succeeded in the provision of a body of research that met the T/TCs' needs and expectations, whereas the action cycle, the creation of the online discussion forum, in particular, appeared to have limited impact in facilitating effective and meaningful communication between the teachers and the researchers. We believe that several logistic issues contributed to this limitation. For instance, we were not able to arrange synchronous communication; the one-week timeline may have been insufficient to help the T/TCs develop a rapport with the researcher; T/TCs were not provided with sufficient scaffolding to interpret articles. Future research might meet with greater success if T/TCs work with researchers collaboratively to seek solutions to a shared concern thus minimizing the difference in roles that may have been highlighted in this context where the researcher was positioned as a guest and expert in the space. Such a future project could better position the researcher and teacher (s) as collaborating learners. However, we propose that it is also possible that the notion of a 'meeting space' might not be necessary for knowledge uptake when the relevant type of research is made available. That is to say that when provided with research articles on topics of interest teachers are able to take the information and make it applicable to their context without interacting with the researcher directly.

We do not see this lack of meaningful communication between L2 researchers and T/TCs as a failure for the project. We subscribe to the idea proposed above that teachers and researchers do in fact value different kinds of knowledge and pursue different objectives when reading the research. The teachers in our project used the knowledge presented to them to create their private knowledge base and tried to integrate it with their previous learning/teaching experience and their conception of their future practices. In that sense, the project achieved its goal of facilitating meaningful interaction with research.

References

Allison, D. & Carey, J. (2007). What do university language teachers say about language teaching research?. *TESL Canada Journal, 24*(2), 61–81.

Baker, P. (2009). The question is, how cruel is it? Keywords, foxhunting and the House of Commons. In D. Archer (Ed.), *What's in a word-list? Investigating word frequency and keyword extraction* (125-136). Farham: Ashgate.

Bartels, N. (2003). How teachers and researchers read academic articles. *Teaching and Teacher Education, 19*(7), 737–753.

Borg, S. (2009). English language teachers' conceptions of research. *Applied Linguistics, 30*(3), 355–388.

Cochran-Smith, M., & Lytle, S. (1999). The teacher research movement: A decade later. *Educational Researcher, 28*(7), 15–25.

Cooper, A. (2010). "Knowledge Brokers: A Promising Knowledge Mobilization Strategy to Increase Research Use in Education", Paper presented at the Annual Meeting for American Education Research Association, Denver, Colorado. Available at: http://www.oise.utoronto.ca/rspe/Publications_Reports_Conferences/index.html#CSSE_2010 [Accessed 29 August, 2012]

Cordingly, P. (2008) Research and evidence-informed practice focusing on practice and practitioners, *Cambridge Journal of Education, 38*(1), 37-52.

Davies, H., Nutley, S. and Smith, P. (2000). *What works? Evidence-based policy and practice in public services*, Bristol: The Policy Press.

Davies, P. (2000). The relevance of systematic reviews to educational policy and practice. *Oxford Review of Education, 26*(3-4), 365-378.

Ellis, R. (2001). Second language acquisition: Research and language pedagogy. In C. Candlin & N. Mercer (Eds.), *English language teaching in its social context* (pp. 44–74). London: Routledge.

Graham, I., Logan, J., Harrison, M., Straus, S., Tetroe, J., & Caswell, W. (2006). Lost in knowledge translation: time for a map? *Journal of Continuing Education in the Health Professions, 26*(1), 13–24.

Hargreaves, D.H. (1996). *Teaching as a Research-Based Profession: Possibilities and Prospects* (Cambridge, Teacher Training Agency Annual Lecture).

Hargreaves, D.H. (1997). In defense of research for evidence-based teaching: a rejoinder to Martyn Hammersley, *British Educational Research Journal, 23*(4), 405–419.

Hattrup, R. Bickel, W. & Gill, A. (1993). Teacher-researcher collaboration: resolving the tensions. *Educational Leadership, 50*(4), 38-41.

Hemsley-Brown, J. (2004) 'Facilitating research utilization: A cross-sector review of research evidence', *The International Journal of Public Sector Management, 17*(6), 534-552.

Herrenkohl, L. R., Kawasaki, K. & Dewater, L. S. (2010). Inside and outside: teacher-researcher collaboration. *The New Educator, 6*(1), 74–92.

Hurt, D. (2010). Automatically generated Keywords: A comparison to author generated keywords in the sciences. *Journal of Information and Organizational Sciences, 34*(1), 81–88.

Kramsch, C. (1995). The applied linguist and the foreign language teacher: Can they talk to each other? *Australian Review of Applied Linguistics, 18*(1), 1–16.

Larsen-Freeman, D. (1998). On the scope of second language acquisition research: ‘the learner variety’ perspective and beyond-a response to Klein. *Language Learning, 48*(4), 551–56.

Lavis, J. N., Robertson, D., Woodside, J.M., Mcleod, C.B., & Abelson, J. (2003). How can research organizations more effectively transfer research knowledge to decision makers?’, *The Milbank Quarterly, 81*(2), 221–248.

MacDonald, M., Badger, R. & White, G. (2001). Changing values: what use are theories of language learning and teaching? *Teaching and Teacher Education, 17*(8), 949-963.

Mady, C. (2013). Reducing the gap between educational research and second language teachers’ knowledge. *Evidence and Policy 9*(2), 1-22. http://dx.doi.org/10.1332/174426413X662509

Nasajji, H. (2012). The relationship between SLA research and language pedagogy: Teachers’ perspectives. *Language Teaching Research, 16*(3), 337–365.

Ontario Leadership Strategy. (2011). Using data: Transforming potential into practice. *From Research to Policy to Effective Practice*. Retrieved from: http://www.edu.gov.on.ca/eng/policyfunding/leadership/IdeasIntoActionFall11.pdf

Pennycook, A. (2005). Teaching with the flow: Fixity and fluidity in education. *Asia Pacific Journal of Education, 25*(1), 29-43.

Pfeffer, J. and Sutton, R. (2006). *Hard facts, dangerous half-truths and total nonsense: Profiting from evidence-based management,* Boston, MA: Harvard Business School Press.

Rickson, M., 2005. *Practioners use of research,* The National Educational Research Forum: UK.

Römer, U. & Wulff, S. (2010). Applying corpus methods to writing research: Explorations of MICUSP. *Journal of Writing Research, 2*(2), 99–127.

Rourke, L., Anderson, T., Garrison, D. R. & Archer, W. (1999). Assessing Social Presence in Asynchronous Text-Based Computer Conferencing. *Journal of Distance Education, 14*(2), 50–71.

Sanders, M. & Lewis, K. (2005) ‘Building bridges toward excellence: Community involvement in high school’, *High School Journal, 88*(3), 1-9.

Scott, M. (2012). WordSmith Tools version 6, Liverpool: Lexical Analysis Software.

Smylie, M. & Corcoran, T. (2009) ‘Nonprofit organizations and the promotion of evidence-based practice in education’. In J. Bransford, D. Stipek, N. Vye, L. Gomez & D. Lam (Eds.) *The role of research in educational improvement,* Harvard Education Press: Cambridge Massachussetts.

Zeuli, J. S. (1994). How do teachers understand research when they read it? *Teaching and Teacher Education 10*(1), 39–55.

Well-Being and Human-Animal Interactions in Schools: The Case of "Dog Daycare Co-Op"

Laura Elizabeth Pinto
University of Ontario Institute of Technology

Donna Foulkes
Peel District School Board

Abstract

This study draws on Martha Nussbaum's (2000) account of the nature of human well-being in order to explore the role of animals in formal education settings. Nussbaum's capabilities approach identifies the ability "to have concern for and live with other animals, plants and the environment" (p. 80) as a necessary component for well-being. Yet, this condition of well-being remains largely unexplored in education despite research that suggests many potential social and health benefits of dog-human interaction. This paper describes the effects of a unique, Canadian school-based cooperative education program in which students work with animals for high school credit. The qualitative research design is based on interviews, students' own stories of the impact of animal interaction – particularly in light of other challenges they faced academically and socially. Research results, support other empirical accounts of positive effects of animals in education settings, and offer insight into the nature of human-animal interaction as a component of well-being within a vocationally-oriented program.

Keywords: teaching; education; well-being; human-animal interactions

Laura Elizabeth Pinto, Ph.D., is an Assistant Professor in the Faculty of Education at the University Of Ontario Institute Of Technology in Oshawa, Ontario. She was the recipient of a 2009 Governor General's Gold Medal, and a shortlisted author for the 2013 Speaker's Book Award for her policy-related research.
Email: laura.pinto@uoit.ca

Donna Foulkes (O.C.T) is a teacher at Peel District School Board in Mississauga, Ontario and the recipient of a 2014 OTIP Award of Excellence for Secondary Teachers.
Email: donna_foulkes@rogers.com

Introduction

Philosophical attention to human-dog relations can be traced back to the Ancient Greeks in the teachings of Diogenes the Cynic. Some contemporary philosophers – most notably Donna Haraway (2003, 2007) and Raimond Gaita (2005) have explored how dogs fulfill very important relationship functions. Haraway (2007) goes so far as to argue (extending Chris Cuomo's position) that the core ecological, feminist ethical starting point is a "commitment to the flourishing or well-being, of individuals, species, and communities" (Haraway, 2007, p. 134). In this view, compassionate action in relation to companion species such as dogs is crucial to human flourishing. Haraway's (2007) influential work led to inquiry in which dog-human relationships are taken seriously in the humanities and social sciences. This has opened up a new field of inquiry called critical pet studies (for example, Nast, 2006a) provides an exploration of how animals function within everyday human activities and the impacts of that function (Nast, 2006b).[2]

Empirically, recent attention in the social sciences to dog-human relationships has focused on the role of dogs as companion animals (for example, Bauer, Ward & Smuts, 2009; Smuts, 2006), and social and health outcomes resulting from that role (Burrows, Adams & Spiers, 2008; Daly & Morton, 2009; Folse, Minder, Aycock & Santana, 1994; Haraway, 2007). Children with certain types of special needs such as autism have derived immense benefits from working with dogs – including their social needs being met, positive mental health outcomes, personal safety, and increased freedom (Anderson & Olson, 2006; Burrows, Adams & Spiers, 2008; Friesen, 2010; Folse et al., 1994). With respect to adults, an international, longitudinal study concluded that those who continuously owned a pet were healthier than those who did not (Headley & Grabka, 2007). The immediate effects of dog-human interaction reported included stress buffering and relaxation, which may have an impact on other human health indicators including decreased blood pressure and decreases in heart disease risk factors (Virués-Ortega & Buela-Casal, 2006). Other research concluded that pets led to greater interaction with other people and may have resulted in increased civic engagement by way of social connections made through animals (Wood, Giles-Corti & Bulsara, 2005).

Additional empirical research has investigated the effects of various forms of dog inclusion in formal education settings that range from post-secondary institutions to early childhood education settings. Firstly, small-scale research about the use of therapy dogs in post-secondary exam settings concluded that dog interaction reduced test-taker stress (Bell, 2013; Reynolds & Rabshutz, 2011). In these programs, therapy dogs were brought to university and college campuses during examination periods, and kept with their handlers in designated spaces near campus. Students had the option of visiting the therapy dogs. This type of program has been used successfully at the University of Toronto, the University of Saskatchewan, Carleton University in Ottawa, University of Manitoba, Memorial University of Newfoundland, University of Connecticut, Massachusetts Institute of Technology (MIT), Yale Law School, and many others. Both anecdotal and empirical accounts of these programs suggest promising contributions to individual students' well-being and appear to be consistent with the physiological health benefits of dog-human interactions described earlier.

---

[2] A full exploration of critical pet studies is beyond the scope of this paper. While critical pet studies describes, on the one hand, the benefits of human-animal interaction, it also exposes ways in which contemporary human-animal relations can displace concern for other humans. For example, Nast (2006b) describes how the booming pet insurance industry has thrived while many human citizens cannot afford health care or insurance. Nast (2006b) also critiques the ways in which greenspace dedicated to pets in densely-populated communities seems to take precedence over parallel dilemmas about the lack of greenspace in low-income urban communities.

Secondly, small-scale research about the use of therapy dogs in early childhood settings confirmed many positive impacts, ranging from gains in literacy development among reluctant readers (Francis, 2009; Friesen, 2009, 2010; Jalongo, 2005; Jalongo, Astoria & Bomboy, 2004) to positive, pro-social classroom behavior when dogs were present (Anderson & Olson, 2006; Beetz, 2013; Kotrschal & Ortbauer, 2003; McNicholas & Collis, 2000). Similarly, Beetz (2013) reported a growing trend in Europe of teachers bringing their dogs into classrooms, and her research pointed to various social interaction benefits within those classrooms. In North America, specialized dog training and certification through Reading Education Assistance Dogs (READ) is available. In 2012, READ had 2,000 registered teams across the United States, in three Canadian provinces, in Europe, and elsewhere (Schwartz, 2012). In dog-supported literacy programs like READ, children read to the therapy dogs in schools and libraries with no adult intervention as a means of practicing literacy. Children who were already struggling with reading tended to take more risks (for example, sounding out difficult words) when reading to a dog rather than a person, thus helping them to build reading proficiency and vocabulary (Jalongo, 2005). While only documented anecdotally, the pleasure and excitement that the children derived from working with dogs may contribute to more positive attitudes towards reading and literacy.

Animal inclusion in formal education is not a novel concept. Dewey's (1907) philosophy of education emphasizes the importance of natural settings and authentic learning as central to meaningful education. He was specific about the value of direct contact with the natural world, including plants and animals:

> No number of object-lessons, got up as object-lessons for the sake of giving information, can afford even the shadow of a substitute for acquaintance with the plants and animals of the farm and garden, acquired through actual living among them and caring for them. No training of sense-organs in school, introduced for the sake of training, can begin to compete with the alertness and fullness of sense-life that comes through daily intimacy and interest in familiar occupations. (Dewey, 1907, pp. 24-25).

Like Dewey (1907), philosopher of education Noddings (2003) emphasizes the need for pedagogies of places and nature in all school curricula, based on the biophilia hypothesis: that human beings have an inherent need to affiliate with nature beyond the need for food. Cultivating healthy relationships with nature in educational settings, she explains, contributes to happiness and the fulfillment of a basic need (Noddings, 2003). While she proposes that such education ought to take place in natural settings, she acknowledges that this may not always be feasible. Alternately, she recommends bringing nature into schools through gardens, pets, and other methods. She cautions, however, that "delight" must precede tedious tasks: when affiliation with nature begins as a chore, learners may lose their natural joy and enthusiasm. In her view, responsibility must be phased in as learners become more involved with and invested in nature – something that can only happen by allowing an initial wonder to flourish. Noddings (2003) also encourages teachers to have faith in incidental learning that occurs as learners explore the world in/with nature.

The philosophical thought and empirical research just described point to unique ways in which dog-human interactions can contribute to individual well-being in school settings. Yet despite growing interest among social scientists and some educators about the positive effects of dogs in education, it has received relatively little attention among contemporary philosophers of education. This paper takes up Dewey's (1907) and Noddings' (2003) calls for natural education, and considers how the integration of animals in school settings play a role in well-being by examining students' self-reported perceptions after a semester-long program in which they worked with dogs.

In what follows, we explore how animals in school settings affect the well-being of those in the school community, especially students. To do so, we begin by situating our work in Nussbaum's (2000) capabilities approach as a substantive account of well-being. Next, we describe the context in which the research took place, and describe the methods used to capture students' perceptions of working with dogs. The data presented are small in scale, and we limit our work to a descriptive (not normative) account of the impact of dogs in formal education. Finally, we discuss themes that emerged from the data in relation to educational aims, Nussbaum's (2000) capabilities, and the theoretical positions of Dewey (1907) and Noddings (2003).

Cultivating human flourishing as well-being: Nussbaum's capabilities approach

Well-being is a loosely defined, fluid concept (Jaggaer, 2006; Qizilbash, 1998; Tiberius, 2004). For the purpose of this paper, Nussbaum's (2000) capabilities approach offers a substantive view about the nature of well-being, including a detailed account of its components. Nussbaum's (2000) Aristotelean framework posits that well-being is human flourishing: people live well when engaged in essential human functions, which she terms capabilities. The central social goal in any community or society should be understood in terms of getting citizens above the minimum capability threshold (Nussbaum, 2000). She is very clear that the capabilities ought to be treated as ends for all citizens.

Nussbaum (2000) characterizes her capabilities approach as a cross-cultural normative account of basic constitutional principles that should be respected by all governments as a bare minimum for human dignity. She developed the framework through consultations with various international women's development projects and groups. Nussbaum's (2000) resulting ten capabilities are:

1. Life (living a life of normal quality and length)
2. Bodily health
3. Bodily integrity (moving freely from place to place and security against violent assault, opportunities for sexual satisfaction and choice in matters of reproduction)
4. Senses, imagination, and thought
5. Emotions (having attachments to things and people outside the self; to emotional development not blighted by fear and anxiety)
6. Practical reason (including freedom of conscience and religious observance)
7. Affiliation
8. Other species
9. Play
10. Control over one's political and material environments

Each capability represents a necessary, but insufficient, condition for human flourishing and well-being (Nussbaum, 2000; Tiberius, 2004). Nussbaum (2000) emphasizes that they are separate and independent of one another: one capability cannot be satisfied by providing a larger amount of another. Yet, all, she argues, are central to well-being.

For this paper, we narrow our concern to the eighth condition concerning other species: "to have concern for and live with other animals, plants and the environment at large" (Nussbaum, 2000, p. 80). Nussbaum (2000) conceives of this capability broadly – such that it includes all interaction with the natural world and is not restricted to companion animals. She added this capability at the insistence of Scandinavian participants "who said that this was something without which, for them, no life could be truly human" (Nussbaum, 2000, p. 157). Her findings are consistent with Noddings' (2003) position that interaction with the natural world is a basic human need. For example, Norway actualizes this capability by protecting regions (keeping them free of habitation and development) so that people can enjoy the solitude in the forest (Nussbaum, 2000).

Nussbaum (2000) describes "other species" as the most controversial of the capabilities. She reports that participants from other parts of the world questioned the capability and its relevance. Yet, she came to believe that it has an important role to play in human flourishing though acknowledged the impossibility of achieving political consensus. She speculates that those who object to including this capability lack experience in or with the natural world.

Whereas Nussbaum's (2000) examples of interaction with the natural world are based on project participants' accounts of it, critical pet studies scholars suggest that companion animals (especially dogs) have a specific function in Western, industrialized societies. Declines in family size, aging populations, and isolated work and leisure activities result in human alienation that takes the form of loneliness and fewer place-based communities (Nast, 2006b). Companion animals fill that void by offering companionship and provide a means to enter a different type of social community such as a dog park (Nast, 2006b). In this way, animals can (and do) contribute to well-being by providing a means of social bonding and a sense of belongingness.

Policy context: Multiple educational aims

The present research is situated in the province of Ontario, where curriculum oversight via prescriptive policy documents is the responsibility of the provincial Ministry of Education (OMoE). Since the late 1990s, the Ontario MoE has increasingly emphasized vocational aims in education policy (Hyslop-Margison & McKerracher, 2008; Pinto, 2012, 2014). One manifestation of Ontario's vocational agenda is emphasis on cooperative education. The mechanics of cooperative education programs and learning outcomes are prescribed in curriculum policy documents though schools have authority to develop thematic, two or four credit cooperative education around a particular industry or occupational group. In these arrangements, students receive some in-class training combined with co-operative education placements in workplaces outside of the school – for example, a student may have a placement in a local hospital, a retail store, an office, and so on.

Ontario's emphasis on vocational education represents one of many educational aims. Philosophers of education have long emphasized that multiple educational aims can and should coexist (Hodgkinson, 1991). Most philosophers of education agree that individuals and systems must balance those aims in the best interest of students (Hodgkinson, 1991). For example, Noddings (2003) describes the value of educating for both "private" life (making a home, loving places and nature, parenting, character and spirituality, and interpersonal growth) and for "public" life (preparing for work, educating for community, democracy, and service). Within her schema, well-being as an educational aim would be situated in the private dimension, but not at the expense of preparation for public life.

Over-emphasis on any single aim has implications on what forms of knowledge are valued and what "counts" as legitimate learning. Noddings (2003) argues that "aims talk" in contemporary education (that is, a concern with narrow forms of achievement captured by standardized testing) must be reconsidered in favour of a concern for human flourishing as a central educational goal. "If we believe that people should have the chance to live happy and fulfilling lives," she writes, narrow aims "will simply not do" (Noddings, 2003, p. 84). Rather, she advocates happiness as a central educational ideal. Happiness depends on human flourishing, which is tied to well-being.

Some argue that Ontario's strong vocational education – despite its legitimacy as an educational aim – places disproportionate emphasis on the economic aspects of public life (Hyslop-Margison & McKerracher, 2008; Pinto, 2014). Along these lines, Noddings (2003) expressed a concern that this form of education directed towards economic ends narrows educational experiences in ways that diminishes a pursuit of well-being. The framing of vocational education aims affects how students view their roles as workers and citizens (Pinto, 2012). The framing can also contribute to or detract from the cultivation of well-being, particularly when both the official and hidden curriculum position students strictly in economic terms (Pinto, 2012).

Research Context

The research site was a vocationally-oriented high school in a large, suburban Ontario school board. The school provides a number of unique programs to serve students with exceptionalities. Typically, these programs offer a variety approaches to accommodate those students.

The school studied, Howth Castle Collegiate[3] strongly encourages students to participate in co-operative education programs in keeping with both the school's and provinces vocational focus. A challenge faced by the Howth Castle Collegiate was ensuring that all students – including those with exceptionalities – had meaningful cooperative education opportunities. Given the Howth Castle Collegiate relatively large population of students with exceptionalities, placement options in the community were limited, since, students may require accommodations that are not feasible outside the school. The program studied in this research, *Dog Daycare Co-op*[4], was developed to address this need. In-school work placement opportunities (e.g., dog daycare) offered an option to accommodate students who may not thrive in a community-based placement outside the school. Started in September, 2011, *Dog Daycare Co-op* was designed to give students a balance of academic credits and hands-on learning in an on-site dog daycare service. The school, which had struggled with declining enrolment, also saw the dog daycare program as a means to attract new students. In its first year, the program had 10 students; in year two the enrolment increased to program's maximum capacity of 15 per semester.

Students enrolled in *Dog Daycare Co-op* during this research began with a month-long formal curriculum that included field trips, webinars, and guest speakers to learn about dog handling, animal CPR/safety, and basic grooming (bathing, brushing). A small business curriculum helped them understand how to establish and maintain processes typical of a dog daycare or grooming workplace outside school settings. This curricular arrangement also supports the school's vocational designation while adhering to the government's strong emphasis in the official curriculum of a career-related study.

---

[3] In accordance with REB requirements, a pseudonym has been used for the school.

[4] A program pseudonym has been used to ensure research participants' anonymity.

For the remainder of the semester, students studied business concepts and animal behaviour two days a week, and worked with dogs by running a school-based dog daycare three days a week. The dogs attending the daycare belonged to school staff members who paid $200 each per semester (about $5 a day) for three-day-a-week dog care.[5] All funds went back into the program. At the end of the semester, students earned four credits towards their high school diploma.

The program pair one dog with one student to ensure dog "enrolment" corresponds to the number of students in any given semester. For the safety of both humans and dogs, all dogs are screened before they are admitted to the program, and any dogs that show signs of unsafe behavior is removed from the program. The nature of the program ensures all students interact with dogs and other students – though the structure differs from the ecological inquiry/experience in natural spaces that Nussbaum (2000), Noddings (2003) and Dewey (1907) hold as the ideal. Rather than exploring nature outside of the school, nature is brought into school settings by way of dogs. Noddings (2003) acknowledges this form of natural education as a legitimate alternative to overcome the practical problems of exploring nature outside of the school, especially in urban settings.

Research Methods

The paper reports on research that took place during *Dog Daycare Co-op*'s second year of operation (2012-2013). The researchers obtained research ethics board (REB) approval from the school district and the principal investigator's (PI) University. Signed parental consent to participate in the study was obtained at the beginning of the semester by the program's teacher. The parents of all students enrolled in the program received and signed the informed consent letter distributed by the teacher. Parental consent was obtained because students enrolled in the program had not reached the age of majority, and many of them had been identified with exceptionalities. Students could verbally dissent from participation. A total of 15 interviews with students aged 15 to 17 years old at the end of their semester-long participation in the *Dog Daycare Co-op* program were conducted. All students enrolled in the program that semester were interviewed during class time, and none of them verbally dissented from participation.

The larger (2012- 2013) research project also included the collection of quantitative data in the form of the Empathy Index for Children and Adolescents (IECA) (Bryant, 1982)[6]. This paper limits itself to the interview data for several reasons. First, our concern with student perceptions of well-being for the purpose of this paper was addressed through the interview questions, whereas the quantitative portion of our research was concerned with empathy. Second, interviews allow students' voices to come through, offering a detailed narrative account of their unique experiences and perceptions. We believe that those student perceptions are central to understanding how working with dogs affected their well-being.

---

[5] In 2014, the program structure was changed to a fee of $250 that includes grooming session with a professional groomer who provides students enrolled in the program a 4-hour grooming theory lesson.

[6] At the beginning of the semester, prior to working with the dogs, students participating in this research completed the IECA Empathy Index for Children and Adolescents (IECA) a 22-item self-report questionnaire developed and validated by Bryant (1982) to assess dispositional empathy in children aged 6 or older, and has been used with individuals in their adolescent years (see, for example, De Wied, Maas, Van Goozen, Vermande, Engels, Meeus, Matthys &

One-on-one interviews were conducted by the PI in *Dog Daycare Co-op*'s loft area during class time. The loft is located directly above the classroom area, which allowed the PI to interact and converse with students without distractions or interference from teachers and students. Interviews were guided by a semi-structured protocol containing three broad questions aimed at understanding students' self-reported perceptions about the program, and prompts used to encourage participants to share specific examples or elaborate on points made.

Interviews were recorded and transcribed. Analysis of transcripts followed Creswell's (2013) recommendations for constant comparative analysis typically used for grounded theory studies in order to identify themes. We simultaneously coded and analyzed data, identifying potential themes that spanned across multiple transcripts. We noted passages that characterized emergent themes using coloured markers so that the data would remain in context. We continued to refine comparisons until strong themes emerged across transcripts. Finally, we compared constant-comparative themes to the literature (especially Nussbaum's capabilities) and made note of connections.

Students' experiences and perceptions

The interviews with 15 students aged 15 to 17 years old at the end of their semester-long participation in *Dog Daycare Co-op* revealed two, related themes: (a) vocational musings, and (b) bonding/belongingness. In this section, we will discuss each theme in relation to the literature.

Vocational musings

In the interviews, students linked their experience to future occupational goals without researcher prompting. Some reported that the experience made them wish to have a career working in dog care, others discussed how they enjoyed the experience but it led them to conclude that working with animals as an occupation was not for them. However, even those who concluded they prefer not to work with dogs emphasized that they enjoyed the program and hoped to continue to spend time with dogs as pets. For example, one student began by emphasizing that she enjoyed interacting with the dogs, but "it's helped me definitely decide not to work in dog daycare." Another student began by stating she thought the program "would be boring," but participation "changed me to work in the dog industry." Another stated that prior to the course, he didn't know what he wanted to do, but participation "helped me figure what I wanted to do. Work with dogs." The emphasis on occupation in participant responses may be a result of several factors. First, the

---

Goudena, 2007). The IECA was re-administered at the end of the semester. A pre- and post-test analysis revealed no significant changes in empathy on IECA survey items when analyzed quantitatively. The survey instrument, methods, and results of quantitative analysis are available at http://laurapinto.weebly.com/uploads/2/4/8/4/24842679/dog-empathy-table.pdf setting happens to be a vocational school, and *Dog Daycare Co-op* is a cooperative education course, so it is necessarily tied to occupation. The curriculum is overtly tied to career choices based on the credits assigned to the program, and these outcomes are established by the Ontario MOE. This official curriculum may have influenced students' perceptions about the nature of their participation.

Bonding/belongingness

The second and more prominent theme that emerged from interviews was participants' reports of bonding and belongingness that resulted from their participation in *Dog Daycare Co-op*. Almost all students called attention to "friendship" or "bonds" with human and animal as well as other students an important feature of their participation, and this led them to feel a sense of belonging. The collaborative nature of the daily care of dogs allowed students to interact with dogs and other students. In a representative quote, a male student stated, "the best part of participating was that I got new friends" – emphasizing that when he said "friends" he was referring to both humans and dogs. Another student talked about how the acts of grooming and training dogs resulted in bonding with the dog assigned to her. Another explained that she would recommend the program to other students because, "it'll make you feel loved by dogs." These quotations reflect criteria for well-being envisioned by Nussbaum (2000).

Several participants described "feeling loved," suggesting the importance of affective and social aspects of dog interaction. Perhaps the most striking aspect of "feeling love" was revealed in two students' responses. Both of these students self-reported that they had experienced difficult times in school. One female had a self-described history of truancy and talked about how the program changed her interest in attending school. In her own words, "you bond so well with the students and dogs" that "dogs make school worth coming to…before this program, I often skipped school." She explained that knowing the dogs would be there expecting to see her gave her inspired motivation to attend. Her reported sense of belongingness was so powerful that it increased her level of engagement in school.

Another student disclosed that she experienced anxiety and depression and that she had a tendency to be late for school. She reported that she "doesn't like people", something she claims made school an unpleasant experience. She went on to explain that she developed a very close bond with one dog in the program (Finnegan[7]). The relationship she had with the dog motivated her to want to come to school and to arrive on time. During the interview, she cried when she discussed the program coming to an end because her regular contact with Finnegan would end. Strong student-dog bonds like this one had occurred in earlier iterations of *Dog Daycare Co-op*. In fact, teachers reported that one student-dog bond was so strong that the dog pined for the student when the student's time in the program ended. These experiences and examples demonstrate direct increases in perceived well-being (in the form of belongingness) that were so strong, students felt motivated to attend school because of these important connections to others.

The student-dog bonds described extended beyond caring for another creature. The development of compassion speaks to an element of well-being and ties to the core ecological, feminist ethic (Haraway, 2003). According to students, those bonds were grounded in substantive learning about dogs and their ways of being. Several students talked about their discoveries relating to the nature of dogs and their understandings of care and empathy. One student articulated this in precise terms: “The most important thing I learned in this program was having more empathy and compassion for the dogs.” This type of bonding is consistent with Nussbaum’s “other species” capability, and suggests the type of natural flourishing towards which this capability strives.

---

[7] In accordance with REB requirements, pseudonyms have been used.

The importance of play that happens to be another one of Nussbaum’s 2000 capabilities, was raised by almost all participants. Its importance was in relation to the role of human-dog play as enjoyment consistent with Noddings’ 2003 assertions about the importance of joy in education through nature. Several students discussed the wonder of learning to decipher dogs’ play styles (for example, what a dog’s “bow” communicates to other dogs and people). One student, who claimed she discovered a “hidden skill” (her words) for communicating with both dogs and people, stating “don’t mistake ‘play with dogs’ for ‘understanding how [sic] dogs are like, their feelings and reactions.” This group of statements points to students’ interest in learning to communicate with and understand the dogs in the group. Furthermore, the statements reinforce Noddings’ (2003) views on biophilia as well as Haraway’s (2007) and Nussbaum’s (2000) claims about the nature and importance of companion species relationships because the students describe ways in which relationships in dogs enriched learning.

Multiple participants reported observing other students being “calmed” by dogs. One female in the class described a classmate who easily “gets angry,” but whom participation "helps to keep calm." She described how the classmate was able to overcome feelings of anger and aggression by spending time focusing on and interacting with his assigned dog. This theme is certainly consistent with much of the empirical data on the positive calming physiological effects of dogs (Virués-Ortega & Buela-Casal, 2006). Moreover, the well-being of individuals and the entire group was enhanced by helping students have more positive and calming interactions based on the effects of dogs on their dispositions and behaviour.

While bonds between individual students and their assigned dogs contributed immensely to a sense of belongingness, it was not at the expense of bonding with other humans in the group. Clearly, the structure of the program - including the time for play, to the development of compassion, caring for others and interaction with multiple species - make specific contributions to participants’ well-being in school.

Conclusion

While *Dog Daycare Co-op* has a clear vocational mandate, students’ perceptions suggest that the program served an important function in contributing to their well-being through interaction with human and animal others. The bonding had profound effects on some students: especially the two 16-year-olds who reported that their bonds with dogs motivated them to attend and arrive at school on time. Students’ reported feelings of belonging and “feeling loved” suggest that meaningful interactions with companion species may contribute to the kind of human flourishing that Nussbaum (2000) and Noddings (2003) describe in their normative accounts of well-being.

The findings also suggest that substantive well-being can be pursued within and against the backdrop of vocationally-focused education. Students’ perceptions support Noddings’ (2003) views about the value of educating for both “private” life (building relationships as well-being) and for “public” life (vocational musings evident in the analysis).

This is not to suggest that all aspects of *Dog Daycare Co-op* follow conceptions of well-being associated with the work of Nussbaum (2000), Noddings (2003), and Dewey (1907) relating to natural education. The program itself is structured in a way that conforms to Ontario’s prescriptive curriculum guidelines, and emphasizes economic/vocational ends consistent with provincial educational directions. Interviews revealed that the "official curriculum" fulfilled Noddings' (2003) conception of education for "public" life and Dewey's ideal of "introduce[ing] into the school something representing the other side of life – occupations which exact personal responsibilities and which train the child with relation to the physical realities of life" (Dewey, 1907, pp. 25-26). Interview analysis demonstrated that students had internalized the vocational learning, but certainly this occurred alongside the cultivation of capacity for "private" life (Noddings, 2003), including enriching bonds with others that contributed to their well-being.

The research points to many further avenues for empirical and philosophical inquiry related to the inclusion of animals in school settings. Continued research with subsequent *Dog Daycare Co-op* cohorts would allow for insight into how representative this group of participants' experiences are of the program as a whole. Further research on similar programs operating in other districts would offer greater insight into the effects of dog-human interaction in school settings. Critical analysis of school-based dog daycare using the methods and approaches of critical pet studies (Nast, 2006a, 2006b) would call attention to a broad array of social implications arising out of a program like this one. Such research could extend important discussions about whether classroom-based curriculum, which is vocational in nature, has an obligation to address the questions raised in critical pet studies in an age-appropriate manner. While *Dog Daycare Co-op* may address some students' needs for belongingness, further investigation could address whether the presence of dogs creates a "celebration of 'innocence' diverting critical interest away from the non-innocent world of pressing human concerns" (Nast, 2006b, pp. 324-325) such as use of resources for dog daycare (rather than child daycare) and their benefit to the community. Critical pet scholars might also explore the commoditized nature of animal inclusion – dogs are brought into the school not only for altruistic purposes, but as part of a commercial transaction. As such, the program's structure can be viewed as contributing to the normalization of neoliberal and consumerist practices in a public institution instead of promoting altruist care. Further research about the hidden curriculum conveyed by the program that treats care as a financial transaction yield suggestions for future program revisions and development.

References

Anderson, K.L, & Olson, M.R. (2006). The value of a dog in a classroom of children with severe emotional disorders. *Anthrozoös: A Multidisciplinary Journal of the Interactions of People & Animals, 19*(1), 35-49.

Bauer, E., Ward, C & Smuts, B. (2009). Play like a puppy, play like a dog. *Journal of Veterinary Behavior: Clinical Applications and Research, 4*(2), 68-69.

Beetz, A. (2013). Socio-emotional correlates of a school dog-teacher-team in the classroom. *Frontiers in Psychology, 4,* 1-7.

Bell, A. (2013). Paws for a study break: Running an animal assisted therapy program at the Gerstein Science Information Centre. *Partnership: The Canadian Journal of Library and Information Practice and Research, 8*(1), 1-14.

Bryant, B.K. (1982). An index of empathy for children and adolescents. *Child Development, 53*, 413–425.

Burrows K.E., Adams C.L. & Spiers J. (2008). Sentinels of safety: service dogs ensure safety and enhance freedom and well-being for families with autistic children. *Qualitative Health Research, 18*(12), 1642-1649.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd Ed). Thousand Oaks, CA: Sage.

Daly, B. & Morton, L.L. (2009). Empathic differences in adults as a function of child and adult pet ownership and pet type. *Anthrozoös: A Multidisciplinary Journal of the Interactions of People & Animals*, *22*(4), 371-382.

Dewey, J. (1907). The school and society. Chicago, IL: University of Chicago Press.

De Wied, M., Maas, C., Van Goozen, S., Vermande, M., Engels, R., Meeus, W., Matthys, W. & Goudena, P. (2007). Bryant's Empathy Index: A closer examination of its internal structure. *European Journal of Psychological Assessment*, *23*(2), 99-104.

Folse, E. B., Minder, C. C., Aycock, M. J., & Santana, R. T. (1994). Animal-assisted therapy and depression in adult college students. *Anthrozoös: A Multidisciplinary Journal of the Interactions of People & Animals*, *7*(3), 188-194.

Francis, A. (2009). Thursdays with MacGyver. The benefits of a library therapy dog. *Children and Libraries: The Journal of the Association for Library Services to Children*, *7*(2), 50-52.

Friesen, L. (2010). Exploring animal-assisted programs with children in school and therapeutic contexts. *Early Childhood Education Journal, 37*(4), 261-267.

Friesen, L. (2009). How a therapy dog may inspire student literacy engagement in the elementary language arts classroom. *LEARNing Landscapes*, *3*(1), 105-121.

Gaita, R. (2005). *The philosopher's dog: Friendships with animals*. New York, NY: Random House.

Jaggar, Alison M. (2006). Reasoning About Well-Being: Nussbaum’s Methods of Justifying the Capabilities. *Journal of Political Philosophy, 14*(3), 301-322.

Jalongo, M.R. (2005). What are all these dogs doing in school? Using therapy dogs to promote children's reading practice. *Childhood Education, 81*(3) 152-158.

Jalongo, M.R., Astorino, T. & Bomboy, N. (2004). Canine visitors: The influence of therapy dogs on young children's learning and well-being in classrooms and hospitals. *Early Childhood Education Journal, 32*(1), 9-16.

Haraway, D. (2003) *The companion species manifesto: Dogs, people, and significant otherness (Vol. 1)*. Chicago, IL: Prickly Paradigm Press.

Haraway, D. (2007). *When species meet*. Minneapolis, MN: University of Minnesota Press.

Headey, B. & Grabka, M.M. (2007). Pets and human health in Germany and Australia: National longitudinal results. *Social Indicators Research, 80*(2), 297-311.

Hodgkinson, C. (1991). *Educational leadership: The moral art*. New York, NY: SUNY Press.

Hyslop-Margison, E. J., & McKerracher, A. (2008). Ontario's guidance and career education program: A democratic analysis. *Journal of Education and Work, 21*(2), 133-142.

Kotrschal, K. & Ortbauer, B. (2003). Behavioural effects of the presence of a dog in the classroom. *Anthrozoös: A Multidisciplinary Journal of the Interactions of People & Animals, 16*(2), 147-159

McNicholas, J., & Collis, G.M. (2000). Dogs as catalysts for social interactions: Robustness of the effect. *British Journal of Psychology, 91*(1), 61-70.

Nast, H.J. (2006a). Critical pet studies. *Antipode 38*(5), 894-906.

Nast, H.J. (2006b). Loving…whatever: alienation, neoliberalism and pet-love in the twenty-first century. *ACME: An International E-Journal for Critical Geographies 5*(2), 300-327.

Noddings, N. (2003). *Happiness and education*. Cambridge: Cambridge University Press.

Nussbaum, M. (2000). *Women and human development: The capabilities approach*. Cambridge: Cambridge University Press.

Pinto, L.E. (2012). *Curriculum reform in Ontario: 'Common Sense' processes and democratic possibilities*. Toronto, ON: University of Toronto Press.

Pinto, L.E. (2014). The cultural myth of the entrepreneur: 2014 remix. *Our Schools/Our Selves*, 23 (4) (105), 23-34.

Qizilbash, M. (1998). The concept of well-being. *Economics and Philosophy 14*(1), 51–73.

Reynolds, J.A. & Rabschutz, L. (2011). Studying for exams just got more relaxing: Animal-assisted activities at the University of Connecticut Library. *College & Undergraduate Libraries, 18*(4), 359-367.

Schwartz, M. (2012, February 6). Therapy dogs' presence steadily grows in libraries. *Library Journal*. Retrieved from: http://lj.libraryjournal.com/2012/02/library-services/therapy-dogs-presence-steadily-grows-in-libraries/#_

Smuts, B. (2006). Between species: Science and subjectivity. *Configurations*, *14*(1/2): 115-126.

Tiberius, V. (2004). Cultural differences and philosophical accounts of well-being. *Journal of Happiness Studies*, *5*(3), 293–314.

Virués-Ortega & Buela-Casal, G. (2006). Psychophysiological effects of human-animal interaction: Theoretical issues and long-term interaction effects. *The Journal of Nervous and Mental Disease*, *194*(1), 52-57.

Wood, L., Giles-Corti, B. & Bulsara, M. (2005). The pet connection: Pets as a conduit for social capital? *Social Science & Medicine*, *61*(6), 1159–1173.

Bringing Policy and Practice to the Table: Young Women's Nutritional Experiences in an Ontario Secondary School

Sarah K. Gray
University of Toronto

Abstract

In recent years, media, health organizations and researchers have raised concern over the health of Canadian children and adolescents. Stakeholders have called on the government to confront the problem. Schools are seen as an ideal location for developing and implementing large-scale interventions because of the ease of access to large groups of children and adolescents. Within Ontario, new nutrition policies, such as the School Food and Beverage Policy (Ontario Ministry of Education, 2010) have been implemented, in an attempt to change the current health status of children and adolescents. The purpose of this study was to examine the eating behaviours and nutrition knowledge of young women in an Ontario secondary school. Twenty semi-structured interviews with young women between the ages of 14 and 17 years old were used to examine the reproduction, negotiation and resistance to the nutrition messages received by the young women within the school environment. The interviews revealed the influence parents have on the nutrition knowledge and behaviours of their children, the inability of adolescents to apply learned nutrition knowledge and the ineffectiveness of the school environment in influencing eating behaviours.

Keywords: nutrition education, school nutrition policies, young women, nutrition knowledge, eating behaviours

Sarah K. Gray is a Ph.D. candidate in the Department of Exercise Science in the Faculty of Kinesiology and Physical Education at The University of Toronto. She is also a secondary school teacher with the Halton District School Board in Ontario. Her current research explores sex, gender as well as its intersections within health and physical education and policy.
Email: sarahk.gray@utoronto.ca

Introduction

In recent years, the media, politicians, government agencies and researchers have raised concerns over the current health and body shapes of children and adolescents (Active Healthy Kids, 2012; CBC News, 2009; Hodgson, 2012). Fear and concern over an 'obesity epidemic' has been propagated in the minds of the public through a number of vehicles and has resulted in the implementation of a number of physical education policies (Evans, Davies, & Wright, 2004; Evans, Rich, Davies, & Allwood, 2008; Gard & Wright, 2001). For Canadian youth, 12 to 17 years old, a recent Statistics Canada report classified 20.9% of girls and 18.9% of boys as overweight while 9.6% of girls and 10.7% of boys were classified as obese (Roberts, Shields, de Groh, Aziz, & Gilbert, 2012). Although data used for documenting the 'obesity epidemic' is over 30 years old, concern over the 'epidemic' is a relatively new phenomenon and corresponds to neoliberal discourses of monitoring and self-regulation (Gard & Wright, 2005). The use of the term 'obesity epidemic' is called into question because the research to support the notion is considered by some academics to be flawed or exaggerated due to poor methodology, analysis, misleading facts, et cetera (Campos, Saguy, Ernsberger, Oliver, & Gaesser, 2006; Gard & Wright, 2005). Media and health professionals often refer to past generations as being more active and eating well. This forms the foundation for their arguments that 'modernity' and current 'Western lifestyles' are making people 'fat' (Gard & Wright, 2005). The message relayed by health professionals and media is that Canadian youth are eating too much and not engaging in enough physical activity (Active Healthy Kids, 2012; Branswell, 2012). Youth are often considered unable to monitor their behaviours therefore the responsibility shifts towards the parents and schools (Kirk & Spiller, 1994).

Review of the Literature

To contextual the study, it is important to understand the eating behaviours of Canadian adolescents and establish the landscape of nutrition education in Ontario schools. The literature review is separated into three sections. The first section presents the eating behaviours of Canadian adolescents in order to understand the current situation. The second section examines health and physical education policy and outlines the latest policies in Ontario schools. Lastly, the role of school nutrition programs and students exposure to nutrition education in Ontario secondary schools is discussed.

Eating Behaviours of Canadian Adolescents

The most recent edition of Canada's Food Guide was developed using an analysis of simulated diets in a Canadian context to ensure that individuals who follow the guide, meet the recommended daily intakes for all essential nutrients (Katamay et al., 2007). Within the guide, food is categorized under four major headings: fruits and vegetables, grain products, dairy products, and meat and alternatives. Each category is assigned recommended daily servings that one should meet for optimum health based on an individual's age and sex. For adolescents between the ages of 14 and 18, the Canadian Food Guide recommends 7-8 servings of fruits and vegetables, 6-8 servings of grain products, 3-4 servings of milk and alternatives and 2-3 servings of meat and alternatives. A 2004 Canadian Community Health Survey suggests many Canadian adolescents are not meeting the recommended guidelines. The survey concluded that males between 14 and 18 years old consume 4.87 servings of fruits and vegetables, 2.64 servings of milk products, 7.98 servings of grain products, and 229 grams of meat products. Whereas females consume 4.45 servings of fruits and vegetables, 1.82 servings of milk products, 5.74 servings of grain products, and 136 grams of meat products (Garriguet, 2004).

Within the Canadian Food Guide, a category is labelled as 'other,' for foods that do not fall under the four major categories. 'Other foods' are generally processed foods, which are high in fat, sugar, or salt. For adolescents aged 14 to 18, 25% of all their daily calories come from these 'other foods' (Garriguet, 2004).

Snacking is a common practice for adolescents. Food and drinks consumed between meals account for more calories than most adolescents eat at breakfast and about the same number of calories as what they would consume at lunch. Forty-one percent of snack calories come from the 'other foods' category (Garriguet, 2004).

Schools, Governance and Health and Physical Education Policy

Schools are institutions of governance and pedagogy, where children receive messages about how they can become responsible, productive citizens and avoid becoming a burden on society (Burrows & Wright, 2007). Schools are seen as an ideal site for developing and implementing large-scale interventions because they are holding pens for large numbers of children (Burrows & Wright, 2001; Evans & Davies, 2004; Gard & Kirk, 2007). Schools are thought to be on the front lines in the 'war on obesity'. Educational policies are being created to monitor students bodies, to enlist physical education classes; to get students fit; cafeterias to monitor and serve healthier foods; and curriculum to warn students of the dangers of obesity (McMahon, 2011). In Ontario, according to the Ontario Ministry of Education [OMoE] (2010), the *School Food and Beverage Policy* outlines all nutrition standards for food and beverages sold in schools, the *Daily Physical Activity in Elementary Schools Policy* (OMoE, 2005) outlines the requirements for 20 minutes of daily physical activity, and the *Trans Fat Regulation* (OMoE, 2008a) outlines bans trans fat from Ontario schools. Furthermore, the health and physical education curriculum in Ontario elementary schools outlines the nutrition information, teachers are expected to instil in their students.

School Nutrition Programs

Within Ontario, health and physical education is mandatory for all students until grade 9. The Ontario curriculum has specific nutrition knowledge and healthy eating practices expectations from kindergarten to grade 8 but, it is not part of the curriculum in grade 9 (Ontario Ministry of Education and Training, 1998). Nutrition and healthy eating is reintroduced to students in the Grade 10 curriculum but, this course is not mandated for all students (Ontario Ministry of Education and Training, 1999a). Dwyer et al. (2006) surveyed high school students across Ontario and found that 98% of the secondary school students take Grade 9 physical education but this number drops to 50% by Grade 10. Although nutrition education is also part of the curriculum in senior science courses as well as social science courses, these courses are not mandatory (Ontario Ministry of Education, 2008b, 2013). This suggests that a large proportion of secondary school students may not be exposed to nutrition and healthy eating information after grade 8.

A school's philosophy, nutrition policies, role modelling of the staff, and consistency of messages plays a role in the effectiveness of school nutrition programs (Dixey et al., 1999). These aspects may be considered the ‘hidden curriculum’ and are sometimes overlooked. Studies have shown educational strategies that have a clear behaviour focus and are theory-driven are more likely to succeed (Lytle & Achterberg, 1995). Therefore, the nutrition messages delivered should be consistent between the curriculum taught in class and the school environment. Furthermore, reward systems or fundraisers should not be contradictory to the nutrition messages. Schools that provide mixed messages about nutrition such as selling chocolate bars as a fundraiser may confuse students with contradictory messages (Ellis & Ellis, 2007).

Educational researchers often overlook food and nutrition education within schools because it is not viewed as a topic of interest or urgency (Weaver-Hightower, 2011). However, with the implementation of new nutrition policies in Ontario schools, it is important to examine the role schools play in student’s nutrition knowledge and eating behaviours. The purpose of this study was to examine the eating behaviours and nutrition knowledge of young women in an Ontario secondary school. The study examined the reproduction, negotiation and resistance to the nutrition messages within the school environment.

Theoretical Framework

Biopedagogy was used to understand and analyze the data collected in this study. Biopedagogy can be understood as a range of instructions on “*bios:* how to live, how to eat, how much to eat, how to move, how much to move” (Harwood, 2009, p. 15). Shilling (2005) offers that body pedagogies construct intrinsic, embodied subjectivities that serve as corporeal orientations to individuals. Particular social meanings are constructed about health and influence behaviours. Simply, it is the pedagogy of *bios* (Harwood, 2009). It encompasses the instructions individuals receive about their bodies and lifestyle choices from media, public health officials, government organizations, et cetera (Wright, 1996). The premise of biopedagogy goes beyond the concept of health and ‘being well’. Biopedagogies provide instructions about health risks while requiring individual and population surveillance. It assigns citizens’ responsibilities and encourage self-monitoring of health behaviours (MacNeill & Rail, 2010, p. 179).

Methodology and Data Analysis

A suburban secondary school (grades 9-12) located in a mid-sized city in southern Ontario was used as the location of the study. Research ethics clearance was obtained from the district school board and the school principal. All young women within the school (~ 400) were invited to participate in the mixed methods study. Ninety students completed a questionnaire on eating behaviours and nutrition knowledge and twenty students completed interviews. This article focuses on the qualitative analysis of the interview data. Participants were selected for semi-structured interviews based on their availability, willingness to be interviewed and parental consent. The interviews were conducted over the course of one month in 2009, with 20 young women between the ages of 14 and 17 years old. The interviews lasted between 15 and 30 minutes and took place in a private room within the school, during the school day. Policy and document analysis was performed on curriculum documents from the Ontario Ministry of Education (1999a, 1999b), course outlines, and teaching materials, including tests, class notes, activities, handouts, and textbooks (Blake et al., 2002; Bowers, Eichorn, Siverman, de Souza, &

Young, 2002; Kowtaluk, 2000). These were collected from the secondary school teachers to put context to the statements made by participants.

Within qualitative research, interviews can provide meaning about a person's experience as well as their interpretation of social events and phenomena (Ary, Cheser Jacobs, Sorensen, & Razavieh, 2010). Patton (1990) suggests, "interviewing begins with the assumption that the perspective of others is meaningful, knowable, and able to be explicit" (p. 278). Semi-structured interviews allowed for active dialogue and conversation between the author and participants. Interviews were conducted with participants until common themes and data started to emerge. All interviews were recorded and transcribed. Participants' comments have been included verbatim unless otherwise indicated. Pseudonyms have been used to protect the participants' identities.

Interview data were grouped into themes and broad idea categories. From these identified concepts, a coding system was used to categorize the data. Each sentence of the transcripts with text segments was assigned a code word or phrase to accurately describe its meaning. If a text segment did not have a particular meaning related to the data analysis, it was not given a code. After the entire transcript was coded, Excel was used to sort the codes in alphabetical order. This assisted in the identification of themes, patterns, and categories.

The interview data was coded into the following themes: family, friends, school cafeteria, curriculum, knowledge, definitions of health; and health literacy. Utilizing a biopedagogical framework as a foundation, the interview data was analyzed and interpreted to explore the young women's experiences. Three consistent themes emerged from the participants and resulted in the data being grouped into three distinct sections. The first section focuses on the influence of parents on the young women. The second section examines the knowledge and level of health literacy achieved by the participants. The final section examines the impact of the school environment.

Discussion and Findings

Influence of Parents

The influence of parents on the nutrition knowledge and eating behaviours of the participants was evident in their responses. Parents may have an effect on their children's eating behaviours and nutritional choices in a number of different ways. Past studies suggest parents may impose their own food preferences, beliefs and attitudes towards food on their children (Birch, Zimmerman, & Hind, 1980; Crockett & Sims, 1995). Parental presence can also have an impact on an adolescent's eating behaviours. Videon and Manning (2003) found adolescents whose parents were present for the evening meal had a higher consumption of fruits, vegetables and dairy products. Participants spoke about differences in their eating behaviours when their parents were present compared to when the participants were on their own or with their peers. "We usually eat dinner together, but it doesn't always happen because of sports or work. I definitely eat healthier with them [family] than on my own because I will just eat whatever on my own" (Cindy). The participants would not only eat the food provided to them by their parents but would also learn eating behaviours and food choices as part of the meal process. Through this, the participants would become cognizant about food choices and eating behaviours. These biopedagogical instructions also assist in constructing social and cultural meaning to these behaviours and what is expected or required.

Parents usually purchase the food for the home and therefore, the availability of food may reflect parental food preferences or eating behaviours (Birch & Fisher, 1998). Participants spoke about the influence of parents on the food purchased for the home. “When I go grocery shopping with my mom, I get to pick whatever fruits and vegetables I want but she always makes me put the junk food that I pick back” (Samantha). Jennifer stated, “we never have chips in my house. My mom won’t buy it. It’s always like ‘go have like dried mango’ or something like that. Or we have whole wheat or 12-grain bread instead of white bread.” Although most participants spoke of having some influence in what was purchased for the home, they may be overruled or provided with an alternative option. As Samantha expressed, “in the end, my mom has the final say on everything we buy.” These parental behaviours subtly provide instructions to the young women about what foods the parents consider acceptable and alternative choices for the ones they do not.

Participants receive and negotiate messages about self-monitoring and their responsibility in self-surveillance from their parents. Participants commented about parental behaviours towards monitoring their body weight. “My mom has done weight watchers so she is always telling me what is healthy and what we should and shouldn’t eat so we don’t gain weight” (Shannon). Other monitoring behaviours the participants were taught, dealt with parental health issues. Participants spoke about messages they received from their parents about what eating behaviours are required to address their parents’ health issues. “We have to watch what we eat because of my dad’s heart. We don’t eat dessert, and we have to make sure we don’t eat fatty foods” (Lisa). The biopedagogical messages participants receive at home may be different from the messages received at school. This may make it difficult for to negotiate or resist the different health messages. Shannon stated, “I learn one thing from school, and another from my parents and I don’t know what is right.” Nutrition education is not confined to the walls within a school. The *School Food and Beverage Policy* (OMoE, 2010) does not consider the role and influence of parents on the messages young women receive from them.

Applying the Knowledge

Health education runs on the premise that as students become more knowledgeable, they adopt, they adopt healthy living life-styles (Seedhouse, 1997). Knowledge is also thought to change attitude which in turn changes behaviour (Kelly, 1998). The students receive biopedagogical instructions about health and healthy eating through the course curriculum delivered by the course teachers. In Canada, the Provincial government is responsible for the development and delivery of educational policy. Each Provincial government creates curriculum documents which outline the knowledge and skills for each particular subject area. The interpretation of the curriculum documents and the pedagogy may vary between classroom teachers.

When asked about what information they learned in school, the participants reproduced answers about basic nutrition facts and knowledge that they learned at school. Sam stated, “I know I need to eat fruits and vegetables every day and follow Canada’s Food Guide.” Kate suggested that it is healthy to “not eat a lot of fat and to eat lots of fresh foods.” While Jess defined a healthy eater as “someone who cuts down on like saturated fats and trans fats and doesn’t eat preservatives or frozen food. Eats fresh fruit and less fast food.” The participants’ comments are a reproduction of the biopedagogical instructions they have received about what it required to be healthy. These instructions align with the curriculum documents and health messages provided by government agencies (Government of Canada, 2015).

Within the school, the teachers used Canada's Food Guide as a teaching tool. Participants received a copy of Canada's Food Guide as well as completed an assignment about using the guide. The acknowledgement by participants of Canada's Food Guide as a source of nutrition information reflects the use of this guide as instructions to the students about what is required of them for healthy eating. The participants' statements also reflect that the participants achieved a functional level of health literacy (Nutbeam, 2000). At a functional level of literacy, an individual is able to recite factual information and have an awareness of some health risks and health services (Nutbeam, 2000). The participants' awareness of Canada's Food Guide demonstrates their understanding of health organizations and resources provided. However, the use of Canada's Food Guide may be problematic. Although the most recent version of the Food Guide can be modified to include foods from other cultures, the focus is still a traditional Western European cultural diet. Students are taught that if they follow the Food Guide, they will be 'healthy' because they are making healthy food choices. In addition, students are taught that food can be categorized as 'good' (i.e. fruits and vegetables) or 'bad' (i.e. fried foods) (Evans et al., 2008). As a result, students may equate Western European cultural foods as being healthy and feel unsure as to how their own cultural food fits into the dichotomy of classifying foods. This pedagogical approach provides students with a very narrow view of what constitutes a 'healthy' diet.

Participants expressed frustration that the information presented in school was basic facts and not skills that could be used outside the school environment. Kate described her experience with learning nutrition in schools as "doing a lot of worksheets which made the class really boring. I didn't learn much because we were just given the information and didn't do anything with it." Jennifer echoed these comments, "we were told what was good for you and sort of what was bad for you but weren't really told why or how we could figure it out." Most of the participants did not feel that the information taught in schools had an impact on their eating behaviours because it was not meaningful or related to their lives. "I haven't changed anything about how I eat because it doesn't matter to me; I still eat what I want" (Kate). The nutrition information presented in schools was deemed by some participants as just more information they needed to learn to pass a test or complete an assignment. The young women did not consider the information as something they could incorporate into their lives and did not use the information outside of class.

Participants who wanted to change their eating behaviours felt inadequately prepared because they did not have sufficient knowledge to make healthy food choices. Even participants who felt they did have an appropriate amount of knowledge still struggled to apply it outside the school environment. Heather declared:

> I'd like to learn more about the details and what things do for the body. We learned a brief overview about carbs and proteins and fats, but they don't go into the details or specifics about what is actually going on when we eat really fatty stuff or high sugar stuff. I don't know exactly what's going on in my body when I eat something that's really bad. If I did, maybe I wouldn't eat it.

The participants stated that the method in which information is presented in school is not conducive to changing their eating behaviours outside the school environment. Kate stated:

> We don't learn a lot about restaurants and what choices you should be making at restaurants and what choices you should not be making at restaurants for example 'cause I know like if you buy Wendys' salad it has just as many

> calories as a burger but like I didn’t learn that in school, we’re not taught enough about that. So people just eat what they want because they don’t know.

The participants were given information about nutrition and eating behaviours, but they were not able to take the information from the classroom context to the outside environment. The participants were unable to achieve an interactive or critical level of health literacy (Nutbeam, 2000). An interactive level of health literacy requires individuals to have a more advanced cognitive understanding and literacy skills which combine with one’s social skills to assist individuals in being able to extract information from one situation, and apply to different circumstances. Although the participants were able to recite basic nutrition information and biopedagogical instructions, they struggled to apply the information. The participants’ knowledge allowed for the reproduction of health information, but they struggle to negotiate different health messages. Current nutrition policies may assist students in developing some basic knowledge, but they are unable to translate this into practice.

The School Environment

The school environment can have an impact on young women’s eating behaviours as students spend six to seven hours a day at school and consume a majority of their energy within the school environment (Fox et al., 2002). If students do not bring their lunch to school, they have the option to purchase something from one of the school’s vending machines or the school cafeteria. In September 2011, the *School Food and Beverage Policy* was implemented in Ontario schools which limits the types of food available in Ontario elementary and secondary schools’ vending machines and cafeteria (OMoE, 2010). Foods are only available for purchase if their nutritional content falls within the government-imposed guidelines. Prior to 2011, restrictions only existed within Ontario elementary schools. The restrictions on foods provide biopedagogical instructions to the students about what foods and nutritional content the government deems is appropriate for the population. The policy was praised by nutritionists and thought to assist students in making healthier food choices and getting students to eat healthier food. However, the policy has resulted in decreased cafeteria sales and students fleeing schools for outside food establishments to purchase food (Infantry, 2012; Rushowy, 2012).

The young women were asked about their thoughts on restricting food within the school environment prior to its implementation in Ontario secondary schools. The young women spoke about resisting these controls over their eating behaviours by leaving school to purchase food because of the cost and types of food available. Samantha stated, “my friends and I go out to eat at lunch because the food in the caf isn’t very good and it’s expensive.” While Jessica suggested her peers would rather bring food from home or purchase it from a nearby store, “the foods in the caf aren’t what I want, we [her friends] go to the store or I bring them from home.” Fast food restaurants and convenience stores are often built close to schools and provide students with ample opportunity to purchase these beverages outside the school environment (Austin et al., 2005). Rather than being an eating establishment students avoid, the school cafeteria could be an environment that would support students in developing healthy eating behaviours. With the students leaving the school environment, they receive biopedagogical instructions and messages from the fast food restaurants and convenience stores instead of the schools. Restricting the food offered within the school, does not prepare the students for the environment outside of school. One participant shared her idea of requiring the cafeteria to display the nutrition information of the food sold by the cafeteria so that the staff and students can make informed choices about what they are eating. “It would be nice for the caf to tell us how much fat and like protein are in things so we can make a decision” (Jessica). Although having more knowledge may not influence all students in their eating behaviours, it may help the students prepare for decisions outside of the school environment.

Students also receive messages about eating behaviours from their teachers. Teachers do not receive any formal nutrition training as part of their teacher education and therefore knowledge will vary between each teacher (Ontario College of Teachers, 2015). Although teachers provide biopedagogical instructions through direct teaching within the classroom, teachers also provide subtle health messages through their behaviours outside the classroom. Participants spoke about being given food rewards such as candy or chocolate bars, as well as observing teachers’ food and beverages choices outside the classroom. “We are told we shouldn’t get chips or drink pop, but I see my teaching doing it” (Allison). These behaviours were viewed by the students as contradictory to the messages delivered within the classroom. Teachers may be unaware of the subconscious influence that they have on their students. These contradictory biopedagogical instructions can impact the effectiveness of any nutritional information taught in the classroom.

Implications and Conclusion

The young women received biopedagogical instructions and messages about health as well as the requirements for health from their parents. Parental influence on the nutrition knowledge and eating behaviours of young women cannot be ignored when implementing nutrition education policies. Policies that solely target the adolescents within the school environment and do not recognize the roles played by parents may have limited impact. Schools need to collaborate with parents about current nutritional information and issues so they can be active participants in influencing their children’s eating behaviours and nutritional choices. This research suggests that students will reproduce the health messages they learn at home and at school. Contradictory health messages between the school and home may make it confusing or difficult for students to learn about nutrition. If adolescents are taught different healthy eating behaviours at school and they are not reinforced at home, the impact of the education may be limited. School policies need to be comprehensive and not work in isolation.

Research has shown that knowledge about nutrition does not necessarily translate to better eating behaviours (Croll, Neumark-Sztainer, & Story, 2001). This study suggests that an increase in nutrition knowledge does not always impact eating behaviours. The participants in this study demonstrated a functional level of health literacy but did not demonstrate any signs of interactive or critical health literacy (Nutbeam, 2000). By failing to reach a higher level of health literacy, the young women were only able to reproduce health messages they received but were unable to evaluate health messages and resisted when necessary. The young women were frustrated about the current methods of teaching nutrition and felt completing worksheets and readings were not conducive to applying the information outside the classroom. Incorporating food preparation and eating at restaurants or grocery shopping would assist the students in moving from pen and paper knowledge to the application of it. Furthermore, students should be exposed to opportunities to develop their critical thinking skills so that they can move from reproducing health messages to resisting them.

Although limiting the food choices within a school may preclude students from purchasing junk food from the school cafeteria, most students can easily access this type of food outside of the school environment. The sanitization of junk food from the school environment establishes unrealistic parameters and may set students up for failure in an environment outside of school. Moreover, it presents students with biopedagogical instructions about 'good' and 'bad' food rather than assisting students in developing the skills to make that judgement on their own. Policies and programs should teach students how to manoeuvre in the real world so they can make healthy food choices no matter where they find themselves. Teachers also need to be educated about the types of health and nutrition messages they portray to their students through their own actions. Students observe the food and beverage choices made by their teachers, which may reproduce or may contradict health messages received in class. This can be confusing to students and make it difficult for them while they are still working towards higher levels of health literacy.

The current elementary and secondary school nutrition policies in Ontario assist students in reproducing basic ideas of health and healthy eating. However, the policies fail to assist the students in negotiating and evaluating health information to assist them in resisting messages that may be contrary to what they know. Policies designed to improve the health of children and adolescents such as *School Food and Beverage Policy* (OMoE, 2010) need to take a more comprehensive approach and include all stakeholders, inside and outside the school environment, to collectively focus on improving students' knowledge in addition to its application.

Reference

Active Healthy Kids. (2012). 2012 Report Card. Retrieved October 6, 2012, from http://www.activehealthykids.ca/ReportCard/2012ReportCardOverview.aspx

Ary, D., Cheser Jacobs, L., Sorensen, C., & Razavieh, A. (2010). *Introduction to Research in Education* (8th ed.). Belmont, CA: Wadsworth.

Austin, S., Melly, S., Sanchez, B., Patel, A., Buka, A., & Gortmaker, S. (2005). Clustering of fast food restaurants around schools: A novel application of spatial statistics to the study of food environments. *American Journal of Public Health, 95*(9), 1575-1581.

Birch, L., & Fisher, J. (1998). Development of eating behaviors among children and adolescents. *Pediatrics, 101*, 539-549.

Birch, L., Zimmerman, S., & Hind, H. (1980). The influence of social affective context on the formation of children's food preferences. *Child Development, 51*, 856-861.

Blake, L., Craven, M., Dobell, D., Flood, N., Jasper, G., Little, C., Little, D. (2002). *Biology* 12. NY, NY: McGraw-Hill Ryerson.

Bowers, R., Eichorn, D., Siverman, L., de Souza, G., & Young, R. (2002). *Biology 11*: Addison Wesley.

Branswell, H. (2012). Ontario docs launch assault on obesity, urging tobacco-like warnings on bad food. Retrieved December 16, 2012, from http://www.calgaryherald.com/health/Ontario+docs+launch+assault+obesity+urging+tobaccolike+warnings/7432966/story.html

Burrows, L., & Wright, J. (2001). Developing children in New Zealand school physical education. *Sport, Education and Society, 6*(2), 165-183.

Burrows, L., & Wright, J. (2007). Prescribing practices: shaping healthy children in schools. *International Journal of Children's Right, 15*, 1-16.

Campos, P., Saguy, A., Ernsberger, P., Oliver, E., & Gaesser, G. (2006). The epidemiology of overweight and obesity: public health crisis or moral panic? *International Journal of Epidemiology, 35*(1), 55-60. doi: 10.1093/ije/dyi254

CBC News. (2009). Fighting childhood obesity: Is phys-ed enough? Retrieved December 16, 2012, from http://www.cbc.ca/news/health/story/2009/03/31/f-physed-obesity.html

Crockett, J., & Sims, L. (1995). Environmental influences on children's eating. *Journal of Nutrition Education, 27*, 235-249.

Croll, J., Neumark-Sztainer, D., & Story, M. (2001). Healthy eating: What does it mean to adolescents? *Journal of Nutrition Education, 33*(4), 193-198.

Dixey, R., Heindl, I., Loureiro, I., Perez-Rodrigo, C., Snel, J., & Warnking, P. (1999). Healthy eating for young people in Europe. A school-based nutrition education guide. Retrieved November, 29, 2007, from http://www.euro.who.int/document/e69846.pdf

Dwyer, J., J.M, Allison, K., R, LeMoine, K., N, Adlaf, E., M, Goodman, J., Faulkner, G., E.J., & Lysy, D., C. (2006). A Provincial study of opportunities for school-based physical activity in secondary schools. *Journal of Adolescent Health, 39*(1), 80-86.

Ellis, R. M., & Ellis, R. C. T. (2007). Impact of a traffic light nutrition tool in a primary school. *The Journal of The Royal Society for the Promotion of Health, 127*(1), 13-21.

Evans, J., & Davies, B. (2004). Endnote: the embodiment of consciousness: Bernstein, health and schooling. In J. Evans, B. Davies, & J. Wright (Eds.), *Body Knowledge and Control: Studies in the Sociology of physical education and health*. New York: Routledge.

Evans, J., Davies, B., & Wright, J. (Eds.). (2004). *Body knowledge and control. Studies in the sociology of physical education and health*. New York: Routledge.

Evans, J., Rich, E., Davies, B., & Allwood, R. (2008). *Education, eating disorders and obesity discourse: Fat fabrication*. London and New York: Routledge.

Fox, M., Condon, E., C, M., Niland, K., Mercury, D., Forrestal, S., Killewald, A. (2002). School Nutrition Dietary Assessment Study IV, Vol. I: School Foodservice Operations, School Environments, and Meals Offered and Served (pp. 1-310). Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service.

Gard, M., & Kirk, D. (2007). Obesity discourse and the crisis of faith in disciplinary technology. *Utbildning & Demokrati, 16,* 17-36.

Gard, M., & Wright, J. (2001). Managing uncertainty: obesity discourses and physical education in a risk society. *Studies in Philosophy and Education, 20*, 535-549.

Gard, M., & Wright, J. (2005). *The obesity epidemic: science, morality and ideology*. Abingdon, Oxon: Routledge.

Garriguet, D. (2004). *Overview of Canadians' Eating Habits* (82-620-MIE). Health Statistics Division.

Government of Canada. (2015). Health. Retrieved February 15, 2015, from http://healthycanadians.gc.ca/index-eng.php

Harwood, V. (2009). Theorizing biopedagogies. In J. Wright & V. Harwood (Eds.), *Biopolitics and the 'obesity epidemic'* (pp. 15-30). New York: Routledge.

Hodgson, G. (2012). The battle against obesity begins at school. Retrieved December 16, 2012, from http://www.theglobeandmail.com/commentary/the-battle-against-obesity-begins-at-school/article4701783/

Infantry, A. (2012, February 1). Students leave school to eat lunch. *Toronto Star*. Retrieved from http://www.thestar.com/news/gta/2012/02/01/students_leave_school_to_eat_lunch.html

Katamay, S., Esslinger, K., Vigneault, M., Johnston, J., Junkins, B., Robbins, L., . . . Martineau, C. (2007). Eating well with Canada's food guide (2007): Development of the food intake pattern. *Nutrition Reviews, 65*(4), 155-166.

Kelly, P. (1998). *Risk and regulation of youth(ful) identities in an age of manufactured uncertainty*. Deakin University, Geelong.

Kirk, D., & Spiller, B. (1994). Schooling the Docile Body: Physical Education, Schooling and the Myth of Oppression. *Australian Journal of Education, 38,* 80-97.

Kowtaluk, H. (2000). *Food for Today* (5th edition ed.). NY, NY: McGraw-Hill.

Lytle, L. A., & Achterberg, C. L. (1995). Changing the diet of America's children, what works and why? *Journal of Nutrition Education, 27,* 250-260.

MacNeill, M., & Rail, G. (2010). The visions, voices and moves of young 'Canadians': exploring diversity, subjectivity and cultural constructions of fitness and health. In J. Wright & D. Macdonald (Eds.), *Young people, physical activity and the everyday* (pp. 175-193). New York: Routledge.

McMahon, T. (2011). War on obesity: Does policing snacks have any effect on children's weight? Retrieved September 29, 2012, from http://news.nationalpost.com/2011/06/11/war-on-obesity-does-policing-snacks-have-any-effect-on-childrens-weight/

Nutbeam, D. (2000). Health literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International, 15*(3), 259-267.

Ontario College of Teachers. (2015). Your Qualifications. Retrieved from http://www.oct.ca/members/know-your-college/your-qualifications

Ontario Ministry of Education. (2005). Policy/Program Memorandum No. 138. Daily Physical Activity in Elementary Schools, Grades 1-8.

Ontario Ministry of Education. (2008a). Healthy Schools: Trans Fat Standards Regulation.

Ontario Ministry of Education. (2008b). *The Ontario Curriculum, Grade 11 and 12*: *Science*. Retrieved from https://www.edu.gov.on.ca/eng/curriculum/secondary/2009science11_12.pdf.

Ontario Ministry of Education. (2010). *School Food and Beverage Policy*. Toronto, ON.

Ontario Ministry of Education. (2013). *The Ontario Curriculum, Grades 9 to 12: Social Sciences and Humanities*. Retrieved from https://www.edu.gov.on.ca/eng/curriculum/secondary/ssciences9to122013.pdf.

Ontario Ministry of Education and Training. (1998). *The Ontario Curriculum Grades 1-8. Health and Physical Education*. Queen's Printer for Ontario Retrieved from http://www.edu.gov.on.ca/eng/curriculum/elementary/health.html.

Ontario Ministry of Education and Training. (1999a). *The Ontario Curriculum, Grade 9 and 10: Health and Physical Education*. Retrieved from http://www.edu.gov.on.ca/eng/curriculum/secondary/health910curr.pdf.

Ontario Ministry of Education and Training. (1999b). *The Ontario Curriculum, Grade 11 and 12: Health and Physical Education*. Retrieved from http://www.edu.gov.on.ca/eng/curriculum/secondary/health1112curr.pdf.

Patton, M. (1990). *Qualitative Evaluation and Research Methods*. London: Sage.

Roberts, K., Shields, M., de Groh, M., Aziz, A., & Gilbert, J. (2012). Overweight and obesity in children and adolescents: Results from the 2009 to 2011 Canadian Health Measures Survey. Retrieved December 16, 2012, from http://www.statcan.gc.ca/pub/82-003-x/2012003/article/11706-eng.htm

Rushowy, K. (2012). Cafeterias hurting as students shun health options. Retrieved December 25, 2012, from http://www.thestar.com/news/gta/article/1125062--healthy-caf-food-no-draw-for-students-as-profits-plummet

Seedhouse, D. (1997). *Health promotion: philosophy, prejudice and practice*. New York: Wiley.

Shlling, C. (2005). *Body pedagogics: A programme and paradigm for research*. Paper presented at the School of Sport and Exercise Sciences, University of Loughborough, UK.

Videon, T., & Manning, C. (2003). Influences on adolescent eating patterns: the importance of family meals. *Journal of Adolescent Health, 32*(5), 365-373.

Weaver-Hightower, M. (2011). Why Education Researchers Should Take School Food Seriously. *Educational Researcher*, *40*(1), 15-22.

Wright, J. (1996). The construction of complementarity in physical education. *Gender and Education, 8*(1), 61-79.

Curricular Critique of an Environmental Education Policy: Implications for Practice

Douglas D. Karrow
Brock University

Xavier Fazio
Brock University

Abstract

This paper provides a curricular critique of an environmental education policy framework called ***Acting Today, Shaping Tomorrow*** (Ontario Ministry of Education, 2009). *Answers to the following two curricular questions: "What should be taught?" and "How it should be taught?" frame the critique. Scrutiny of the latter of the two questions through an examination of the conventional argument for integrated curriculum models and their relevance to K-12 environmental education comprises the first part of the critique. The second part of the critique examines utilization of a typology of integrated curriculum models to analyze an environmental education policy framework within the jurisdiction of Ontario, Canada. In conclusion, Ontario's environmental education policy framework tends toward an integrated curriculum model referred to as 'selective infusion' illustrating a disconnect between curriculum theorists and designers. The implications for integrated curricular practice are identified, limitations of the critique are highlighted, and recommendations for improving the policy framework from a pragmatic curricular perspective are summarized.*

Key Words: environmental education, integrated curriculum, pragmatic curriculum critique, education policy.

Douglas D. Karrow is an Associate Professor, Department of Teacher Education, Faculty of Education, Brock University, 1842 King St. E., Hamilton, Ontario, Canada, L8K 1V7.
Email: Doug.Karrow@Brocku.ca
905.547.3555 x 3614

Xavier Fazio is an Associate Professor, Department of Teacher Education, Faculty of Education, Brock University, 500 Glenridge Ave., St. Catharines, Ontario, Canada, L2S 3A1
Email: Xavier.Fazio@brocku.ca
905.688.5550 x 5209

Introduction

In the province of Ontario, the protection of its environment and the conservation of its natural resources strengthened during the post-war era between 1945 and 1995. This changed dramatically during the spring of 1995 when Mike Harris, leader of the progressive conservative party formed a majority government in Ontario. The four years following 1995 "witnessed a dismantling of environmental laws and institutions without precedent in the province's history" (Winfield & Jenish, 1999, p. 212). Statutes, budgets, and resources having to do with environmental protection or natural resources management were slashed. The extensive restructuring of roles and responsibilities between the province, municipalities, and the private sector, ensured environmental marginalization. Education was not exempt from these radical changes to government policy. One of the most significant yet least noticed environmental initiatives of the government were changes to the province's elementary and secondary school curricula. With the release of a new elementary curriculum in 1998 the Ontario Society for Environmental Education (May, 1998) determined that its environmental content averaged less than five percent of learning outcomes for all grades except Grade 7. Shortly afterward, a new secondary curriculum was adopted in the spring of 1999. A long-standing and popular environmental science course was eliminated. According to Winfield & Jenish (1999) at the time:

> These changes to the elementary and secondary school curricula may represent one of the most important changes in environmental policy undertaken by the province, as in the long term it will result in a population that is less aware of the environmental challenges facing Ontario society (p. 20).

The following decade bore witness to this prophetic conclusion as Environmental Education (EE) virtually disappeared from the elementary and secondary education landscapes. Fortunately, this changed in 2009 with the Ontario Ministry of Education's release of its environmental education policy framework, *Acting Today, Shaping Tomorrow* (ATST) (Ontario Ministry of Education, 2009). For the first time in 15 years, EE re-appeared in Ontario's publically funded school system.

The purpose of this paper is to examine ATST from an integrated curricular perspective. The policy document is welcome to those who have patiently endured a void in K-12 EE policy for a decade and a half (Puk & Belm, 2003; Sharpe & Breunig, 2009). As a critique, the paper addresses the orienting question: *What are the implications of an integrated curriculum model for environmental education?*

Within the province of Ontario, the Ministry of Education (OMoE) "sets curriculum policy and defines what teachers are required to teach and students are expected to learn in each grade and subject" (OMoE, 2015). While a consistent and province-wide curriculum is ensured, teachers retain significant autonomy and discretion interpreting the teaching of the curriculum expectations in ways that maximize student learning. Our critique is centered upon ATST, and the curriculum policy it advocates, not the creative and autonomous pedagogical decisions teachers make daily educating their students *about, for,* and *in* the environment. We recognize that policy documents such as ATST are the legislative tools to ensure implementation of the mandated curricula. This provides a conversation catalyst for stakeholders in the education community, where policy can be interpreted and implemented to suit various contexts.

Our critique is organized into three parts: Part one explains curriculum within schooling contexts and orients the reader to the nature of our critique. We adopt a pragmatic orientation to curriculum considering two politically related questions: "What should be taught?" and "How should it be taught?" (Petrina, 2004, p. 81). Part two introduces the reader to the general form of "integrated curricula" by describing a family of integrated curriculum models (ICMs) and examines its relevance to K-12 EE. Employing an integrated curricula typology (Lenoir, Larose, & Geoffroy, 2000) we classify five recognized ICMs according to Law & McConnell's (2000) framework and analyze the ICM advocated in the ATST environmental education policy document. Lastly, we summarize our critique, explore its implications and limitations, and provide several recommendations for advancing EE in light of policy initiatives.

Part I

Situating the Critique: What is Curriculum?

Recognizing curriculum studies as a well-established tradition within the field of education that draws upon a diversity of philosophical, political, and ideological perspectives (e.g., Schwabb, 1969; Doll, 1993; Pinar, 2012), our curriculum critique is guided by two political questions posed by Petrina (2004): "What should be learned? And, "How should it be organized for teaching?" These questions exemplify the conceptual distances between curriculum design, curriculum theory, and instructional design, residual divisions of labour established during the 1960s (Petrina, 2004; Tyler, 1949). Whereas curriculum theorists have thrown up their hands in despair abandoning curriculum design, and those charged with curricular design have largely ignored curriculum theory, these two orienting questions provide a framework to guide our curricular critique of ATST. We find that these questions provide a pragmatic framework to guide our critique, in an attempt to reconcile curriculum theorists with practitioners. In Petrina's (2004) words, "curriculum theorists will have to dirty their hands with the realpolitik of form and instructional designers will have to clutter their heads with theory" (p. 82).

With regard to the first question: "What should be learned?" the OMoE (2012) stipulates what teachers are to teach and students ought to learn:

> Curriculum documents define what students are taught in Ontario publicly funded schools. They detail the knowledge and skills that students are expected to develop in each subject at each grade level. By developing and publishing curriculum documents for use by all Ontario teachers, the Ministry of Education sets standards for the entire province. (Frequently Asked Questions section, para. 2)

More specifically, according to the ATST policy document, EE consists of the knowledge, skills, and attitudes *for, about,* and *in* the environment. (OMoE, 2009). A careful review of ATST (see Apprendix A) provides further details about what "knowledge, skills, and attitudes" *for, about* and *in* the environment might consist of. This addresses the first question: "What should be taught?" of EE curriculum. Turning to the second question, "How should it be organized for teaching?" we find ATST provides guidance on this as well. Within the following description, an *integrated* curriculum model is advocated:

> Because environmental education is an *integrative* [emphasis added] undertaking that allows for teaching across disciplines, educators also need the skills to link approaches and content from various disciplines to help students understand complex environmental issues and guide them towards environmental literacy. (OMoE, 2009, p. 12)

Synthesizing these responses to the two questions, EE is to consist of the knowledge, skills, and attitudes to educate *for*, *about*, and *in* the environment in an *integrative* fashion.

To understand the significance of this curricular decision, a caveat about the history of EE is necessary. Palmer (1998) articulates a philosophy of *holism*[8] underpinning EE, "Environmental education is regarded as the embodiment of a philosophy which should be pervasive, [throughout school subjects] rather than a 'subject' which might be identified separately" (p. 11). An integrated curriculum attempts to preserve structurally, the pervasive or holistic nature of EE. When one examines the breadth and depth of knowledge, skills, and attitudes of "what" EE is to consist of we begin to appreciate to what degree it is pervasive in nature and to intimate the logic of "how" integration may accomplish this. How well integration (the curricular form) represents what EE is to consist of is the motivation behind this critique. While we recognize the value of integration in and of itself in capturing what EE is to consist of, we question its uncritical application within school settings. In sum, there is a significant gap between EE curricular theory and practice within schools. We argue this can be partly explained by the complexity of "what" EE is to consist of and "how" difficult it is to represent it in curriculum forms in school contexts.

Focusing on Curriculum

Our inquiry is oriented by a curriculum critique of ATST for the following reason. 'Curriculum' is the Ministry's principal tool for policy implementation at the school level and when teachers heed it, it offers a tangible enactment of the EE policy framework. A curricular critique of ATST (the "What?" and "How?") allows one to anticipate to what degree EE is being practiced in schools.

The Nature of the Critique and What it Offers?

Specifically, our curricular critique of ATST examines the implications of ICMs in the context of K-12 EE. Our analysis is contemporary and focuses specifically upon ICMs' relevancy to EE. No other curricular critique of ATST has been conducted to date. Building upon earlier critiques of EE-related Ministry policy and practice conducted by Puk and Behm (2003) and Puk and Makin (2006) our critique moves the discussion forward recognizing ATST is the product of an externally imposed political process.[9] In general, there has been universal acceptance of ICMs

---

[8] Holism is the philosophical doctrine espousing the idea that all properties of a system cannot be explained or determined by the component parts alone, but rather the system as a whole determines in important ways how the parts behave.

[9] ATST was the result of the Ontario Ministry of Education being subjected to the provisions of the Environmental Bill of Rights (EBR) by the Ontario Ministry of Environment through a public petition to the Ontario Ministry of Education in 2006. (See Eco Issues; Environmental Commissioner of Ontario (ECO)

http://www.ecoissues.ca/index.php/Prescribing_Education:_Crucial_to_Future_Sustainability and their application to K-12 EE by academics, educators and policy makers (Hungerford & Peyton, 1994).

Part II

Examining Integrated Curriculum Models

In this section, we clarify ICM nomenclature and summarize the arguments used to justify ICMs for EE. We also analyze ATST using a typology of ICMs adapted from Lenoir, Larose, and Geoffroy (2000) and Law and McConnell (2000).

Definitions

The terminology applied to integrated curricula is confusing because studies have shown that the term has several meanings (Drake, 2007). For example, the term "integrated" has often been used interchangeably with the terms "interdisciplinary" and "integrative" (Erb, 1996; Lenoir, Larose, & Geoffroy 2000).

The key term used to identify and enact the holistic nature of EE from a curricular standpoint has historically been *integration*. "During the 1980s and 1990s, use of this term proliferated indiscriminately as a generic term for a variety of innovative approaches that draw on more than one subject or discipline" (Klein, 2009, p. 13). Given this history, we use the generic use of the term "integrated" to refer to a variety of curriculum design and implementation methods that *connect* various disciplines, in varying degrees through various time commitments, and to learning experiences (Drake, 2007). This appears consistent with the body of researchers doing work in this area (Erb, 1996; Klein, 2009; Law & McConnell, 2000).

Arguments for Integrated Curriculum Models

Historically, there are three arguments for considering curricular integration (Beane, 1996). First, there is an appeal to the intrinsic virtue of a certain epistemology, i.e., pervasiveness or holism (Hirst, 1974; Hirst & Peters, 1970); second, the inherent value an integrated approach has for student learning (Rennie, Venville, & Wallace, 2012; Venville, Wallace, Rennie, & Malone, 2001); and third, the pedagogical benefits for the teacher (Drake, 2007). We briefly summarize the first argument in detail only, as it is important in establishing epistemic relevancy to the broader field of EE as a whole.

The first argument for curricular integration advocates some degree of intrinsic virtue in the way that knowledge is organized. An integrated curriculum is preferable because it attempts to represent a view of knowledge that is unified, and to a degree, chaotic in nature. Hirst (1974) extended this logic to apply to learning. In the traditional classroom where subject disciplines prevailed in contrast to the seamless experience of life, student learning was somewhat disjointed and artificial. Real-world learning, they argue, is founded upon knowledge that is connected, embodied, ecological, and harmonized, reflecting a pervasive or holistic character. In this sense, pervasive and holistic refers to consistency across the curriculum; that is, its separate aspects are mutually reinforcing, rendering their effects multiplicative and not simply additive. In an integrated curriculum, the whole of its effects on student learning is greater than the sum of its parts, and as such is emergent. The consistency and pervasiveness of an integrated curriculum has great currency and validity. Subsequently, ICMs reflecting this preference for a pervasive/holistic epistemology have become a curricular antidote to disconnected student learning in environmental education (Hungerford & Peyton, 1994).[10]

Relevancy of the Intrinsic Virtue Argument: A Common Epistemic Lineage

The argument for intrinsic virtue posits that ICMs support a view of knowledge that is holistic in character. To determine whether this argument is relevant to EE, we turn our attention to how EE has been defined, paying particular attention to epistemological references.

During EE's formative years in the 1970s, its holistic nature was recognized in the UNESCO-UNEP--International Environmental Education Programme, entitled: *Procedures for Developing an Environmental Education Curriculum*:

> EE has traditionally been considered "interdisciplinary" due to the complexity of its nature and its reliance on practically all other disciplines, e.g., science, math, geography. In fact, there has been some reluctance to refer to EE as a "discipline" lest its *holistic nature* [emphasis ours] be lost. (UNESCO, 1992, p. 19)

Conventional EE philosophy substantiated EE's "pervasive" nature, advocating integrated curricula as the model for EE in schools. Because of EE's interdisciplinary and holistic nature and application, its approach to education is as a whole rather than a subject (Palmer, 1998).

Thus, ICM and EE share a common epistemic standpoint. As the argument to support ICM draws upon a view of knowledge that is holistic, and definitions of EE draw upon a similar viewpoint, the intrinsic virtue argument is helpful in illustrating how EE's holistic epistemology can be represented in the curricula of schools. As a curriculum implementation model, it provides the structure to preserve the holistic epistemological character of EE as a whole.

Typology of Integrated Curriculum Models

In this section, we examine the ICM typologies adapted from the works of Lenoir, Larose, and Geoffroy (2000), and Law and McConnell (2000) (see Figure 1). Law and McConnell's (2000) typology consists of five different ICMs differing in terms of their degree of integration (Appendix B), and has been "mapped" onto the Lenoir, Larose, and Geoffroy's (2000) typology (Figure 1).

---

[10] The second and third arguments for integrated curricula (they [ICMs] support student learning and simplify teacher planning) logically follow from establishing the first argument (intrinsic virtue of a holistic epistemology) and its relevancy to EE's epistemological history.

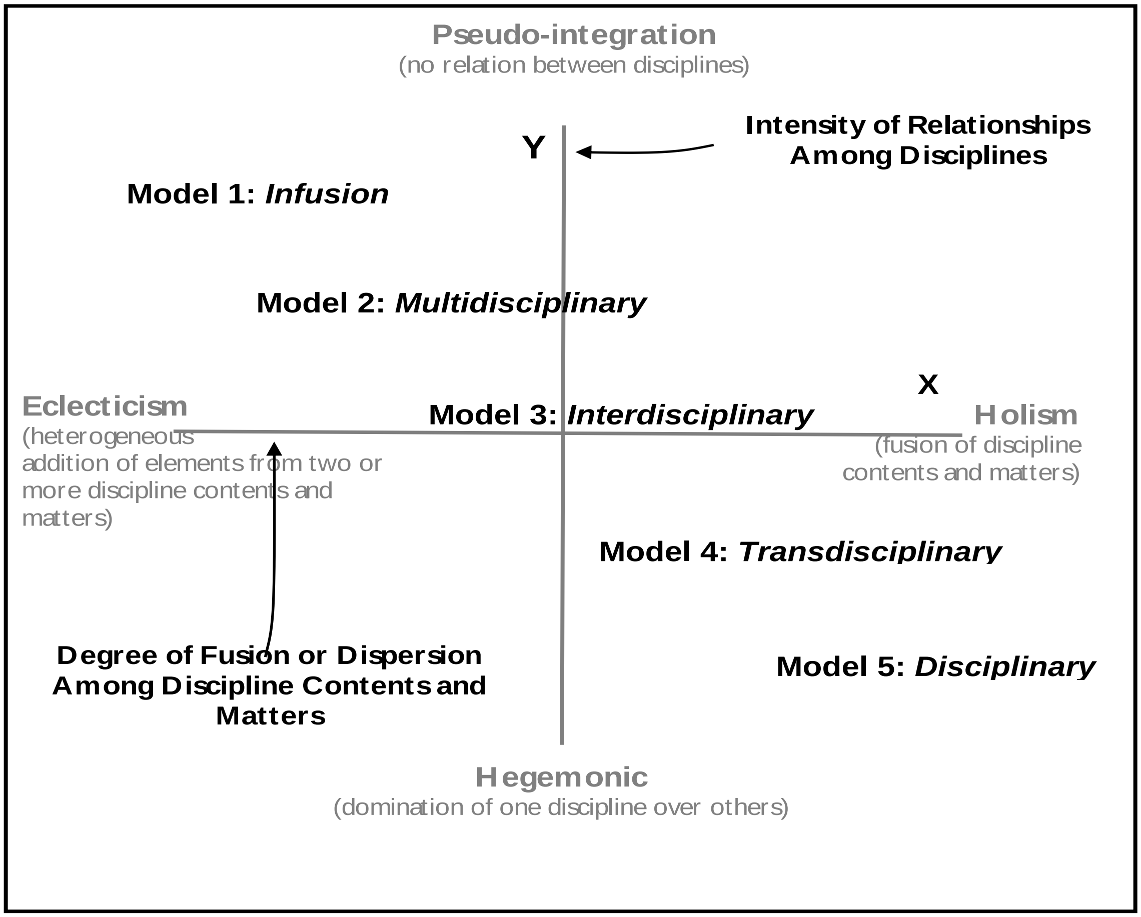

Pseudo-integration
(no relation between disciplines)
Y
Intensity of Relationships Among Disciplines
Model 1: Infusion
Model 2: Multidisciplinary
Eclecticism
(heterogeneous addition of elements from two or more discipline contents and matters)
Model 3: Interdisciplinary
X
Holism
(fusion of discipline contents and matters)
Model 4: Transdisciplinary
Degree of Fusion or Dispersion Among Discipline Contents and Matters
Model 5: Disciplinary
Hegemonic
(domination of one discipline over others)

Figure 1: The poles of integrated practice. (Adapted from Lenoir, Larose, & Geoffroy (2000), *Poles of Interdisciplinary Practice*).

The two separate typologies were considered independently and then ‘hybridized’ for the following reasons. First, two separate typologies bring perspective to our analysis and reduce bias that might result from only considering one typology. Second, by mapping one onto the other, we wanted to demonstrate some degree of harmony or agreement between respective conceptual schemes. Third, Law and McConnell’s (2000) work is specifically oriented to EE and integrated curricular practices within schools. In lieu of criticisms lobbied against Law and McConnell’s (2000) typology (see Hargreaves, Earl & Ryan, 1996) and the danger of oversimplification we thought consideration of more than one typology essential. While there are other ways of categorizing different forms of integration (Case, 1991; Drake, 1991; Fogarty, 1991; Marsh, 1993), the hybridized typology (Lenoir, Larose & Geoffroy's 2000; Law & McConnell's 2000) (Figure 1) is the most up-to-date synthesis of the available empirical evidence on the matter.

We analyze the ICM promoted within ATST using this hybridized typology. Before considering this hybridized typology, some clarification of the terms "discipline" and "subject" is necessary. In a traditional post-secondary context, the word "discipline" refers to a body of concepts, theories, and methods used by a family of scholars and reported in a distinct body of literature. In contrast, "subjects" are simplified derivatives of disciplines as they play out in K-12 Education settings. In the context of this discussion, we are equating the word "discipline" with "subject" and at times we use the terms interchangeably.

To avoid confusion over the term "interdisciplinary practice," as interdisciplinary is the label applied to a specific type of ICM, we have chosen to re-name the typology as *Poles of Integrated Practice*, where "integrated" is the general term for various types of integration, e.g., infusion, multidisciplinary, interdisciplinary, and transdisciplinary.

A caveat is required prior to examining the hybridized typology. One of the drawbacks in presenting such a typology is the impression it may create. While acknowledging the advantages of any typology for categorizing different forms of integration, Hargreaves, Earl and Ryan (1996) are concerned that a continuum embodies implicit values. For example, movement along the continuum may be perceived as "growth or progress—a preferred state" (p. 103). Drake (1991) counters by adding, "one position [along a continuum] is not superior to another; rather, different approaches are more appropriate than others according to the context in which they are used" (p. 19). Recognizing this potential drawback, the hybridized typology does provide a coherent framework for analyzing various ICMs based upon the justification of their epistemological positions, founded upon 10 years of empirical work (Lenoir, Larose & Geoffroy, 2000).

The *y-axis* represents the intensity of relations, from dominance to absence, among discipline areas. The top of the axis represents *pseudo-integration*, a model resulting in little to no discipline integration. At the other extreme, and toward the bottom of the y-axis is *hegemony*; where the insights of one discipline completely dominate the rest—the maximum intensity of discipline relations. The *x-axis*, on the other hand, represents the degree of fusion or dispersion among discipline matters and content. At the far left of the continuum is *eclecticism*, where two or more disciplines contribute various elements to the model. Toward the extreme right—*holism*--where all disciplines contribute equal discipline matters and contents to the curriculum model resulting in a "fusion" of the disciplinary contents.

Mapping Integrated Curriculum Models onto the Typology

We have "mapped" onto the typology five ICMs: *infusion, multidisciplinary, interdisciplinary, transdisciplinary,* and *disciplinary*. We concur that the fifth category—*disciplinary*—the extreme and reductionary antithesis to "integrative" captures what logically happens when one follows the identification of integration to its extreme, i.e., the *hegemonic* pole within the typology. This appears to correspond with the development of new disciplinary fields (Goodson, 1995). Model 1 (*infusion*) is located in the upper left quadrant of the typology as it minimally relates disciplines and minimally fuses discipline matters and content. The *infusion model* simply fuses something to an existing curriculum. Using EE as an example, the teacher selects material of an environmental nature and teaches that material within their discipline. If their discipline is science, [11] for example, they might tackle the issue of Climate Change within their science class. EE is seamless across the curriculum; however, no disciplinary integration is achieved (Law & McConnell, 2000). The forms constituting "infusion" seem endless and the degree of overall disciplinary integration is minimal.

Model 2 (*multidisciplinary*) is located slightly below and to the right of Model 1. The disciplines are slightly related, and the discipline matter and content are slightly more fused. "The disciplines remain distinct, but deliberate connections are made between or among them," according to Drake (2007, p. 32). UNESCO-UNEP (1992) adds that the multidisciplinary model, "involves the incorporation of EE components in other established, interrelated disciplines" (p. 8). Teachers identify various EE topics or issues that become educational themes for study. Some content is integrated across the disciplines, but no transference across discipline areas is achieved (Law & McConnell, 2000).

Model 3 (*interdisciplinary*) is the most central of the models, where discipline methods and contents fuse together. When the discipline (subject) boundaries begin to blur, as the overarching theme dominates, the model of integration slowly becomes more *interdisciplinary*. Here we see the creation of a discrete course, or series of courses or curricular unit. The traditional disciplines fade into the background as the overall theme becomes the principal organizing element, to which common knowledge and skills, and assessment are central (Drake, 2007). This may work well when all subjects are at par; that is, the status of their distinct knowledge claims is regarded equally. However, because of EE's historical and epistemic affinity with the subject of science, a particular current of EE (scientific current) tends to get reinforced. As a result, Law and McConnell (2000) suggest uneven disciplinary integration can make EE subservient to another discipline (e.g., science) and may be perceived to be better for integration.

Model 4 (*transdisciplinary*). Located just within the bottom right quadrant, it elevates EE above the rest of the discipline areas and begins to fuse maximally, discipline matter and content under the umbrella of EE. At the school level, a master EE curriculum plan[12] is developed and enacted. All traditional disciplines are subsumed by this plan. The school sets out specific goals, i.e., environmental plan, and develops specific objectives to meet these goals. Internationally, *Ecoschools*[13] has the potential to be a good example of this model.

Lastly, Model 5 (*disciplinary*) is located at the extreme bottom right of the bottom-right quadrant, below Model 4. EE assumes a degree of disciplinary status, with its own internal logic, unique methodologies, discourse, concepts, and so on. All other disciplines are completely subsumed by EE. Puk and Behm (2003) identify this as a preferred ICM: "Integration may be beneficial if, and only if, ecological education [environmental education] is at the same time a discreet, single focus set of courses like all the other school courses" (p. 227). The character of this ICM is best described as *hegemonic and holistic*.

---

[11] The example of integrating EE with the subject of science is no coincidence. We use the subject of science for consistency but also, as we demonstrate later in the paper, to demonstrate science's historical relationship with EE and because of this a particular EE current referred to as *scientism* that is reinforced within the policy document.

[12] We are still equating a definition of "curriculum" with a prescribed course of study directed by a Ministry of Education. However, within a transdisciplinary ICM, the Ministry divests itself of the task, relegating it to local schools and teachers, i.e., teachers-as-curriculum makers.

[13] *Ecoschools* is an international program for environmental and sustainable development education for schools. Adopted at the school level, the program's methodology is premised upon ICMs. Schools and communities are required to develop vision and mission statements, and action plans. The potential for curriculum to be transdisciplinary is optimal (Foundation for Environmental Education retrieved March 24, 2013 from: http://www.fee-international.org/en).

Lest we create the impression the only reason why ICMs may underperform their integrative function is due to an inherent deficiency, there are other valid reasons that may contribute to a model's underperformance. For instance, Farman & Hollins (1981) cite teachers' lack of content knowledge and expertise, and pressure to cover the learning expectations of the recognized subject as contributing factors. The problem is compounded for secondary teachers. Singletary (1992) found that "secondary teachers have specialized training in one discipline, making it difficult [to integrate]" (p. 226). As we can see, several ancillary factors may contribute to an ICM's effectiveness.

Part III

Analyzing 'Acting Today's, Shaping Tomorrow's' Integrated Curriculum Model

Within the ATST policy document, a variety of goals and strategies suggest an integrated curricular approach to EE (OMoE, 2009). Keywords appearing within ATST from a curricular standpoint include: "integrate" and "interdisciplinary." For specifics, the OMoE (2011) has produced a resource guide called, *Environmental Education: Scope and Sequence of Expectations*. The policy document and resource guide provide a more accurate picture of how the terms—"integrate" and "interdisciplinary"—may be implemented, and where they are located within the typology of ICMs. More specifically, the resource guide contains a chart identifying specific expectations that have something to do with the environment as these appear in subject-specific curriculum documents. For example, the subjects of science, social studies, history, and geography are well represented in terms of expectations that have explicit connections with EE. To a lesser degree, the subjects of health and physical education and art also provide opportunities for EE (OMoE, 2011).

In sum, the scope and sequence expectation guide is simply an anthology of extracted learning expectations drawn from the various subject-curriculum guides—an assimilation of student learning expectations (or outcomes) drawn from school subjects with little concern given to the holistic and pervasive nature of EE. As various curriculum guides have been written or revised asynchronously with no collective assessment, a patchwork approach to EE has resulted.

It becomes clear that the ICM of choice, advocated by the OMoE (2009), could best be described as Model 1 (*infusion*) because selected disciplines have incorporated various EE content and issues (see Figure 1). This ICM is referred to as *pseudo-integration*, meaning little to no integration of disciplines or disciplinary content or methods occurs.

The Implications an ICM of *Infusion* has for Environmental Education and Limitations of the Analysis

After reviewing (Figure 1), an ICM of *infusion* is the least integrative of the ICMs available. And while certain ICM advocates see this as unproblematic on grounds that degrees of integration are "context dependent" and do not imply a hierarchy (Drake & Reid, 2010), we disagree. If the goal is to preserve the holistic nature of EE as practiced in schools, then *infusion* falls short. A hierarchy of integration is significant for this reason: an ICM that is more integrative than *infusion* would significantly preserve EE's pervasive and holistic nature within schools. As *infusion* fails to do this, there are implications for the implementation of EE within schools.

If one of the arguments for using an ICM is to preserve EE's pervasive and holistic nature, we would need to qualify the argument by adding, those ICMs that are more integrative in nature, e.g., multidisciplinary, interdisciplinary or transdisciplinary, more effectively preserve the epistemic foundation of EE.[14] To make the argument on the general claim that any ICM will do is inaccurate and misleading to those trying to advocate for and practice EE in schools. Ask any teacher in Ontario today about how the implementation of EE is going under the curriculum model of "infusion" and you get mixed responses (Fazio & Karrow, 2013; Karrow & Fazio, 2014). Knapp (2000) corroborates this by adding that the infusion has been "a delusion of substantial proportion" (p. 33). A decade prior, Van Matre (1990) concluded, "that teachers. . . going to 'infuse' every part of the curriculum with environmental education. . . [was] a recipe for failure" (p. 13).

Other implications include a developing and exclusionary rhetoric that equates integration solely with *infusion* obfuscating other models of integration that more effectively maintain the holistic and pervasive episteme of EE. The infusion takes the holistic nature of EE, carves it up into pieces, and inserts these pieces into other curricular areas. It would be impossible to retain any degree of 'holism' through such a reductionist approach. That the 'whole' could manifest greater than the 'parts' is dubious. In a paradoxical way, EE becomes further marginalized through the rhetorical flourish of the original argument. In other words, EE is only superficially practiced in schools; superficiality becomes equated with educating *for*, *about*, and *in* the environment when this couldn't be further from the truth. It creates the impression in the minds of stakeholders that EE is occurring within schools, when in fact only a very rudimentary and superficial curricular form of EE is being practiced, if at all, notwithstanding the individual efforts of some educators who have committed themselves to effectively integrate environmental education in their classrooms.

An ICM of *selective infusion* supports the OMoE's (2009) message to emphasize certain currents of EE above others (Sauvé, 2005). Because so many EE-related learning expectations are located within the subject of science, a *scientific* current of EE tends to dominate, despite other currents of EE, to a lesser degree, being promoted within ATST (OMoE, 2009) e.g., *naturalist, conservationist/resourcist, problem-solving*, and *systemic*. The *scientific* current of EE is directed toward the "acquisition of knowledge in the environmental sciences, and the development of skills related to the scientific method" (Sauvé, 2005, p. 33). Whether such other currents of EE, e.g., *naturalist, conservationist/resourcist, and problem-solving*, are compatible with the subject of science, is an important discussion for future researchers. Nonetheless, an ICM of *selective infusion* reinforces a particular current of EE, as evidenced below:

> Environmental education is education about the environment, for the environment, and in the environment that promotes an understanding of, rich and active experience in, and an appreciation for the dynamic interactions of: the Earth's physical and biological systems;

---

[14] We do not wish to leave the impression that EE's pervasive and holistic nature can be entirely preserved simply through more sophisticated ICMs. A curricular solution is one solution to a complex problem requiring more fundamental shifts in teachers' epistemic and ontological foundations.

> the dependency of our social and economic systems on these natural systems; the scientific and human dimensions of environmental issues; and, the positive and negative consequences, both intended and unintended, of the interactions between human created and natural systems. (OMoE, 2009, p.6)

There is a focus upon the "Earth's" objects and the "scientific dimensions" of environmental issues, in this statement. Recognizing there are other currents of EE (Sauve, 2005), while advocating for the integration of Indigenous Knowledge (IK) with environmental education (*ethnographic current*), Longboat, Kulnieks & Young (2013) observe, "Environmental education curricula in North America is primarily based upon a scientific model of inquiry" (p. 18). To a lesser degree, we can discern *naturalist* and *conservationalist/resourcist* currents of EE (Sauvé, 2005). While the general affiliation of EE with a *scientific* current seems natural and logical from a curricular perspective within schools, there are further implications. To believe that by selectively infusing EE with science, such curricular design would allow for its effective teaching/learning is also misguided. Science education itself is suffering its own degree of marginalization, especially in the Ontario context (and elsewhere), due to the unintended consequence of high-stakes testing (Fazio & Karrow, 2013). Quite simply, science is struggling to retain its own curricular status. Selectively infusing EE in science, while well-intentioned, ironically compounds effective EE curricular implementation in schools.

The ATST policy document may have a more circumspect outcome. One might argue that a *selective infusion* model simply maintains the status quo of EE in Ontario at a level prior to the mid-1990s (Puk & Behm, 2003). At that time, neo-conservative government ideology was clearly incompatible with EE. Despite ATSTs release in 2009, one might argue we are not much further ahead of the lingering effect of this political ideology. Given the overcrowded curricula within schools there is little political or social motivation to designate EE as a stand-alone subject requiring a specific allotment of instructional time in the weekly schedules of teachers (Puk & Makin, 2006). Of course, stand-alone status might also make EE a target, easy to cut when politics change and/or budgets are cut. This is what happened in 1999 with the removal of secondary school environmental science from the curriculum. Moreover, some researchers who feel that recognizing EE as a timetabled subject would undermine its philosophical/epistemological underpinnings (Palmer, 1998). Yet, this need not be the case. One only need to consider how some fields achieve disciplinary status, i.e., in post-secondary settings women's studies, multiculturalism, and biotechnology, for instance, have had healthy debates about disciplinary status while retaining an interdisciplinary or transdisciplinary focus. Puk (2002) argues the same for field of environmental education: "Ecological education should be developed as a meta-discipline in the Ontario school curriculum, composed of an enriched subject-matter including sciences, social sciences, economics, health, philosophy, aesthetics, ethics, etc" (p. 228).

Regardless, a default position for policy-makers and politicians is to advocate "curricular integration" for EE. However, not all ICMs are created equally.[15] Further compounding this problem, since EE does not enjoy the disciplinary status, a hierarchy develops. It becomes almost irresistible not to put EE toward the service of some more "worthy" discipline in an effort to salvage it. In this sense, EE promoted on grounds of integrated curricula becomes a means to an end, instead of an end in and of itself. So, instead of the educational objective being more ecologically literate children, EE is used as a means to accomplish other educational goals, such as improved reading and writing scores (Lenoir, Larose, & Geoffroy, 2000).

---

[15] More than one peer-reviewer of the present article intimated perhaps we put too much faith in ICMs to begin with.

Although an ICM of *selective infusion* has several negative implications for EE, there are some positive implications to note. First, an ICM of *selective infusion* creates a space within the OMoE curricula for EE where none previously existed for some time. Schools in Ontario are required, through ATST, to consider how to provide EE within their respective jurisdictions (OMoE, 2009). This is clearly a milestone of great significance. Second, despite criticisms of loosely defined ICMs, such curriculum models could allow the effective application, under competent school-based leadership.

Employing this analysis we wish to highlight some of its limitations before moving on. There are inherent limitations employing the typology of ICMs previously summarized (see middle of p. 8). Furthermore, perhaps the underperformance of ICMs, beyond any inherent limitation, is due to contributing factors such as teachers' lack of content knowledge (see p.10). As well, our critique assumes a pragmatic orientation to curriculum, guided by Petrina (2004) who asks, "What should be taught?" and "How should it be taught?" honouring a theory-practice dialectic. And while the context of the curriculum critique is a Ministry of Education policy document, we suspect some curriculum theorists may view such a critique as "low hanging fruit," while some curriculum designers may view such a critique as beyond reproach. Either extreme of position underscores the theory/practice divide. Furthermore, by uncritically accepting the answers to "What should be taught in EE?" we may leave the reader with the impression the problem rests strictly in our critical appraisal of the answer to the second question, "How should EE be taught?" Answers to each of these questions dialectically inform one another. Having admitted this, we see an opportunity for future work in this area. In particular, scrutiny of what should be taught in EE, and the overly Western orientation of ATST, for example missing opportunities to include Indigenous knowledge (Longboat, Kulnieks, & Young, 2013). Lastly, perhaps our critique puts too much faith in ICM solutions where what is called for are substantial epistemic and ontological shifts to be expressed more adequately through Ministry policy.

Conclusions and Recommendations

With the release of ATST policy document, EE returned to the K-12 landscape in Ontario. Nonetheless, successful EE implementation, aspired to by the aims of the policy document requires us to examine carefully, our curricular emphases and implementation models. Hence, our curricular critique of ATST leads us to the following conclusions and recommendations.

A *selective infusion* ICM does little to maintain the holistic nature of EE, favouring *scientific*, and to a lesser degree *conservationist/resourcist*, and *naturalist* currents of EE. Concomitantly, a scientific leaning of EE exposes poorly coordinated OMoE curriculum implementation efforts and points to the highly politicized character of EE curriculum. As well, given the marginalization of science education itself (Fazio & Karrow, 2013), the *selective infusion* of EE with the subject of science, especially in elementary grades, provides little hope for meaningful integration of EE. Revisiting Petrina's (2004) two orienting questions, our exegesis of the "How?" of curriculum exposes further challenges with "What?" EE curriculum is to consist of. Given an episteme of holism and pervasiveness, and the deficiencies around representing such sophistication and complexity within a curriculum form of integration, this comes as no surprise. On a positive note, ATST has created a space for EE within the province of

Ontario where none existed prior to the mid-1990s. This approach is open and flexible enough to encourage varied pedagogical interpretation by teachers in diverse school contexts.

From a pragmatic curricular perspective school EE could benefit through the following:

1. Closer liaising between Faculty of Education researchers and Ministries of Education around defining, modeling, and analyzing integrated curricula. It is incumbent upon curriculum theorists and curriculum designers to work together to nurture such a pragmatic orientation to curriculum to ensure that "what" EE is to consist of is accurately and fairly represented through the form of integration within schools, i.e., *DEEPER: Deepening Environmental Education in Pre-service Education Resource*, (Inwood & Jagger, 2014).
2. Collaboration between Faculty of Education researchers and Ministries of Education and the promotion of an ICM that preserves subject/disciplinary epistemology, i.e., EE's holistic episteme.
3. The promoting of an ICM that reflects a greater variety of EE currents and EE's definitional breadth, e.g., Indigenous knowledge perspectives (*ethnographic current*) see Longboat, Kulnieks, & Young, (2013).
4. Meaningful and sustained professional development opportunities for school boards, school administration, and teachers around Ministry policy frameworks and ICMs that support curriculum dimensions of such frameworks, i.e., see Karrow & Faxio (2014).
5. Comparisons with international school jurisdictions employing other ICMs providing important perspectives.
6. Effective modeling within pre-service and in-service professional development programs of ICM exemplars, i.e., see Law & McConnell (2000) for specific Ontario examples of ICMs and EE, and Karrow & Fazio (2014).

Acknowledgements

This research was partly supported by the Social Sciences and Humanities Research Council Standard Research Grant of Canada, File # 410-2010-0751.

References

Beane, J. (1996). On the shoulders of giants! The case for curricular integration. *Middle School Journal*, *28*(1), 6-11.

Case, R. (1991). *The anatomy of curricular integration*. (Forum on Curriculum Integration: Tri University Integration Project, Occasional Paper #2). Burnaby, BC: Simon Fraser University.

Doll, W. (1993). *A postmodern perspective on curriculum*. New York: Teacher's College Press.

Drake, S. (1991). 'How our team dissolved the boundaries'. *Educational Leadership*, October, 20-22.

Drake, S. (2007). *Creating standards-based integrated curriculum.* Thousand Oaks, CA: Corwin Press.

Drake, S. & Reid, J. (2010). *Integrated curriculum: Increasing relevance while maintaining accountability* (Research Monograph #28). Toronto, Ontario: The Literacy and Numeracy Secretariat, Queen's Park.

Erb, T. (1996). Following the bandwagon of curriculum integration: Beautiful music or deep ruts? *Middle School Journal*, *28*(1), 2.

Fazio, X., Karrow, D. D. (2013). Science takes a back seat: Unintended consequences of prioritizing one subject area over another. *Education Canada. 53*(3). Available: http://www.cea-ace.ca/education-canada/article/science-takes-back-seat

Farman, G. & Hollins, E. (1981). Citizenship and the infusion game. *Phi Delta Kappan*, *62*(7), 510-512

Fogarty, R. (1991). 'Ten ways to integrate the curriculum". *Educational Leadership*, *49*(2), 61-65.

Goodson, I. (1995). *The making of curriculum: Collected essays.* (2nd ed.). London: The Falmer Press.

Hargreaves, A., Earl, L. & Ryan, L. (1996). *Schooling for change: Reinventing education for early adolescents*. London: Falmer.

Hirst, P. H. (1974). *Knowledge and the curriculum: A collection of philosophical papers*. London: Routledge and Kegan Paul.

Hirst, P. & Peters, R. S. (1970). *The logic of education*. London: Routledge.

Hungerford, H. R., & Peyton, R.B. (1994). Procedures for Developing an Environmental Education Curriculum: A Discussion Guide for UNESCO Training Seminars on Environmental Education. (Switzerland, UNESCO).

Inwood, H. & Jagger, S. (2014). *DEEPER: Deeping environmental education in pre-service education resource*. Toronto, ON: The University of Toronto Bookstore.

Karrow, D. D. & Fazio, X. (October, 2014). *How to integrate environmental education within K-12 education*. Paper presented at the North American Association for Environmental Education (NAAEE), Ottawa, Ontario, October 7-11.

Klein, J. T., (2009). A platform for a shared discourse of interdisciplinary education. *Journal of Social Science Education, 5*(2), 10-18.

Knapp, D. (2000). The Thessaloniki declaration: A wake-up call for environmental education? *Journal of Environmental Education*, *31*(3), 32-39.

Law, B., & McConnell, B. (2000). *Environmental education: Teacher development material*. Christchurch: Christchurch College of Education.

Lenoir, Y., Larose, F., & Geoffroy, Y. (2000). Interdisciplinary Practices in Primary Education in Quebec: Results from Ten Years of Research. *Issues in Integrative Studies, 18*, 89-114.

Longboat, D. R., Kulnieks, A., & Young, K. (2013). Beyond Dualism: Toward Transdisciplinary Indigenous Environmental Curricula. In A. Kulnieks, D. R. Longboat, and K. Young (Eds.) *Contemporary studies in environmental and indigenous pedagogies: A curricula of stories and place.* (p. 9-20). Rotterdam, The Netherlands: Sense Publishers.

Marsh, C. J. (1993, November). *How achievable is curriculum integration?* Paper presented at the tenth Hong Kong Educational Research Association Conference, Hong Kong.

Ontario Ministry of Education. *What are curriculum documents?* http://www.edu.gov.on.ca/eng/curriculum/elementary/index.html#display (retrieved May 25, 2012).

Ontario Ministry of Education. (2009). *Acting today, shaping tomorrow: A policy framework for environmental education in Ontario schools.* Toronto: Queen's Printer for Ontario.

Ontario Ministry of Education. (2011). *The Ontario curriculum grades 1-8 and kindergarten programs, environmental education: Scope and sequence of expectations*. Toronto: Queen's Printer for Ontario.

Ontario Ministry of Education. (2012). *The Ontario curriculum: elementary*. Retrieved May 25, 2012, from http://www.edu.gov.on.ca/eng/curriculum/elementary/index.html#display

Ontario Ministry of Education. (2015). *Learning in Ontario: Getting started—frequently asked questions of parents.* Retrieved February 5, 2015, http://www.edu.gov.on.ca/eng/parents/faq-parents.html#schools3

Ontario Society for Environmental Education. (May, 1998). *OSEE ranks frequency of environmental outcomes generally low in new Ontario elementary science curriculum*. Parent's Environmental Network Newsletter. Toronto, ON.

Palmer, J. (1998). *Environmental education in the 21st Century: Theory, practice, and promise*. New York: Routledge.

Petrina, S. (2004). The politics of curriculum and instructional design/theory/form: Critical problems, projects, units and modules. *Interchange*. *35*(1), 81-126.

Pinar, W. (2012). *What is curriculum theory?* (2nd ed.). New York: Routledge.

Puk, T.G. (2002). A new meta-perspective "ecological education" should be created. *Interactions*, *14*(3), 30-31.

Puk, T., & Behm, D. (2003). The diluted curriculum: The role of government in developing ecological literacy as the first imperative in Ontario Secondary Schools, *Canadian Journal of Environmental Education*, *8*, 217-232.

Puk, T., & Makin, D. (2006). Ecological consciousness in Ontario elementary schools: The truant curriculum and the consequences. *Applied Environmental Education and Communication*, *5*(4), 269-276.

Rennie, L., Venville, G. & Wallace, J. (Eds.). (2012). *Integrating science, technology, engineering and mathematics: Issues, reflections and ways forward*. New York: Routledge.

Sauvé, L. (2005). Currents in environmental education: Mapping a complex and evolving pedagogical field. *Canadian Journal of Environmental Education, 10*, 11-37.

Schwabb, J.J. (1969). The practical: A language for curriculum. *The School Review, 78*(1), 1-23.

Sharpe, E. & Breunig, M. (2009). Sustaining environmental pedagogy in times of educational conservatism: A case study of integrated curriculum programs. *Environmental Education Research*, *15*(3), 299-213.

Singletary, T. (1992). Case studies of selected high school environmental education classes. *Journal of Environmental Education*, *23*(4), 35-40.

Tyler, R. (1949). *Basic principles of curriculum and instruction*. Chicago: University of Chicago Press.

UNESCO. (1992) UN Conference on Environment and Development: Agenda 21 (Switzerland, UNESCO).

Van Matre, S. (1990). *Earth education*. Greenville, WV: The Institute for Earth Education.

Venville, G. J., Wallace, J., Rennie, L. J., & Malone, J. A. (2001). *Curriculum integration: Eroding the high ground of science as a school subject?* Paper presented at the Annual Conference of the Australian Association for Research in Education, Fremantle: WA. December.

Winfield, M. & Jenish, G. (1999). *Ontario's environment and the common sense revolution: A four year report*. Toronto, ON: Canadian Institute for Environmental Law and Policy.

Appendix A

Some of the Knowledge, Skills, and Attitudes Developed Through Environmental Education

KNOWLEDGE—Environmental education should enable students to learn about:

- the resources of the Earth, particularly soil, water, minerals, and air, their characteristics, and their role in supporting living organisms;
- the nature of ecosystems and biomes, their health, and their interdependence within the biosphere;
- the dependence of humans on environmental resources for life and sustenance;
- the characteristics of human societies, including nomadic, hunter-gatherer, agricultural, industrial, and post-industrial, and the impact of each on the natural environment;
- the role of science and technology in the development of societies and the impact of different technologies on the environment;
- the process of urbanization and the implications of deruralization;
- the interconnectedness of political, economic, environmental, and social issues in the present world;
- cooperative national and international efforts to find solutions to common environmental issues and to implement strategies for a more sustainable future.

SKILLS—Environmental education should enable students to:

- define such fundamental concepts as environment, community, development, and technology, and apply these definitions in local, national, and global contexts;
- use a range of resources, communications skills, and technologies in addressing environmental questions;
- develop problem-solving skills and critical and creative thinking skills, including the ability to reason and apply logic, to recognize and apply abstract patterns, to identify connections and relationships between ideas and issues, and to test ideas against new information and against personal experience and beliefs;
- work towards a negotiated consensus when ther[16]e are differences of opinion;
- detect and assess bias and evaluate different points of view;
- recognize the need to incorporate an environmental perspective in decision-making models.

ATTITUDES—Environmental education should enable students to:

- appreciate the resilience, fragility, and beauty of nature and develop respect for the place and function of all living things in the overall planetary ecosystem;
- appreciate that human life depends on the resources of a finite planet;
- appreciate the role of human ingenuity and individual creativity in ensuring survival

---

[16]

and achieving sustainable progress;
- become mindful of perspectives other than their own and be prepared to modify their ideas and beliefs when appropriate (e.g., understand and respect First Nation, Métis, and Inuit concepts of knowledge);
- appreciate the challenges faced by the human community in defining and implementing the processes needed for environmental sustainability;
- develop a sense of balance in decisions that involve conflicting priorities;
- maintain a sense of hope and a positive perspective on the future.

Adapted from Ontario Ministry of Education (2009). *Acting today*, *shaping tomorrow*: *A policy framework for environmental education in Ontario.* Toronto. ON: Queen’s Printer and “Learning Outcomes” on the Learning for a Sustainable Future (LSF) website, at http://www.lsf-lst.ca/en/teachers/learning_outcomes.php.

Appendix B

Model 1: Curriculum infusion Each subject teacher selects material from an environmental education curriculum and independently treats it in its own way. Environmental education is claimed to be ubiquitous across the whole school curriculum but no cross-subject linkage is achieved.
Model 2: Multi-disciplinary or thematic (Teacher-centred approach) Primary or junior high teachers choose topics relevant to the environment and develop topic-based or issue-based classroom programs. There is a degree of content integration as the content knowledge is cross-curricular, but no transference across subject areas is achieved. The learning is largely promoted by teacher-contrived learning experiences.
Model 3: Interdisciplinary approach Junior or senior high school teachers from 2 or 3 departments plan together to develop a topic-based or issue-based program, which is an integrated curriculum. Children's needs are considered with meaningful connections made for students between the curriculum and their daily lives. Essential skills, attitudes and values are the major focus and transcend each subject involved in this program. But, the uneven cross-curricular integration can make environmental education an enterprise of the subject with better integration e.g. science.
Model 4: Transdisciplinary model A school develops and acts on an 'environmental plan' in that subject divisions are subservient to this action plan. The school aims at achieving the goals from that environmental plan and it becomes the school feature such as the Green Schools in both Taiwan and mainland China and Enviroschools in New Zealand, and Ecoschools in Ontario [our emphasis].
Model 5: Environmental education course approach Environmental education is treated as an independent subject or course such as an environmental education course at senior level of the secondary schools or university.

Law and McConnell (2000) with Ontario examples.

Listening to Voices at the Educational Frontline: New Administrators' Experiences of the Transition from Teacher to Vice-principal

Denise E. Armstrong
Brock University

Abstract

This qualitative study explored the transition from teaching to administration through the voices of four novice vice-principals. An integrative approach was used to capture the interaction between new vice-principals, their external contexts, and the resulting leadership outcomes. The data revealed that in spite of these new administrators' intention to create better schools for all students, they encountered multiple factors that hindered their ability to achieve their leadership goals. Key obstacles included the ambiguous legal and institutional configuration of the vice-principalship, inadequate preparation for challenging front line managerial and disciplinary roles, and inappropriate transitional support. Through listening to new vice-principals voices and providing relevant preparation and coordinated supports, school districts, policy makers, professional associations, and regulatory bodies can improve this transition and address some of the leadership challenges facing schools.

Keywords: vice-principals, transitions, socialization, leadership, administration, role ambiguity, stress

Denise E. Armstrong is an Associate Professor in Administration and Leadership, in the Faculty of Education at Brock University. Her research and writing focus on the vice-principalship and the principalship, professional and organizational transitions and change, values, ethics, micropolitics and social justice
Email: darmstrong@brocku.ca

Introduction

For many teachers, the appointment to an administrative post is regarded as an important career achievement because of its association with upward professional mobility and increased organizational influence (Armstrong, 2009). However, although it is a common perception that the transition from teaching to administration is seamless, it is not uncommon for new administrators to experience multiple and ongoing challenges as they adapt to and make sense of their new administrative roles and contexts (Armstrong, 2012; Dotlich, Noel, & Walker, 2004; Marshall & Hooley, 2006). Reports from new and practising administrators have consistently shown that new vice-principals are more and more likely to enter hectic and fragmented working environments where challenge and change are the norm (Armstrong, 2014; Hartzell, Williams, & Nelson, 1994; Marshall & Hooley, 2006). Even those administrators who feel prepared to perform administrative tasks often find themselves unprepared for the social and emotional changes that accompany both their exit from teaching and entry into administration. They are also challenged by the vagaries and conflicts of their ill-defined middle management role (Armstrong, 2010, 2014), the complexities of administrative decision making (Olson, 2000; Sigford, 1998), and the political demands of their school, district, and community (Armstrong, 2014; Marshall & Hooley, 2006; Matthews & Crow, 2003). Novice administrators are also shocked to discover the number and variety of responsibilities and demands embedded in their new frontline position and the dramatic psychological effects that it has on their personal lives (Armstrong, 2012, 2014; Marshall & Hooley, 2006).

This paper examines the nature of the transition from teaching to administration from the perspectives of four recently appointed secondary school vice-principals. It gives voice to the personal and professional challenges and successes they encounter during their early administrative trajectory as they adjust to and make sense of their new position and contexts. Although vice-principals perform many varied and significant leadership and management roles in areas related to personnel supervision and evaluation, curriculum, student discipline, and supporting students, families and communities, the field of educational administration continues to foreground and privilege principals' voices and experiences (Armstrong, 2010; Boske & Benavente-McEnery, 2012). The participants identify the people, structures, and events that they perceive as significant in facilitating or hindering their administrative transition and make recommendations for change. This paper begins with a brief description of the research context and the study's methodological and theoretical perspectives in order to locate the vice-principals' transitional experiences. It further discusses how this administrative transition can be supported and makes suggestions for coordinated improvements. The next section provides a brief overview of the research context and contextualizes the working world of the vice-principalship.

Research Context

Many variables influence administrators' transitional trajectories, among which are individual personalities, the nature and location of their role, and the social, political, and cultural contexts and climates within which their transitions occur (Armstrong, 2009, 2012). When administrative trajectories take place in environments of deep structural change, they create additional layers of challenge and uncertainty. Such is the case for new administrators who were appointed to the vice-principalship in North American jurisdictions over the past two decades. For vice-principals in Ontario, their transitions have been impacted by wide-ranging provincial reforms and restructuring initiatives that administrators are legally required to implement. The literature identifies a number of external change factors such as deep policy and procedural shifts, redefinition of administrative roles and responsibilities, increased accountabilities, and diminished supports which challenge both new and experienced frontline administrators (Armstrong, 2014; Nanavati & McCulloch, 2003; Read, 2012). The vice-principalship has also undergone drastic alterations due to the legal redefinition of vice-principals as managers, downsizing and downloading, and centralizing mechanisms that remove or limit local decision-making powers (Armstrong, 2012; Nunavati & McCulloch, 2003Williams, 2001). Furthermore, the removal of school administrators' from teachers' unions has created rigid boundaries between teachers and administrators, generating a climate of uncertainty and animosity. This combination of intersecting changes at the school, district, and provincial levels has generated additional transitional layers, making it difficult for newcomers to anticipate outcomes, address challenges, and access traditional supports.

Theoretical and Methodological Perspectives

This study draws on qualitative methodology in an attempt to give voice to new vice-principals and to understand their role transitions. Vice-principals represent the vast majority of administrators and outnumber principals in many jurisdictions, and the vice-principalship is often the main entry point into administration. However, vice-principals' voices and experiences are often ignored or marginalized in the educational administrative literature and in the field (Armstrong, 2009, 2012; Boske & Benavente-McEnery, 2012; Marshall & Hooley, 2006). Qualitative research can be used to understand how participants construct their social settings and make sense of their experiences (Cresswell, 2011; Merriam, 2002). It acknowledges that representing experience (both one's own and that of other people's) is a complex undertaking because of the limitations of human linguistic forms to capture the full depth, breath, essence, and complexity of felt and lived experience (Armstrong, 2009; Merriam, 2002). This approach also acknowledges the dynamics of representing others' experiences, particularly with respect to the relative power of researchers and participants, and makes attempts to address this imbalance by foregrounding the participants' voices (Armstrong, 2009; Merriam, 2002).

This exploration of new vice-principals' transitions uses an integrative framework in order to capture the dialectical nature of transitions, i.e., the interactions between new vice-principals and their external contexts (Armstrong, 2009, 2010; 2012). With respect to vice-principals' transitions, these interactions occur primarily at the organizational frontlines of their particular school and are nested within their surrounding district, institutional, and societal contexts. Schlossberg (1981) also recognizes that transitions do not occur in a vacuum, and she underscores the importance of focusing on these dynamic interrelationships. In her argument for the inclusion of individual and contextual factors, she states that "studying the transition process requires the simultaneous analysis of individual characteristics and external occurrences" (p. 3). Her viewpoint is supported by Nicholson (1990) who contends that a comprehensive understanding of transitions can be achieved through the use of a perspective that accounts for the interaction of the person, his or her social, political, economic, physical , and cultural milieu, and the ways in which social stratification and organizational design impose constraints on the individual's choices.

Data Collection and Analysis

The data for this study were collected through individual semi-structured interviews. The interviews were approximately 90-minutes in duration and took place in a mutually agreed upon location. The interview questions were designed to gather background information on the participants, their motivations for becoming vice-principals, their experiences of the transition from teacher to administrator, their challenges and success, the people, structures, and events that supported and/or hindered their role transition, and the changes experienced as a result of their administrative experiences. In order to ensure transparency and to develop a relationship of trust throughout the interview process, the interviewer informed participants of the benefits and drawbacks of participating before each interview, provided assurances of confidentiality and anonymity in reporting results, and communicated the importance of choosing a location that provided safety and confidentiality for the participants.

Consistent with Merriam (2002), the researcher used a conversational approach throughout the interviews in order to put the participants at ease. Given that the purpose of this inquiry was to listen to the vice-principals' voices, the researcher also drew on her expertise as a trained counsellor and employed techniques associated with active, attentive, and empathetic listening. In order to put participants at ease, the interviewer started with the more structured background questions about their school, current role, etc. As the interview progressed, participants were encouraged to elaborate on their experiences. This approach facilitated dialogue and allowed her to develop rapport with the participants. The participants' interviews were audio recorded and transcribed verbatim in order to ensure accuracy. The participants were provided with copies of their transcript and were encouraged to review them for accuracy and to modify them as necessary. The participants made no modifications to their transcripts.

Participants

The participants were four newly appointed secondary school vice-principals who were in their first to third year of experience as administrators. The pseudonyms Grant, John, Alice, and Wilma were used to ensure the participants' confidentiality. Participants were selected based on the following criteria: number of years of experiences as secondary school vice-principals; type of school, i.e., regular collegiate or special school; recommendation by vice-principal colleagues; and willingness to participate in this research. The participants were in their early to late forties and had taught in a variety of schools for approximately 13-18 years. They had also worked in varied leadership roles and were appointed as department chairs prior to becoming vice-principals. The participants' administrative experience as vice-principals ranged from 1-3 years, and they had all remained in the schools in which they had been placed at the beginning of their tenure. Both Andrea and John were placed in large collegiate with populations ranging from 1700-2300 students, while Grant and Wilma worked in vocational schools with populations ranging from 400-600 students.

Data Analysis

Data were analyzed using constant comparative methods (Creswell, 2011; Glaser & Straus, 1967; Merriam, 2002) and consisted of reading and re-reading the participants' interviews independently and holistically in order to identify differences, similarities, and contradictions in the data. Line-by-line analyses were conducted based on the research questions, and additional categories were constructed based on emerging themes and patterns. As part of the member checking process, participants received copies of their transcribed interviews and the related interpretations. They were also invited to edit, amend, or clarify any responses and/or themes in order to ensure accuracy enhance the trustworthiness of the study (Creswell 2011). They made no requests for changes to the transcripts or the interpretations, confirming that these were valid.

Overall, the participants described their transition as a challenging process that was characterized by personal and professional challenges and changes. The next section reports on the participants' challenges and their attempts to adapt to their new contexts and roles, highlighting the following themes: (a) role dissonance and dislocation; (b) work intensity and stress; and (c) supports and relationships.

Findings

The participants likened their early experience of administration to a “cultural shift” that was characterized by a sense of dislocation and feelings of ambiguity. Although they had taken the mandated principals' training courses and were all experienced curriculum leaders, they reported experiencing a number of shocks and surprises during the first year of their tenure. These experiences were primarily attributed to inappropriate preparation for their frontline location between teachers and upper-level administrators, differences between teaching and administration roles, responsibilities, and workloads, and lack of ongoing support and scaffolding.

Role dissonance and dislocation

All of the vice-principals reported that they felt that they did not belong in this new role or environment during the early months of their transition. Alice, for example, who had moved from a smaller school, reported feeling overwhelmed by the sheer size of the physical plant and the number of staff and students. Although she recognized that she was no longer a teacher because of her new appointment, she did not feel that she was a vice-principal either. Like the other three vice-principals, she described feeling out of place in her administrative role. “I certainly do not see myself as a vice-principal. There is no question about that. But I am not sure about all that it means and all the values that are attached to that.” The new vice-principals' feelings of displacement and uncertainty were connected to three co-occurring changes -- their upward shift in the school hierarchy, their relinquishment of their classroom duties and close relationship with students, and a sudden change in their relationships with their former teacher colleagues due to the vice-principals' supervisory status.

These unexpected changes served as an uncomfortable reminder of their lack of familiarity with the administrative culture and their limited preparation to meet administrative role demands. The change in teachers' attitudes and expectations also made the new vice-principals' aware that they were now outsiders to the teaching culture. Wilma explained:

> Even though you see similarities in what you are doing, the staff sees you as a different type of person. All of a sudden, you have another level of respect that wasn't there. Not even a respect, but a deference that wasn't there before. I left in June as one of 23 teachers, where I would say, "I think… and everyone would say, "Well, that's a good idea, but who asked you anyway? (Wilma)

As she reflected on this unfamiliar dynamic, she went on to say that while this change in status afforded a sense of increased power, it also provoked feelings of loneliness:

> So you leave in June, and in September you become one of two people who get to say what happens. Yet, you haven't changed. You haven't gained any great experience, but you are doing it all yourself. (Wilma)

The feeling of "doing it all by yourself" and the shift in teachers' perceptions and collegial interactions were poignant reminders to the vice-principals of their unexpected loss of a larger community of peers and their exit from the teaching culture. The corresponding lack of an administrative community led to feelings of being alone and isolated.

The vice-principals also commented on ambiguities inherent in their role which, unlike teaching, carried no clear timetable or definition of duties. In addition, because their role was defined as "duties as assigned by the principal" and they no longer belonged to a union, the vice-principals were unable to refuse difficult and/or unpopular managerial tasks. As a result, they often ended fulfilling roles and tasks that teachers and principals did not want to do. The participants also reported that although they had assumed that they would acquire greater power and influence as administrators, in reality, they had less power, flexibility, and time than teachers. Alice's comparison of the relative power of teachers and vice-principals highlights some of these ambiguities and contradictions:

> You know, I have my own business cards and my own parking space and I've got the office. You are seen as having power when in fact I think you have less. I used to do things as a classroom teacher because I thought they were right. And I think I had more power and influence with what was going on in kids' lives through my programme and the way that I approached it than now. (Alice)

This combination of limited organizational power and influence and the inability to control their role led to unmanageable workloads and longer work days, and in the process increased the new administrators' feelings of stress and strain.

Work Intensity and Stress

The participants attributed their feelings of cultural and role dissonance to increases in the intensity, pace, and volume of their daily work which occurred mainly on the frontlines. These feelings were primarily connected to the difference between teachers and administrators' roles environments and demands. Unlike teaching where they enjoyed the privacy of their classroom and had a predictable timetable, participants felt that they were at the "beck and call" of the school and external community and had little control of their time. The pressure to respond immediately and effectively to varied and conflicting demands was exacerbated by the lack of training in basic technical tasks and unfamiliarity with their new school's clientele and culture. A consistent theme in the participants' responses was related to the lack of time allowed to ease into their role. Reflecting on the speed with which they were expected to acclimatize without training, Wilma said:

> All of a sudden you are doing this job in September. You've got that week or two at the end of August to sort of acclimatize yourself to the building or whatever and meet a couple of people, but you are doing it right away. (Wilma)

The participants also reported that their frontline position increased their visibility to the whole community, exposing them to greater levels of scrutiny and expectation from their teaching peers. Wilma reported, "All of a sudden, you are in front of your peers all the time" while Grant said,

> Teachers are coming to you and complaining about issues they would like you to solve. They figure that you have all of the answers, and kind of, expect you to do it for them. I think that created challenges in the first year. (Grant)

The participants also experienced their work during the first six months as all-consuming due to their increased workload and their responsibility to manage ongoing crises and solve problems. The pace of assigned tasks and the rate of new information and emails were constant, making them question their reasons for choosing this role and their competence. The intensity and immediacy of this pressure were communicated in the contrasting metaphors of water and fire that pervaded their descriptions of leading and managing from the front office. Wilma and Alice described their early experiences as a "baptism by fire" and "jumping off the deep end", while John observed, "You are always battling smoke and fire… Some days you feel like a puppet, with a lot of different people pulling the strings". Participants also commented on the stress associated with the reactive and crisis nature of their role and the pressure to take immediate control. Ongoing concerns were also voiced regarding work overload and loss of control over their personal schedules, which required at times ignoring basic bodily functions and their personal well-being. They all reported that during their early tenure, they literally had to write "Go to the washroom" in their daybooks. These patterns had physical consequences for all of the participants. While Alice, Wilma, and John reported weight loss and elevated blood pressure level during the first year, Grant attributed his changed sleeping habits to the daily stress of ensuring that staff absences were covered:

> There is that transition in your personal life. You have to get up every morning and make that phone call, and make sure that you have enough supply teachers in your school. And that can be quite stressful because you have developed habits in your professional career and then, at the start of September, you have to start making these changes. (Grant)

Heavy workload demands and downloading from their school district also precluded working with their community in meaningful ways. In addition, ongoing staff reductions, a "surge" in district initiatives, ministry policies and paperwork, poor central office co-ordination, and lack of support for implementing new initiatives led to feelings of frustration. Wilma's comments encapsulated the general frustration of the participants, "So it adds for stress all around. So you just happen to be starting a new job at the same time that everything is in transition." Similarly, Grant recalled his frustration when caught between implementing new policies and conflicting communication from central office, "There was a time when I had a serious incident. I phoned somebody. They told me that they were the consultant at the board level. Then I went to the policy and it said something else."

These vice-principals were also responsible for maintaining safety in schools and disciplining students, and they experienced ethical conflicts when required to impose blanket punitive consequences on students. In many cases, they did not agree with some of their board's disciplinary policies and procedures and felt that alternative disciplinary approaches would have been more educative, particularly for students who were deemed to be at risk, or were identified with special needs. However, they felt intense pressure to follow district and ministry safe schools' policies because of their legal obligations as agents of their district and ongoing pressure from teachers and senior colleagues to adopt harsher approaches. It is interesting to note that while John and Grant reported adjusting to their role as disciplinarians fairly quickly, the two female participants expressed more ethical and physical discomfort with this dimensions of their role. Both Alice and Wilma reported that they were often fearful of their personal safety because of verbal pushback from students and their parents. Wilma reported, "There were a few parents who were very demanding, who were very rude and almost threatening in some regards. And I think it was a difficult transition and a challenge." Alice, who was in a school with competing gangs, also recounted a stabbing incident that occurred during her first month that had made a lasting impression on her. She said, "That was really frightening, and I didn't realize the impact that it had at that moment, but I think it had a long term one." The crisis nature of their role, its unpredictability, and the lack of control over their workday created pervasive feelings of anxiety and tension. In addition, the loss of opportunities to engage positively with students and to provide sustainable and relevant supports for vulnerable individuals often provoked questions regarding their role's purpose, as expressed by Grant. "I feel like the more they lay on me, the less attention I can give to kids, and the less I can really do to fulfill one of my most primary functions." These ongoing challenges motivated the vice-principals to seek ways to manage stress and to integrate themselves into their community.

Supports and Relationships

The vice-principals' early experiences of isolation, loss, and overload and the ongoing negative interactions with others motivated them to seek out new avenues of support. Participants described intentionally seeking out a wide range of individuals and groups in order to access assistance and advice and to build collaborative relationships. For the most part, these interactions were with fellow vice-principal colleagues, business and operations staff, teachers and supervisory officers. Like the other vice-principals, Grant highlighted the importance of supportive relationships and environments, when he said, "It is important to move into an environment where it is supportive, where you can share things, make mistakes, take risks. And that's what gave me more confidence in myself because the learning curve is steep.

Working with administrators who were accessible and tolerant of mistakes contributed positively to the new administrators' sense of safety and security. However, they all identified their building principal's support and mentoring as most important to their growth and development as administrators. The importance of supportive and empathetic principals to vice-principals' leadership and management learning was highlighted by Wilma:

> My principal was amazing. Her door was always open and she was most understanding and supportive. And I think that would make or break how your first year went because if you couldn't ask those dumb questions such as: what do I do now, what do you think, and how many days? ... all that kind of stuff that would make for a very difficult and awkward time. (Wilma)

The process of listening to and dialoguing with their principals and working with them to create their own personal growth plans helped the participants develop a better understanding of their role expectations and how they fit into the school. However, this was not always a comfortable relationship. Working in the front office meant being in close proximity to their principal, which created discomfort for some of the new vice-principals. Alice, in particular, reported experiencing heightened pressure related to rule conformity and institutional accountability because of her principal's supervisory role. She also wondered if her performance was being judged and if it would impact her chances of promotion. "Now you're right next door and what you do immediately goes to the principal, and I feel more responsibility to the system now and to policies and procedures."

The participants also reported receiving support from some of the vice-principals who were members of their administrative team. In particular, they valued opportunities to discuss their experiences and challenges with more experienced colleagues, and they appreciated their guidance. They also connected having someone to "vent to" and "knowing that they were not alone" to their ability to grow as administrators and put things into perspective, as described by John:

> The other vice-principal was supportive. It was easy to sit down and talk about it and feel that this is not something that happens to me alone. It happens to everybody. Just sitting down and venting was a good way to get through. (John)

However, administrative team relationships were not without conflict. For example, some of the vice-principals felt that there were power imbalances between new and more senior team members, who sometimes attempted to silence newcomers' voices and undermine their decisions. In some cases, participants identified the existence of a competitive ethos between team members who were vying for the principals' support because they did not perceive the vice-principalship as a terminal career. Alluding to some of the problematic aspects of the administrative team dynamics, Alice observed:

> You are supposed to be working together with people you are competing against for the role of principal because the role of vice-principal is not one that people see as the end of their career path. So there is that competitiveness that seems dichotomous with collaboration. (Alice)

What emerged from this picture was that the team relationship was dependent on the principal's management and leadership style and the compatibility of the team. When these components were lacking, a tense political environment was created, which increased the newcomers' feelings of discomfort and powerlessness.

Although the participants described "people interactions" as one of the most difficult aspects of their role, they reported experiencing a greater degree of comfort in dealing with people and building relationships over time. This change was primarily attributed to the vice-principals increased familiarity with the physical plant and the school and community culture. John reported feeling more comfortable and confident in his third year. He attributed this to having a developed a clearer sense of the boundaries and possibilities of his role, the "rhythm" of the school, and the flow of academic school year. His feeling of having attained a high level of competence and familiarity with technical tasks, student discipline, and interpersonal interactions is encapsulated in the following comment:

> I feel that I can be a lot more decisive about things. I have a pretty good sense of when to slow down and stop, analyze and consult, and bring people in. So I think I am sort of getting better at being a manager and a leader… knowing that I can affect the tone of the school and keep the place safe and secure and make kids feel that they can be risk-free. (John)

Like John, the other vice-principals associated their increased leadership confidence and competence to their ability to transform their negative disciplinary role into more positive interactions with students and to improve the general tone of the school. Grant observed:

> There are days when you are making decisions and you know it's affecting a child, and you are hoping that you are doing something for the benefit of society. And there are times when you sit and work with teachers and try to implement a project, and you feel wonderful about it (Grant).

Although the vice-principals' frontline role continued to be challenging, their ability to work positively with teachers and the broader community to support students afforded them a new sense of purpose. In addition, their increased sense of connection and competence contributed to their ability to develop a different perspective of the role and facilitated their ability to navigate its multiple demands and challenges.

Discussion and Recommendations

This article focussed on four new secondary vice-principals' experiences as they transitioned from teaching to administration. The findings confirmed previous literature that consistently shows that moving from teaching to administration is a challenging process for which newcomers are unprepared (Armstrong, 2014; Boske & Benavente-McEnery, 2012; Scoggins & Bishop, 1993). The participants' stories identified the existence of hidden and overt socialization practices that emanated from multiple arenas, but particularly from teachers and administrators. The vice-principals' metaphorical references to fire and water imagery speak to the intensity of this early socialization process and confirm the existence of "sink or swim" and "trial by fire" approaches in school and district induction processes. While these tactics were most probably unintentional, they ensured higher levels of conformity to expectations of vice-principals' roles as crisis managers and disciplinarians, as opposed to change agents and leaders. Further research is required to determine the nature and purposes of vice-principal socialization tactics so that aspiring and new administrators can be adequately prepared for this aspect of their transition. This information should also be shared with their supervisors, mentors, and colleagues so that they can provide social and emotional scaffolding as needed.

The vice-principals' experiences substantiate earlier criticisms that leadership preparation programmes do not adequately prepare teachers for the complexities of leadership and management, or provide them with the practical knowledge and skills required to be successful frontline administrators or change agents (Armstrong, 2012; Boske & Benavente-McEnery, 2012; Marshall & Hooley, 2006). The study's results demonstrate the need for preparation programs that are specifically geared to vice-principals' transitional needs and the demands of complex and difficult frontline roles. As it currently stands, Principal Qualifications Programs (PQP), as their moniker suggests, focus on preparing teachers to be principals. This approach is problematic for three main reasons: Firstly, it ignores that the vice-principalship, and not the principalship, is the most common entry-point into administration in Ontario. Secondly, it creates the false impression to teachers and other aspiring administrators that vice-principals perform the same roles as principals. Thirdly, it communicates that principals and vice-principals have equal access to power, even though the Ontario statutes clearly describe the role of the vice-principal as duties as assigned by the principal (Mackinnon & Milne, 1999). As the data revealed, because principals are legally empowered to assign vice-principals' tasks, vice-principals typically work in the shadow of their principal and often fulfill roles that principals are unwilling or unable to do. In order to reduce that surprises that newcomers experience, it is important for preparation programs to communicate that while there is some overlap in principals' and vice-principals' roles, differences in role expectations and power exist. This means that vice-principals should not only be taught how to perform technical tasks, but also how to navigate their relationship with the principal in order access power and fulfill their leadership aspirations. In addition, because many secondary vice-principals work in administrative teams that are made up of principals and vice-principals, new vice-principals must learn how to navigate these political dynamics and build viable relationships. Bringing vice-principals' voices out of the shadows of administration can inform preparation programs, school districts, and policymakers regarding appropriate formative and developmental support for new administrators.

The participants' stories highlighted an urgent need for early and ongoing supports for aspiring and new vice-principals. Hartzell et al. (1995) identify three areas of support that are critical to the adjustment of novice vice-principals. These are: accurate information about their job; assistance in interpreting things in their new role and setting; and opportunities to develop relationships with others with whom they can talk and test reality. The participants asked for mentoring and support systems such as job shadowing, apprenticeships, and internships that would provide them with opportunities to develop practical skills, learn about administrative roles and build relationships. While some of the participants were able to access mentoring and support over time and through their own personal initiative, their transitional stress and strain would have been lessened if they had received these supports in a timely and developmentally appropriate manner. Aspiring and new vice-principals should also be acquainted with the physical, cognitive, socio-emotional challenges that newcomers experience and how to navigate these challenges successfully. They should also be given accurate information about the losses that will occur when they leave teaching and should be provided with the cognitive and emotional scaffolding required for a transition of this magnitude. Instituting these initiatives can assist school districts in retaining new administrators and addressing the shrinking pools of qualified administrative candidates (Armstrong, 2014).

Finally, ongoing local and international reforms confirm that there is an urgent need for new 21st century forms of leadership in order to reduce achievement gaps and create more equitable schools. However, although these participants were identified by their school district as teacher leaders and had become administrators in order to improve schools for all students, they encountered multiple obstacles. While they were able to initiate some positive programs, their attempts fell short of their original goal to transform and improve schools. New vice-principals represent the future face of leadership at the district and provincial levels in Ontario, and their formative experiences will influence not only how they lead, but also how they socialize others into school leadership. Listening to and responding to new vice-principals' voices will provide valuable information regarding how (or how not) to prepare and support new leaders to meet the changing demands of school administration.

Conclusion

This paper reported on a qualitative study that examined the transition from teaching to administration through the voices of four novice vice-principals. An integrative approach was used to capture the dialectical interactions between new vice-principals and their external contexts, and the resulting impacts on their transition. The data revealed that although the participants became administrators with the intention of creating better schools for all students, they encountered multiple factors that hindered their ability to achieve these noble leadership goals. Key among these obstacles were the ambiguous legal and institutional configurations of the vice-principalship as "duties as assigned by the principal", inadequate preparation for challenging disciplinary and front line managerial roles, and limited transitional support. Ongoing reforms in Ontario and anticipated shortages of qualified leadership candidates (Williams, 2001) have created an urgent need for school leaders who not only improve test scores, but who can address ongoing achievement and opportunity gaps for students. Meeting these objectives can be achieved through purposeful and integrated approaches that include listening to and acknowledging new vice-principals' challenges and needs, and addressing them through co-ordinated supports at the school, district, Ministry of Education, and the College of Teachers levels.

References

Armstrong, D. E. (2009). *Administrative passages*: *Navigating the transition from teacher to assistant principal*. New York: Springer

Armstrong, D. E. (2010). Rites of passage: Coercion, compliance, and complicity in the socialization of new vice-principals. *Teachers College Record*, *111*(12), 1-21.

Armstrong, D. E. (2012). Connecting personal change and organizational passage in the transition from teacher to vice principal, *Journal of School Leadership, 22*(3), 398-424.

Armstrong, D. E. (2014). *Transition to the role of principal and vice-principal study*. Ontario, Canada: Institute for Educational Leadership, Retrieved from:

Boske, C., & Benavente-McEnery, L. (2012). The quiet roar: Assistant principals leading for social justice (pp125-151). In A. Shoho, B. Barnett, A. Tooms (Eds.). *Examining the assistant principalship: New puzzles and perennial challenges for the 21st century*. Charlotte: NC: Information Age.

Creswell, J. W. (2011). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research.* 4th ed. Upper Saddle Creek, NJ: Pearson Education.

Dotlich, D., Noel, J., & Walker, N. (2004). *Leadership passages: The personal and professional transitions that make or break a leader*. San Francisco: Jossey-Bass.

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research.* Hawthorne, NY: Aldine.

Hartzell, G. N., Williams, R. C., Nelson, K. T. (1995). *New voices in the field: The work lives of first-year assistant principals.* Thousand Oaks, CA: Corwin.

Mackinnon, M., & Milne, C. (1999). (Eds.). *Education statutes and regulations of Ontario 1999/2000 consolidation.* Toronto: Butterworths.

Marshall, C., & Hooley, R. (2006). *The assistant principalship: Leadership choices and challenges*. Thousand Oaks, CA: Corwin.

Matthews, J., & Crow, G. (2003). *Being and becoming a principal: Role conceptions for contemporary principals and assistant principals*. Boston: Pearson Education.

Merriam, S. B. (2002). *Qualitative research in practice. Examples for discussion and analysis.* San Francisco: Jossey-Bass.

Nanavati, M., & McCulloch, B. (2003). *School culture and the changing role of the secondary vice principal***,** Research Report Prepared for the Ontario Principals' Council. Retrieved from: https://www.principals.ca/documents/School_Culture_and_the_Changing__Role_of_the_Secondary_Vice_Principal.pdf.

Nicholson, N. (1990). The transition cycle: Causes, outcomes, processes and forms. In Fisher, S. & Cooper, C. L. (Eds.). *On the move: The psychology of change and transition* (pp.83-105). Chichester: John Wiley & Sons.

Olson, L. A. (2000). The nature of the assistant principalship in relation to the principalship. *GSU Educational Forum*, *5*, 7-12.

Read, S. (2012). Factors that influence the preparedness of teachers for the vice-principal role (pp. 11-34). In A. Shoho, B. Barnett, A. Tooms (Eds.). *Examining the assistant principalship: New puzzles and perennial challenges for the 21st century*. Charlotte: NC: Information Age.

Schlossberg, N. (1981). A model for analyzing human adaptation to transition. *The Counseling Psychologist*, *9*(2), 2-18.

Sigford, J. L. (1998). *Who said school administration would be fun? Coping with a new emotional and social reality*. Toronto: Corwin.

Williams, T. R. (August, 2001). *Unrecognized exodus, unaccepted accountability: The looming shortage of principals and vice-principals in Ontario public school boards*. Ontario: Ontario Principals Council.

BOOK REVIEW

Title:	**Against Common Sense: Teaching and Learning toward Social Justice**
Author:	**Kevin K. Kumashiro**
Publisher:	**New York, NY: Routledge**
Year of Publication:	**2009**
Reviewed by:	**Kim Radersma, PhD Student**

Teachers who care deeply about the dignity of their marginalized students--yet appreciate the tremendous effort teaching toward social justice necessitates--should read this book. Kevin Kumashiro, an Associate Professor and Chair of Educational Policy Studies at the University of Illinois-Chicago, weaves anti-oppressive theories and approaches along with compelling and approachable personal stories to encourage teachers who understand the urgency of challenging the status-quo. His main argument contends that anti-oppressive teaching is not easy, and that it is contrary to the deeply ingrained and comfortable "common sense" to which most teachers default amidst the daily messiness of hectic classrooms, hence his title. He acknowledges that "easy" routes in teaching--including the values, perspectives, and ideologies that are taken-for-granted in teaching--often perpetuate oppression by reinforcing privileges for some groups while marginalizing others. Often called "traditional," "effective," and "professional," everyday practices in classrooms "often comply with or contribute to racism, sexism, classism, heterosexism, and other forms of oppression" (p. 1). His goal throughout the book is to unravel and complicate the commonsensical discourses of what it means to teach.

In Part One, Kumashiro analyses three areas on which teacher education programs in the U.S. are currently focused: teaching teachers to be learned practitioners, researchers, or professionals (based on his own research of over 80 elementary and secondary education programs across the U.S.). He outlines the pitfalls of each partial and political focus to reveal how they often inadvertently create teachers who are complicit in oppression. Kumashiro ultimately makes his central claim that teacher training should do more than it is currently doing, and that anti-oppressive training cannot be an "add-on," but rather a key component of every course. Although Kumashiro discusses only education programs in the US, his recommendations are apt for anyone teaching in a North American context.

Kumashiro goes on to recommend four alternative ways to train educators for anti-oppressive work in the classroom. He suggests preparing teachers for crisis, uncertainty, healing, and activism. The crisis he recommends involves a counter-intuitive way of thinking about learning. Instead of thinking of learning as safe, predictable and affirming, he suggests thinking of learning as a disorienting, uncomfortable process that requires a "shift" in the learner. This discomfort challenges a desire for ignorance of partial knowledge, and invites a broad analysis of taken-for-granted views of the world.

To prepare teachers for uncertainty, Kumashiro advocates that teachers acknowledge that the many ways they unintentionally teach too often reflect and reinforce the status quo. This is also described as the "hidden curriculum" that permeates schools and is carried out by unassuming teachers; for example, teachers who assume static gender roles are often reinforcing gender expectations. Kumashiro also offers insights from "socially engaged Buddhism" to reflect on the notion of a teacher as "healer" and uses theories and examples from "queer" activism, which explore how things become defined as "normal," to suggest a premise of discomfort and suffering to explore approaches to social justice in the field of education. He writes, "Like queer activism, teacher education needs to involve challenging both the institutional practices that perpetuate an oppressive norm and our emotional responses to and discomfort with things that are queer" (p. 53). A "normal" cannot exist, he contends, without an "abnormal" or "queer." A teacher interested in anti-oppressive teaching needs to confront his or her own resistance, disrupt comforting knowledge and continue through crisis. As an educator, I appreciated Kumashiro's inclusion of queer activism and Buddhism to reinforce his call for a pedagogy of discomfort, yet a limitation of the book is the swift and surface attention given to these issues. Discussion of queer activism and Buddhism supported Kumashiro's argument that uncertainty and discomfort are necessary struggles for educators, but the brief focus here seems tangential.

In Part Two, Kumashiro focuses on six disciplines (social studies, English literature, music, foreign languages, natural sciences, and mathematics) to conceptualize Part One. This section is filled with specific examples of how books, songs, math problems and other issues already imbedded in the curriculum are actually opportunities for teachers to lead students to consider hidden messages that reinforce oppression. These examples, drawn from the author's own lessons, offer practical insights for teaching in anti-oppressive ways. Strength of this section lies in Kumashiro's ability to critique his own practice. His own struggles with recognizing the limitations of partial histories, his risk taking, and his vulnerability as an anti-oppressive educator all add credibility and richness to his discussions and recommendations. Each section is admittedly partial, yet ripe with examples of moments when Kumashiro interrupted oppressive norms in his classroom. The end-of-chapter questions and specific recommendations for further reading are fitting to inspire more study into areas related to social justice education.

Teachers will be challenged and inspired by Kumashiro's new and creative ways of interrupting the norms in the classrooms, which is why I recommend it so enthusiastically to teachers. Yet, my optimism is cautious, especially when considering class sizes, pressures to increase test scores, and additional duties that are often demanded of teachers. Teachers often do not have the time to delve deeply into this work, much less understand their own complicity in perpetuating oppression. This is likely why Kumashiro chooses to focus on teacher education programs: to prepare new teachers to think and teach in anti-oppressive ways is much more attainable than changing the "old guard."

Kumashiro concludes his text with by acknowledging the barriers that exist to disrupting the status quo in the classroom, yet he ends with hope. Anti-oppressive education will not occur not in an ideal situation or when all the complexities, nuances, and contradictions are solved, but rather in situations where teachers attempt to address the partial nature of their own praxis. Focusing on small moments, and questioning what is often thought of as "normal" and "common" may be difficult, but these uncomfortable moments paradoxically contain the possibility of liberation.