NORTHWEST PASSAGE

JOURNAL OF EDUCATIONAL PRACTICES

SPRING 2012 VOLUME 10 NUMBER 1

Cover Design *by Amy Stanton, 2002*
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Northwest Association of Teacher Educators

NORTHWEST PASSAGE:
Journal of Educational Practices

Spring 2012 Volume 10 Number 1

NORTHWEST PASSAGE:
Journal of Educational Practices

NORTWEST PASSAGES: Journal of Educational Practices is published once per year in the spring by the Northwest Association of Teacher Educators. The journal is published to stimulate lively discussion, contribute to timely educational practice and provide a forum for scholarly writing.

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A Letter from the Editor

Dear Colleagues:

This issue of NWATE's journal, *The Northwest Passage*, is, most likely, my last year as editor since the three-year term is up. I have thoroughly enjoyed my eight years of working with the association as President, Past President, Conference Chair, Conference Organizer, Co-Editor, and Editor of the journal and look forward to new directions for the Association.

I chose to make this issue on teacher education trends as it had been a number of issues since we went back the roots of the Association and the journal. I found the articles to be diverse, challenging, informative, and thought provoking. In fact, I believe that this issue is really the most diverse in terms of province and state representation and in terms of topics.

Like last year, we used my institution's server to host the NWATE website but did not use the online submission system for a variety of technological and administrative reasons. As we did for the Fall 2011 issue, I went old school with the submission system and manuscripts were emailed to me and I sent them to at least two reviewers through email attachments. This year, I used a core group of reviewers from several different universities representing six different disciplines. I thank those people as they did a terrific job of reviewing and all made the requisite deadlines. Different from last issue and after much feedback from reviewers, authors, and readers, I reverted to the system of using track changes for feedback. If any readers have an opinion as potential authors, please let me know.

The NWATE conference is hosted by the University of Alberta and we hope will be a great success. Please attend the AGM as there will be several important journal and Association decisions.

I hope that you will perceive that this issue of the journal still maintains the rigour, high quality, and strong reputation that previous editors, authors, and reviewers have established since the journal's inception.

Andrew Kitchenham – Editor
(University of Northern BC)

Trends in Teacher Education

The 15 articles in this issue of *The Northwest Passage* present a variety of perspectives on teacher education issues. We see several examples of how 21st century learning and personalized learning are interpreted and practiced in elementary and secondary Canadian schools, several studies that diversity in teacher preparation programs from Canada and the United States, discussions of key topics such as mathematics education, rurality, classroom management, and field experience, to name but a few.

The first article, "Improving student engagement with 21st century learning practices" (Gunn & Hollingsworth, 2012) argues that "there is sufficient evidence to support the importance of adaptive student engagement with respect to improved school behavior, academic achievement, and high school completion rates. Students who are more engaged exhibit high levels of adaptive attention, cognition, and behaviour as well as create social, physical, and intellectual resources (i.e., Appleton, Christenson, & Furlong, 2008; Fredrickson, 2001). A three-year study designed to investigate and track student engagement and academic achievement with Grade 9 and 10 students has demonstrated that 21st century instructional practices have the potential to improve students' perceptions of community, orientation to school, and in particular, their academic strategies" (Abstract, p. 1).

Next, Nejad (2012) in his piece entitled, "Secondary school students' lack of mathematics understanding" details a study that investigated "the influence of pupils' beliefs on their performance in problem solving. Twenty-seven students from Grade 8 participated in this study. The findings showed that there is a positive correlation between participants' belief, some subscales of belief and participants' performance in problem solving" (Abstract, p. 13).

Next, in their article, "Latinos in action: Cultivating academics, access, equity, and future bilingual educators," Timmons Flores, Chu, and Sampson (2012) purported that "developing bilingual teachers is critical in closing the achievement gap experienced by bilingual and Latino children. This qualitative case study investigated the benefits of an academically grounded cross-age tutoring program designed to support low-income, bilingual high school students to graduate, pursue higher education, and explore education as a possible career. Data sources included observations, interviews, program artifacts, and quantitative academic indicators. Data were analyzed using grounded theory and narrative analysis. Theoretically framed as social design experiment (Gutierrez & Vossoughi, 2010), the study employs cultural historical perspectives and qualitative research to define underlying principles of transformative practice. Findings demonstrate shifts in individuals' learning, identity, and efficacy, as well as shifts in the institutional context and teacher attitudes as a result of the students' words and actions. Students' experiences upon graduation also point to the essential work that Teacher Educators and Universities will need to undertake to support these young people if their journey to teaching is to be successful." (Abstract, p. 24).

Ralph and Walker (2012) argue in "Enhancing rural internships: Considering the post-intern voice" that "a lingering issue that has faced rural-practicum planners across all the professions relates to enhancing the overall quality of rural internships. In this report, the authors address a key facet of this subject by considering the viewpoint of post-interns regarding their own rural practicum experiences. The authors compare the perspectives of a recent group of Education post-practicum students regarding the quality of rural internships with findings from previous research related to the subject. The post-interns participating in the present study recently completed their 16-week extended practicum in rural schools in one Western Canadian province. They submitted written responses to questions soliciting their views of the positive and negative aspects of the experience. The authors explore implications of these results for practicum administrators wishing to strengthen rural internship programs in their jurisdictions" (Abstract, p. 36).

In "The efficacy of Inquiry-based Learning in undergraduate physiology," DePaepe and Campion (2012) present the argument that "lecture, where learning is passive, remains a prevalent instructional method of teaching content. Contextualized approaches like Inquiry-Based Learning (IBL) where students are more actively engaged remains less common. For 25 years the literature has supported

contextualized approaches. Nevertheless, recent papers have claimed IBL to be an unguided approach that has produced content knowledge deficits. Therefore, we tested whether undergraduate physiology content could be learned using IBL. Four groups of undergraduates (mean ages=23, N=60) took a ten-week physiology course using IBL. A content valid pretest and posttest measured content knowledge. A one-way ANOVA indicated no significant differences within or between groups on the pretest (F=.231) or between the groups on the posttest (F=.119). After collapsing the groups into pre and post, a paired T-test indicated a significant difference between pretest and posttest scores T (32)= -7.61, P>.0001. The data clearly demonstrated significant content knowledge gains and higher than average student satisfaction." (Abstract, p. 45).

Next, in her article entitled, "'Community building makes it nice for everybody?': Elementary teachers' understandings and practices of classroom management," Merk (2012) "explored elementary teachers' understandings and practices of classroom management, particularly in regard to their own and students' power, race, gender, and social class. In the first theme, the community building framework "makes it nice for everybody", I work to understand how these white, middle-class teachers embrace this approach due to their race, gender, and class, which engender their desire for pleasantry. The second theme, "hard kids are hard kids": a common sense ideology of difference, emerged from these teachers' understandings of how race, gender, social class, and power influence student behavior and their classroom management practices." (Abstract, p. 53).

In Wacker and Ryken's (2012) article, "Because it's a girl's cake!: Fostering dialogue about gender identity in elementary classrooms," present their "ongoing collaboration to develop a framework for teacher-initiated and student-initiated conversations about gender, which often result from students' spontaneous remarks and questions about gender norms. We explore the question, how can educators create relevant and engaging learning opportunities to invite young learners to discuss gender norms within the classroom? In this paper we share kindergartners' conversations about gender and three examples of their writing about this topic. We conclude that an inquiry approach to teaching, that aims to be respectful of and responsive to students developing ideas about gender identity, is both possible and necessary." (Abstract, p. 65).

In "Collaborating to teach research methods in Education," Milford and Etmanski (2012) outline "a pedagogical collaboration between two research methods instructors in a Faculty of Education in Canada. Both instructors represent different paradigms in the classic quantitative vs. qualitative dichotomy in that they were trained in vastly different ways and have tended to approach their research along these same lines. However, despite these differences the paper explores how they each viewed this as a potential limitation in their methods teaching and how through crossing over to each other's classrooms were able to both expand their own understanding as well as offer a more balanced and useful learning experience for the learners in their classrooms" (Abstract, p. 79).

Benson and Jeffery Petersen (2012) in "The importance of professional dispositions: A survey of diverse teacher educators," outline how "(d)ispositions are undisputedly crucial for teaching success and academic achievement, but what are they and which ones are most important for candidates to develop before student teaching? Can we identify, define, influence or assess dispositions for a common language among all stakeholders in teacher education? In order to find out if stakeholders from 30 certification areas share common definitions of essential teacher dispositions, and whether their range of opinions can be reduced to major constructs, we surveyed faculty and staff in 30 NCATE-accredited certification programs housed in three colleges of a large public comprehensive university. This article presents the qualitative and quantitative findings in the first phase of the study, in which we identify subscales and refine the instrument" (Abstract, p. 91).

Next, Fleming's (2012) "The perils and promise of personalized learning," investigates "the concept of personalized learning, a relatively new concept being promoted by the British Columbia (BC) Ministry of Education as the "new" approach to effective learning through the lens of a practicing professional. I begin by tracing my own emerging understanding of personalized learning as a discourse in BC education and then follow this with a discussion about the dominance of neoliberalism as an ideological frame for thinking about education and schooling. In particular, I consider how the role of the

teacher shifts from professional to functionary, and how this shift is reified through two distinct BC educational policy initiatives that promote technology as the great educational equalizer. I conclude by suggesting that rather than fixing schools, teachers and reformers should direct their efforts to taking up the potentiality inherent in these competing discourses" (Abstract, p. 99).

Woolworth and Thirumurthy's (2012) article, "Promoting cross-cultural competence and awareness in teacher education: Toward the integration of Western and Non-Western principles," argues that "(c)alls for culturally competent teachers persist amidst the ongoing diversification of the P-12 student population (Aud et al. 2010), continued racial homogeneity of the teacher workforce (Boser, 2011), chronic academic achievement disparities between majority and minority student groups (Vanneman et al., 2009), and persistent racial disproportionality in school discipline practices (Losen et al, 2012). In an effort to encourage and promote cross-cultural competence and awareness, we describe a graduate seminar we designed and taught around the integration of western and nonwestern perspectives on cognition, development and learning. We share a number of insights gained from the seminar experience and conclude with an appeal for a critical examination of existing practices in teacher education" (Abstract, p. 110).

In "Life changing events for students: An exploratory study," Rousell (2012) investigates "under what conditions teachers' comments create transformative moments for students. This study shows that emotional arousal, frequently triggered by surprise, appears to be a catalyst for the spontaneous and profound restructuring of a student's personal schema or worldview. Our brains evolved to respond to emotionally intense challenges rapidly and reflexively. These challenges are instantly processed by the brain's innate, stress-driven, conceptual, problem-solving system. Our reflexive brain system is organized to accept the most expedient solution, not necessarily the best one. It's thus quite vulnerable to making impetuous responses that may generate self-fulfilling prophecies (Sylwester, 2010). I collected 179 anecdotes of "life-changing events" from graduate students in a teacher education program. Qualitative analysis shows when these moments are most likely to occur. Emotional arousal is always present and surprise appears to be a critical catalyst" (Abstract, p. 118).

Byers-Kirsch and Jeffery Petersen's (2012) purport in their article, "Student teacher field supervisors articulate their roles," that "the ongoing collaboration between a teacher certification literacy course and a local elementary school. Teacher candidates, elementary students, classroom teachers, and university instructors all collaborate to implement a literacy methods course, creating a hybrid space for learning in which university and school personnel work together to the benefit of all participants. The background of this collaboration is described, and literacy learning is explored from the perspective of each participant group. Themes from these perspectives suggest that structured interactions between teacher candidates and elementary students help bridge the gap between literacy concepts and classroom practice, and that participating classroom teachers and university instructors, as well as teacher candidates, learn from the ongoing examination of instructional practice" (Abstract, p. 124).

In their article, "Physical activity during full-day and half-day kindergarten," Talley, Cook, Naylor, and Temple (2012) conduct a comparative study of the "physical activity levels of children during full-day and half-day kindergarten. Of the 47 children who participated in this study, 22 (girls = 50%) attended full-day kindergarten and 25 (girls = 40%) attended half-days. Actigraph activity monitors were used to assess physical activity and sedentary behavior of the children. We found that children were more active during full-day kindergarten. The rates of light-intensity physical activity were significantly higher during full-day kindergarten. However, levels of moderate-to-vigorous physical activity (MVPA) were quite low, and efforts to promote MVPA would be beneficial" (Abstract, p. 140).

Finally, in "Becoming the cultural 'other': Pre-service teachers conducting ethnographic projects while studying abroad," Dantas-Whitney, Cotton, Christensen, Edwards, Freeman, and Wood (2012) describe how "(i)n the summer of 2011 a group of pre-service teachers from Western Oregon University joined a study-abroad program in Argentina. During their approximate two-month stay, pre-service students had the opportunity to take intensive coursework in Spanish, as well enroll in credit-bearing courses leading to an ESOL endorsement (English for Speakers of Other Languages). One of the ESOL courses offered during the program was "Culture and Community in ESOL/Bilingual Classrooms." This

article is written by five of the students who participated in this course, in collaboration with their professor. In particular, the article focuses on an ethnographic course project" (Abstract, p. 149).

These 15 articles are of high calibre and demonstrate the varied and myriad issues in teacher education and they begin to present some answers and raise further questions. The next issue of the journal will be determined by the incoming editor. Look for the official call on the NWATE journal webpage.

Andrew Kitchenham – Editor
(University of Northern British Columbia)

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Improving Student Engagement with 21st Century Learning Practices

Thelma M. Gunn and Maurice Hollingsworth
University of Lethbridge

Abstract

There is sufficient evidence to support the importance of adaptive student engagement with respect to improved school behavior, academic achievement, and high school completion rates. Students who are more engaged exhibit high levels of adaptive attention, cognition, and behaviour as well as create social, physical, and intellectual resources (i.e., Appleton, Christenson, & Furlong, 2008; Fredrickson, 2001). A three-year study designed to investigate and track student engagement and academic achievement with Grade 9 and 10 students has demonstrated that 21st century instructional practices have the potential to improve students' perceptions of community, orientation to school, and in particular, their academic strategies.

Theories regarding student engagement have proliferated over the past 25 years when it was recognized that while high school enrollment can be mandated, it is impossible to legislate academic, behavioural, cognitive, and psychological involvement in school (e.g., Appleton, Christenson, & Furlong, 2008). The importance of this understanding is due to the fact that student engagement is the primary theoretical orientation when addressing high school completion (Christenson, Reschly, Appleton, Berman, Spanjers, & Varro, 2008). By attending to more adaptive student engagement levels, the risks associated with early school dropout may be mediated and in turn reduced. In the meantime, student engagement undergirds adaptive psychological, cognitive, behavioural, and academic success in school.

How to best improve student engagement is debatable. While many of the studies conducted thus far have focused upon academic and environmental factors within the school context, fewer have included personal variables (Fredericks, Blumenfeld, & Paris, 2004). However, as discussed by Reschly, Huebner, Appleton, and Antaramian (2008), positive psychological factors may be the most important as they lead to adaptive emotions for coping and resiliency. Specifically, students need to feel positive connections with their school and its members. The higher the level of psychological connection a student perceives, the greater the impact in regard to affective components and in turn, academic outcomes (e.g., Furrer & Skinner, 2003; Reschly, et al, 2008). Therefore, it appears that student engagement levels may be best elevated where there is a strong commitment to school community and elevated levels of communication. Given the importance of 21st century learning approaches in the personal and academic lives of contemporary youth, it is possible that students may become more engaged in school should instructional practices reflect these conditions. Hence, this article is based upon outcomes from a three-year study designed to improve student engagement using 21st century instructional approaches and practices (i.e., the usage of advanced communication technologies, more differentiated instruction, and greater frequency of assessment for learning).

Student Engagement

Despite the regularity of student engagement discussions within the literature, it is difficult to define given inconsistencies regarding its conceptual basis (Appleton et al, 2008). Depending upon

the researcher, engagement is regarded as either a positive or a negative outcome (i.e., involvement or disenchantment), or a construct predicated on contextual factors versus personal individual precursors. Regardless of these differences, there is a common understanding that there are a number of components making student engagement a multidimensional construct, albeit in varying degrees and aspects.

Most engagement researchers subscribe to a two or three component model that includes *behavioural* (i.e., student participation and effort), *affective* (i.e., attitude and interest), and/or *cognitive* subtypes (i.e., self-regulation and goal orientation). Recently, Reschly and Christenson (2006a, 2006b) proposed a four-subtype model comprised of *academic*, *behavioural*, *cognitive*, and *psychological* factors. According to their model, variables such as graduation credits, time on task, and homework completion constitute academic engagement. Behavioural engagement indicators include attendance statistics, voluntary classroom participation, suspension rates, and extracurricular participation. Less observable are cognitive and psychological engagement factors as they tend to be more internal. They can be demonstrated via evidence of self-regulation, perceived value of learning, personal goals, and autonomy. With respect to cognitive engagement, students' perceived sense of belonging and identification are noted. Finally, relationships with teachers and peers are additional examples of psychological engagement (Appleton, et al., 2008; p. 372).

While it is obvious that student involvement must include attendance, graduation credits, time on task, and homework completion, these academic and behavioural factors are insufficient if the student lacks a motivational commitment. That is, students must feel connected to the school environment and its inhabitants, and value what is being provided both academically and socially in order to be engaged (e.g., Christenson, Sinclair, Lehr, & Godber, 2001; Lehr, Hansen, Sinclair, & Christenson, 2003). This can be accomplished by building a strong sense of community and care (e.g., Christenson & Thurlow, 2004). Students who perceive that their teachers and peers are supportive of them will lead to a beneficial cycle of increased levels of engagement (e.g., Baumeister & Leary, 1995). Nevertheless, there are some stumbling blocks that can mitigate the effectiveness of positive school attempts to increase student engagement. They include gender, grade level, and socioeconomic status (SES).

Studies have shown that while girls experience not only a greater sense of belonging, peer support, relevance toward school work, and academic engagement (Marks, 2000; Reschly, et al, 2008), male students have a higher sense of relatedness toward teachers and higher levels of teacher-reported engagement (Furrer & Skinner, 2003; Reschly, et al, 2008).

With respect to grade level factors, the move from elementary school to middle school can be detrimental with marked declines in motivation, attitude, and attendance as well as increases in mental health issues, crime, and substance abuse This is especially evident between grades 7 to 9 (Reschly, et al, 2008; p. 421). Finally, socio-economic factors and minority status may have an impact on student engagement. As indicated above, these factors are correlated with students being at-risk for non-completion of school. That is, at-risk students typically have poor relationships with teachers, feelings of isolation, behavioral disorders, and achievement-related factors (e.g., Satchwell, 2004; Suh, & Suh, 2007; Suh, Suh, & Houston, 2007). As such, they are less likely to be positively engaged in school.

Rationale for this Study

As indicated earlier, this study was designed to improve student engagement by way of 21st century instructional approaches. They include communications technology learning methods, as well as differentiated instruction and assessment for learning strategies. Throughout the literature there is consensus that education is beginning to move away from traditional educational patterns to

more innovative modes and methods of learning (e.g., Cheng, 2006; Trilling & Fadel, 2009). Rapid technological changes have increased the availability of information as well as radically improving communication. The traditional method of instructing students to locate and report knowledge under the direction of the teacher is no longer sufficient. Memorization, repetition, and basic comprehension are lower order skills that were once useful, but in the Knowledge Age, inadequate when compared to higher order skills such as critical and creative thinking, elaboration, and evaluation. In other words, students are now expected to be good problem solvers and *knowledge builders* (Bereiter & Scardamalia, 2006; Scardamalia & Bereiter, 2006). In addition, 21st century school-aged students are rapid processors of information who demand more expedient methods of instruction and communication (e.g., Kapitzke, 2006), both as independent, self-directed learners as well as being members in a larger community of learners. Teacher centred instruction has now given way to student centred classrooms.

As explained by Scardamalia and Bereiter (2006), knowledge building can be further defined as "a coherent effort to initiate students into a knowledge creating culture. Accordingly, it involves students not only developing knowledge-building competencies but also coming to see themselves and their work as part of the civilization-wide effort to advance knowledge frontiers" (pp. 97-98). To that end, 21st century learners must also understand the socio-cognitive aspects of knowledge building (Law, Lee, & Chow, 2002; Scardamalia & Bereiter, 2006; Zhang, Scardamalia, Reeve, & Messina, 2009). Students must understand that they are not working in isolation, but are part of a larger community of thinkers (Zhang, et al, 2009). They must learn to accept the ideas of others, receive constructive feedback, anticipate challenges and problems, engage in self-monitoring and reflection, and build upon the work of others (e.g., Bereiter & Scardamalia, 2006; Walser, 2008; Zhang, et al, 2009).

Therefore, this study will employ 21st century learning approaches (i.e., communication technologies, differentiated instruction, and assessment for learning) in the hopes of improving student engagement in a single school setting. Through such practices, students will be engaged academically, behaviourally, cognitively, and psychologically. Students in Grades 9 and 10, with particular emphasis on students identified as "at-risk", are the primary focus.

Method

Participants

This study was designed to span three years (i.e., 2008/2009, 2009/2010, and 2010/2011). At the time of baseline data collection, there were 466 participating students from Grades 9 (n=240) and 10 (n=226). Demographical breakdowns identified 221 males and 245 females; 25 self-identified Aboriginal students; 24 English as a Second Language Students; 14 emotionally and behaviourally challenged students; and 59 students with learning disabilities.

The rationale for selecting and tracking a target group of Grade 9 and 10, with a particular focus upon at-risk students, was so they could be tracked until the point of their anticipated graduation. By the 2009/2010 school year those numbers had dropped to 228 participating students in Grades 10 (n=126) and 11 (n=102). Demographical breakdowns identified included 112 males and 116 females; 9 self-identified Aboriginal students; 8 English as a Second Language students; 4 emotionally and behaviourally challenged students; and 26 students with learning disabilities. The 2010/2011 school year showed another drop to 184 participating students in Grades 11 (n = 93) and 12 (n = 91). Males comprised 90 of the students while there were 94 female participants; 8 self-identified Aboriginal students; 3 English as Second Language students; 3 emotionally and behaviourally challenged students; and 18 students with learning disabilities. Reasons for attrition included student movement and lack of continued participation by the students. That is, some

students opted not to participate in the data collection process. It is important to note that this school is located in a lower to middle class socio-economic environment.

Procedure

Prior to implementation, significant upgrading of technology hardware was scheduled so that all teachers and students were given a laptop, all classrooms were upgraded to multimedia standards (i.e., data projectors, Smart Boards, sound systems, and wireless keyboard/mouse), and wireless access points were established throughout the school. With respect to the professional development of the teachers, this began in 2008 and remained ongoing until completion of the study. Specifically, there is reporting and sharing from departmental teams at all staff meetings (key strategies for building sense of community, technology supports and differentiated assessment and instruction); assigned professional growth days focused on the project; an incorporation of the research project as the key theme at the school's annual staff retreat in September for three consecutive years; the assignment of a teacher as a project coordinator to plan, deliver and monitor professional growth; and an alignment of the district provincial project initiatives for education. Thus, 21st century instructional practices are discussed and shared on a daily basis within the school. All teachers were reminded to utilize advanced communication technologies, to incorporate differentiated instruction in all lesson and unit plans, and to employ assessment for learning as frequently as possible. These pedagogical approaches were regularly checked and enforced through learning teams and administrative support mechanisms.

The first data collection procedure occurred in the late fall of 2008/2009 so that baseline information could be gathered. This included administration of the Canadian Test of Basic Skills (1998) (i.e., Quantitive Thinking and Reading Comprehension subtests) to establish student achievement levels. Behaviour and attitudes toward learning were measured using two research-generated instruments regarding technology usage, differentiated instruction, and assessment for learning and their impact on learning behaviours. Student affect was measured using these same behavioural measures as well as an additional instrument that ascertains perceptions of school life and peer relations. These same instruments were re-administered in spring, 2009, along with data supporting retention rates. The third installment of this test battery was in spring, 2010, and was repeated for the final time in spring 2011.

Instruments

For measurement of student achievement, the Canadian Test of Basic Skills (1998) was selected. This is a norm-referenced achievement battery composed of tests in several subject areas. Only the Math (Test Q: Quantitative Thinking) and English/Language Arts (Test R: Reading) subtests were selected in order to ascertain basic academic skill changes throughout the study.

Behaviour and attitudes toward learning were measured using two researcher-generated instruments regarding technology usage and its impact on learning behaviours. The Contemporary Learning Survey is a 73-item instrument divided into four sections (i.e., Demographical Information, Integration of Software Tools, Pedagogical Approaches, and Communication Usages). Students are asked to rank their abilities using a 5-point scale (i.e., no ability, low ability, moderate ability, high ability, or expert ability) regarding specific technological tools such as spreadsheets, databases, blogs, laptops, and so forth. They are also asked to report whether instruction is more student centred, teacher centred, or a combination of both; whether learning is more critical thinking based or factual knowledge based; whether learning contexts are more artificial or authentic; and so forth.

The Sense of Community Questionnaire is a 20-item instrument divided into three parts. The Academic Sense of Community section asks questions regarding the use of technology and its ability to provide the student with better methods of interacting with teachers and peers for academic improvement. The Social Sense of Community section determines how the student regards technology for social connectivity with peers and social relationships. And finally, the Global Sense of Community asks students about their connectivity to their community and the world. All questions were to be answered using a 5-point scale (i.e., Strongly Agree, Agree, Neither Agree or Disagree, Disagree, and Strongly Disagree).

Student affect was measured using these same behavioural measures as well as an additional instrument that ascertains student's perceptions of school life and peer relations (i.e., the Student Orientation to School Questionnaire) (Nadirova, Burger, & Mykula, 2008). It employs the same 5-point scale as the Sense of Community Questionnaire and asks questions regarding student interests, levels of motivation, and student engagement with academics, teachers, and peers.

Data Analysis Plan

To address the research questions, initial descriptive statistics were computed to explore frequencies, central tendencies, variability, and distributional qualities of the variable of interest. Following preliminary analysis, Friedman's Tests and Wilcoxon's Signed Ranks tests were employed to test the non-parametric outcomes of the surveys. This enabled a closer inspection of how the students' perceptions changed from the start of the study until its conclusion. Finally, General Linear Model Repeated Measures was used to test changes in the CTBS subtest scores. All analyses were conducted using version 19 of IBM SPSS Statistical package.

Results

Demographical Information

Descriptive frequency counts were calculated for participants. From 2008/2009 to 2010/2011 there was a substantial drop in participants (see Table 1). Student losses are primarily a consequence of student movement within and outside the school district, followed by a lack of participation in the project, and finally school dropout.

Repeated Measures

To determine changes in achievement scores from 2008/2009 until 2009/2010 and 2010/2011, data was analyzed using GLM Repeated Measures ANOVA. Means and standard deviations for combined Grades 9 and 10 CTBS subtests scores are reported in Table 2.

Table 1

Participant Demographics

	2008/2009 n	2009/2010 n	2010/2011 n
Grade 9*	240	126	93
Grade 10**	226	102	91
Male	221	112	90
Female	245	116	94
Aboriginal	25	9	8
ESL	24	8	3
Emotional/Behavioural	14	4	3
Learning Disabled	59	26	18

- This same body of Grade 9 students now became Grade 10 students in 2009/2010 and Grade 11 students in 2010/2011

** This same body of Grade 10 students now became Grade 11 students in 2009/2010 and Grade 12 students in 2010/2011.

Table 2

Means and Standard Deviations for CTBS Subtest Scores

Year	Quantitative Reasoning		Reading Comprehension	
	Mean	S.D.	Mean	S.D.
2008/2009	19.77	6.90	23.99	8.67
2009/2010	17.68	7.50	23.27	10.18
2010/2011	17.40	8.87	26.12	9.99

Results of the Repeated Measures ANOVA concerning the CTBS subtest scores showed a significant effect for Quantitative Reasoning F (2,210) = 15.77, $p < .00$, power = .99 and for Reading Comprehension F(2, 218) = 6.21, p < .00, power = .88 from 2008/2009 until 2010/2011.

For the purposes of analyzing meaningful univariate pairwise differences, pairwise comparison analyses for Quantitative Reasoning indicated that the mean for the 2008/2009 subtest was significantly higher than both the 2009/2010 and 2010/2011 means. In regards to the Reading Comprehension subtest, pairwise comparison analyses indicated the mean for the 2010/2011 subtest was significantly higher than both the 2008/2009 and 2009/2010 subtest means. Therefore, while Quantitative Reasoning remained stable between 2009/2010 and 2010/2011, it was significantly lower than the first administration. Conversely, the Reading Comprehension subtest score for 2010/2011 was significantly higher than the first two administrations, which were not significant from one another.

To determine the changes in those students at-risk, a variable was created designating students either as "not being at-risk" (n=91) or "at-risk" (n=20) (i.e., Aboriginal, ESL, Emotional/Behavioural, and Learning Disabled students as of 2010/2011). Results of the Factorial

Repeated Measures ANOVA failed to show significant interactions between At-Risk students and the Quantitative Reasoning subtest scores as well as between At-Risk students and the Reading Comprehension subtest scores. As seen in Table 3, for both student groups, the mean scores for Quantitative Reasoning subtests dropped throughout each administration, but increased gradually in regards to Reading Comprehension subtest scores.

Table 3

Means for Quantitative Reasoning and Reading Comprehension Subtest Scores for "Not At-Risk" and "At-Risk" students

Student Groups	Quantitative Reasoning			Reading Comprehension		
	08/09	09/10	10/11	08/09	09/10	10/11
"Not At-Risk"	21.00	18.11	18.01	25.63	24.67	27.12
"At-Risk"	15.21	15.16	14.58	17.00	19.15	21.55

Friedman Tests and Wilcoxon Signed Ranks Tests

Friedman tests were used to determine changes from 2008/2009 to 2010/2011 on the Contemporary Learning Survey, the Sense of Community Questionnaire, and the Student Orientation to School Questionnaire.

The Contemporary Learning Survey. As previously discussed, this survey is comprised of four sections. Along with a total survey score, Sections 2 (Integration of Software Tools), 3 (Pedagogical Approaches), and 4 (Communication Usages) were totaled to create sub-scores. Table 4 is comprised of the descriptive data by year of administration and subtotals.

Table 4

Contemporary Learning Survey Descriptive Subtest Statistics

Descriptive	2008/2009			2009/2010			2010/2011		
	Sec 2*	Sec 3**	Sec 4***	Sec 2*	Sec 3**	Sec 4***	Sec 2*	Sec 3**	Sec 4***
Valid N	257	263	298	173	175	215	185	185	184
Mean	2.34	2.44	1.57	2.30	3.15	1.51	2.47	3.21	1.56
S.D.	.71	.47	.53	.67	.49	.54	.83	.66	.75

* Integration of Software Tools
** Pedagogical Approaches
***Communication Usages

Friedman tests were conducted on total scores for the Contemporary Learning Survey. The Friedman test is a nonparametric two-way analysis of repeated measures data. Results indicated significant differences on total survey scores across the three administrations (Friedman chi-squared = 10.47, df = 2, $p < .005$). Wilcoxon Signed-Rank tests were utilized to determine post-hoc differences. Results demonstrated that Contemporary Learning total scores were significantly improving from 2008/2009 (Mdn = 2.13) to 2009/2010 (Mdn = 2.29), Z = 3.69, $p < .00$; and

2009/2010 (Mdn = 2.29) to 2010/2011 (Mdn= 2.37), Z = 5.24, $p < .00$.

Friedman tests were also conducted on Contemporary Learning subtest scores. Results indicate that there was a significant change in "Integration of Software Tools" subtest scores (Friedman chi-squared = 7.25, df = 2, $p < .02$) and "Pedagogical Approaches" subtest scores (Friedman chi-squared = 52.55, df = 2, $p < .00$). No significant differences were found for the "Communication Usages" subtest scores.

Wilcoxon Signed-Rank tests were utilized to determine post-hoc differences for both sets of subtest scores. Results indicated that 2010/2011 (Mdn = 2.48) "Software Tools" subtest scores had significantly improved from the 2009/2011 (Mdn = 2.35) administration (Z = 2.62, $p < .00$). Moreover, the "Pedagogical Approaches" subtest scores had significantly improved from the 2008/2009 (Mdn = 2.50) until the 2009/2010 (Mdn = 3.13) administration (Z = 8.13, $p < .00$) as well as the 2008/2009 (Mdn = 2.50) until the 2010/2011(Mdn = 3.16) administration (Z = 7.89, $p < .00$).

Analyses were also conducted for students identified as "At-Risk". No significant changes were detected on the total survey score or the subtest scores.

Sense of Community Questionnaire. This instrument is comprised of three sections: Academic Sense of Community (Part 1), Social Sense of Community (Part 2), and Global Sense of Community (Part 3). Parts 1 and 2 each have eight questions regarding how technology has assisted them to be more academically and socially connected to their peers, teachers, and classroom activities, respectively. Part 3 has four questions regarding connections to the community and the world. Each part was calculated to create a subsection score. Table 5 embodies the descriptive data by year of administration and subtotals.

Table 5

Sense of Community Questionnaire Descriptive Statistics

Descriptive	2008/2009			2009/2010			2010/2011		
	A.*	S.S. **	G. ***	A.*	S.S.**	G.***	A.*	S.S.**	G.***
Valid N	373	368	379	281	273	279	149	144	234
Mean	2.31	2.83	2.38	2.33	2.84	2.42	2.25	2.78	2.42
S.D.	.68	.77	.82	.71	.77	.76	.68	.75	.76

* Academic Sense of Community
** Social Sense of Community
*** Global Sense of Community

Friedman tests were conducted on the Sense of Community Questionnaire Total Scores (2008/2009 Mean = 2.49; 2009/2010 Mean = 2.48 and 2010/2011 Mean = 2.52) and subtest scores. Results indicate that there were no significant changes.

Pearson Chi-Square Analyses were also conducted for students identified as "At-Risk" for Total Scores and subtest scores. No significant changes were detected.

Student Orientation to School Questionnaire (SOSQ). Friedman tests were also used to ascertain the presence of significant changes on the SOSQ. No significant changes were noted. Descriptive statistics for total scores are presented in Table 6 for "Not At-Risk" and "At-Risk"

students.

Table 6

Student Orientation to School Questionnaire Descriptive Statistics for "Not At-Risk" and "At-Risk" Students

Student Groups	"Not At-Risk"			"At-Risk"		
	08/09	09/10	10/11	08/09	09/10	10/11
Valid N	149	129	136	37	25	26
Mean	2.26	2.47	2.26	2.25	2.35	2.18
S.D.	.52	.77	.54	.67	.49	.57

Discussion

In 2008/2009, the school in which this study takes place underwent a full upgrading of technological hardware as well as extensive professional development to better understand and implement 21st century learning practices and strategies. That spring (2009), students were asked to complete the Contemporary Learning Survey, the Student Orientation to School Questionnaire, and the Sense of Community Questionnaire. They also completed two subtests of the Canadian Test of Basic Skills (i.e., Reading Comprehension and Quantitative Reasoning). The following years (i.e., 2009/2010 and 2010/2011) involved continued professional development and implementation of technology as well as the re-administration of the four identified instruments. Although not as significant as been hoped, results suggest that there were changes in student perceptions and achievement.

With respect to student achievement, reading comprehension scores demonstrated significant growth by 2010/2011. There were no significant changes, however, for students "At-Risk". Surprisingly, the quantitative subtest scores significantly dropped from 2008/2009 baseline results for the Grade 9 and 10 cohort, but there were no significant changes for those student identified as being at-risk. Why the quantitative subtest scores did not show improvement from the baseline measure is difficult to speculate. Nevertheless, they did remain stable from 2009/2010 until 2010/2011. While improvement in the Reading Comprehension scores was a positive outcome, there is no evidence to suggest that the significant change was due to this study. Therefore, extreme caution must be exercised when interpreting and accrediting causation.

Results of the Contemporary Learning Survey indicated the most promising outcomes of this study. When analyzing the total survey score, there was significant improvement on each successive administration. That is, each year demonstrated significant positive change in regards to the perceptions and usage of 21st century learning strategies and practices. Specifically, post hoc analyses demonstrated that "Integration of Software Tools" and "Pedagogical Approaches" subtests were the most significantly improved. These are promising results as they indicate that students were being progressively introduced to, and familiarized with more advanced information technologies. In addition, the students perceived that teachers were using more student centred (i.e., multisensory, critical thinking, inquiry-based) instructional strategies and approaches as compared to traditional, teacher-centred approaches.

Unfortunately, although still positive, sense of community and school orientation did not significantly improve for the students. While academic status, instruction, and strategy usage were showing significant gains, the engagement with the school community remained stable. Students

typically reported positive responses (i.e., "Agree" to "Neither Agree to Disagree", numbers 2 and 3, respectively) as per the means for each subtest and survey total scores in 2008/2009, and those means remained stable. Therefore, while there was never a negative trend regarding sense of community (i.e., academic, social, and global) and school orientations, there failed to be a significant shift toward "Strongly Agree" (number 1).

Despite not having large numbers of positive significant changes at the conclusion of this study, there is evidence that 21st century learning strategies and approaches are being embraced. Specifically, there is a perceived pedagogical shift from teacher centred instruction and methods toward greater technological usage, differentiated instruction, and assessment for learning practices. Unfortunately, there is no significant evidence that students' sense of community or orientation is becoming even more positive, but such changes may require additional time or a more overt focus. It is important to note that there was a large teacher turnover in 2009/2010 due to the opening of another secondary school within a 20 kilometer radius, which also explains the drop in student participants as many enrolled in the new location. Nevertheless, evidence of student engagement with respect to academic success and strategy usage is significantly improving from baseline. Moreover, the positive perception of sense of community and orientation is remaining stable. While outside the scope of this article, there was additional evidence to suggest that teachers themselves were demonstrating a greater awareness and usage of 21st century strategies and pedagogies. Over the course of three years, there was significant growth in regards to software usage, differentiated instruction and assessment practices, communication purposes, student centred instructional methods, and levels of technological usage. This level of teacher participation was likely the strongest reason for student recognition and adoption of 21st century practices. A published manuscript of these findings is forthcoming.

In conclusion, while there is evidence to suggest a significant trend toward greater 21st century learning skill acquisition and implementation in a single school context, there is still only conservative evidence supporting project-based influence regarding student engagement at that same school.

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Secondary school students' lack of mathematics understanding

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Abstract

A study was conducted to investigate the influence of pupils' beliefs on their performance in problem solving. Twenty-seven students from Grade 8 participated in this study. The findings showed that there is a positive correlation between participants' belief, some subscales of belief and participants' performance in problem solving. Further research was then suggested.

Introduction

According to the National Council of Teachers of Mathematics (2000), students are not going to become logical thinkers, and therefore be successful in today's society, without learning through problem solving. Problem solving is a skill enabling students to understand, apply, and synthesize knowledge they have previously learned (Schoenfeld, 2002). Learning to solve problems seems to be a reason for pupils study mathematics; in fact, learning mathematics should prepare them to solve problems in their life (NCTM, 2002).

In order to achieve a better understanding of students' performance in mathematical problem solving, scholars investigated the crucial role of affective factors such as beliefs, attitudes and values on students' performance (McLeod & McLeod, 2003). Schommer-Aikins, Duell, and Hutter (2005) have found that students hold a number of different beliefs about mathematics, which affect the way they deal with mathematical situations. Recently, researchers have also investigated the interrelation between students' mathematical performance and beliefs in mathematical problem solving, mathematical competency, learning and social context (Schuck & Grootenboer, 2004; Grootenboer & Hemmings, 2007). It is widely accepted that students' mathematical beliefs, a system of one's mathematical world view constructed by students' experience in the classroom (Schoenfeld, 1985), have significant effects on their overall achievements of mathematical learning and problem solving (Seegers & Boekaerts, 1993; Vermeer, 1997; DeCorte, Verschaffel & Op't Eynde, 2000). However, "the relationship between students' beliefs and learning in mathematical problem solving is not simple, linear and unidirectional; rather it is complex and intricate" (Tarmizi & Tarmizi, 2010, p.4703). Knowing this, it seems important to pay close attention to affective factors and their impacts on students' performance in mathematical learning and problem solving. The goal of this study is to investigate students' beliefs in relation to their performance in mathematical problem solving.

Problem solving in Mathematics

In today's rapidly changing society, problems are a constant part of life. Many times the problems have multidimensional aspects and people require skills to solve them. Currently, problem identification, reasoning, mathematical ideas and critical thinking are seen as general skills for many job-seekers (Swanson & Sachs- Lee, 2001).

For more than three decades, problem solving has been identified as "the focus of school mathematics" (Schoenfeld, 1987) "at all grade levels" (Schoenfeld, 2002, p. 15). Historically,

problem solving appears to have been valued as a goal to intellectual development, as a skill to be taught, and as a method of teaching for many years (Eves, 1964). Polya, in 1945, was one of the first scholars to propose a set of simple steps (understanding the problem, devising a plan, carrying out the plan, and looking back) for teaching problem solving as a skill in mathematics. However, the precise place occupied by problem solving within the discipline has changed since this time. The National Council of Supervisors of Mathematics (NCSM) declared, in 1978, that problem solving should be positioned at the center of mathematics education (Schoenfeld, 1992).

In 1989, NCTM issued Curriculum and Evaluation Standards for School Mathematics, and called for significant changes in the current curriculum to shift the emphasis towards process instead of content and skills through applying problem solving to all grade levels (Schoenfeld, 2002, p. 15). The California Mathematics Conceptual Framework also emphasized problem solving as one of main principles in teaching and learning mathematics (California Department of Education, 2006). As such, implementing problem solving in mathematics classes becomes popular in many of USA states (Tuska, 2003) and some other countries such as Canada and China.

To a student of mathematics, a problem can be defined as a situation in which there is a mathematical question whose solution is not immediately accessible to the solver (Schoenfeld, 1989). Problem solving involves "the use of problems where the solution or goal is not immediately attainable and there is no obvious algorithm for the students to use" (McLeod, 1988, p. 135). Problem solving, as a complex behavior, has been considered as one of the most important aspects of cognitive development for adolescents (Swanson & Sachs- Lee, 2001). Furthermore, it has been seen as an important component in math education enabling students not only to solve math problems but also to transfer their knowledge to other situations (NCTM, 2000). Indeed, the NCTM (2002) has highlighted the ever-increasing importance of problem solving as a skill for students' everyday life (p. 3). The next section will review some influential studies about students' beliefs in mathematics.

Students' Beliefs in Mathematics

From the mathematical point of view, beliefs are generated through pupils' involvement in the mathematics classroom (Schoenfeld, 1985). Students' beliefs could include students' views about mathematical competency, motivational factors, their learning context, and even about social context. Conducting a research aiming students' beliefs amongst a group of 230 high school students in New York, Schoenfeld (1989) found that students believe that they can master the subject if they work at it. Students also believe that one needs mathematics to think logically (ibid, p. 348). However, they also hold that "mathematics is mostly memorizing" (p. 338). Investigating the possible justification for this belief, Schoenfeld (1989) observed that the problems worked out in class could be mostly solved by the direct application of a step-by-step procedure students had already learned. Rarely, if ever, did the teacher expose them to problems for which there was not a rule at hand. Students' beliefs about memorizing as the best way of learning mathematics prompted Schoenfeld (1989) to warn other scholars about the lack of real application problems in mathematics classroom.

Another influential study was the Kloosterman and Cougan's (1994) research involving mathematical beliefs, which studied 62 students from grade one to six. All participants were from the same school taking part in the second year of a project aimed at the improvement of mathematical instruction through problem solving. In order to obtain a better understanding of

elementary students' beliefs and attitude toward mathematics, the following five categories of beliefs were studied: (1) the extent to which students like mathematics, (2) the perceived parental support of mathematics, (3) the perceived usefulness of mathematics, (4) the self-confidence in learning mathematics, and (5) the existence of an inherent mathematical ability. The results suggested that most of the students believed that mathematics is useful and everyone has the ability to learn it if they invest sufficient effort. However, Kloosterman and Cougan (1994) indicated that the setting of school may have an impact on their results as the schools have had a fairly strong mathematics program which may have compromised their results. Therefore, the researchers interpreted the results "in terms of the effects that good instruction can have on beliefs" (p. 386).

Kloosterman, Raymond and Emenaker (1996) conducted a three-year research project on elementary students' beliefs about their learning and doing mathematics. They found that students have the following opinions: a narrow perspective on the usefulness of mathematics, a fairly accurate meaning of their own achievement, and a tendency to like mathematics more as it became harder.

Choosing successful mathematics students, Carlson (1999) conducted a study from a different perspective; she collected both qualitative and quantitative data on the beliefs of 34 successful mathematics graduate students at a large university. For her qualitative analysis, Carlson (1999) interviewed six successful graduate students who had completed, and received an A in, at least one graduate level mathematics class. She observed the following three themes in her analysis: (1) all six successful students had confidence in their ability to work through problems, (2) they were keen to deal with mathematical problems even after spending long periods of time on each problem, and (3) they liked being challenged by complex mathematical tasks. Analyzing her quantitative data, Carlson (1999) found that persistence is a necessary trait for success in mathematics classes. Finally, she suggested that students require exposure to challenging problems early on with assistance from a teacher when the students need it.

Generally, scholars agree that students hold a number of different beliefs about mathematics; and some students have a very narrow set of mathematical beliefs (Frank, 1985; Kloosterman, Raymond & Emenaker, 1996). Furthermore, "mathematics requires time and effort", and "mathematics is useful" have been seen as two most common beliefs (Kloosterman & Cougan, 1994; Schoenfeld, 1989; Schommer-Aikins, Duell, & Hutter, 2005). Finally, a group of students believe that learning mathematics is merely memorizing some rules and performing set procedurals (Frank, 1985).

The influence of Beliefs on Students' Performances

In addition to the description of students' mathematical beliefs, researchers have shown an increased interest in studying the role of beliefs on students' mathematical performance (Schuck & Grootenboer, 2004; Leder & Forgasz, 2006; Grootenboer & Hemmings, 2007). During the 1980s, the crucial domains that limited students' performance on solving the problems attracted the researchers' attention (Schoenfeld, 1985). Students' beliefs have been identified as a significant factor influencing their performance in problem solving (McLeod & Adams, 1989; McLeod, 1992, McLeod, 1997). Substantial progress in researching the role of beliefs in students' performance in mathematics has been made by the work of Schoenfeld (1985), Purvis (2000), and McLeod & McLeod (2003). Throughout some early research into problem solving, Schoenfeld (1985) highlighted the effect of students' perception on their

performance by stating that '…. students problem solving performance … is a function of their perceptions of that their experiences with mathematics (Schoenfeeld ,1989 p. 349). Purvis (2000) also by categorizing middle school students according to their sentiment to mathematics (negative, positive, or neutral) and calculating the academic average for each group, observed a positive correlation between the academic average and self-perceived performance, as well as a positive correlation between students' disposition to mathematics and their self-perceived academic performance. McLeod & McLeod (2003) further provided a substantial review of literature discussing the difficulty of defining the term "belief", the variety of methods used for researching "belief", and implications for future research. They did, however, agree on the idea that "beliefs have strong relationships to both affective and cognitive processes that are important in mathematics education" (p. 115). Mason and Scrivan (2004) also ascertained that students' beliefs were significantly related to their mathematical and academic performance.

In a recent study, Schommer-Aikins, Duell, and Hutter (2005) investigated the role of beliefs on mathematical ability amongst 1,296 students from two middle schools in the Midwest. They showed that beliefs can have a heavy influence on the way students deal with problem-solving situations. They found that if the students assume that they should be able to complete all assignments in only a short amount of time, they tend to give up when they do not complete the assignment in their allocated time. Likewise, if the students believe that studying mathematics is aimless and therefore not useful, they may stop trying to be successful (ibid). As a result, Schommer-Aikins et al. (2005) suggested that challenging tasks in mathematics classrooms would be a good strategy for teachers to deal with some of the above issues.

It would appear that throughout the last decade, the role of affective factors in the learning of mathematics has received increasing attention from several different researchers (Ernest, 1994; Schuck & Grootenboer, 2004; Leder & Forgasz, 2006, Grootenboer & Hemmings, 2007). It also seems that the main rationale for most of these studies has been the shared assumption that there is a positive relation between students' mathematical beliefs, attitudes, and their mathematical achievement. However, as there are mixed results in the existing research which indicated that the relationship between students' belief and their ability in mathematical problem solving is not simple and systematic (Ruthven & Coe, 1994, p.101), it seems like a reasonable proposition that the relation between beliefs and performance requires further investigation. The present study was designed to investigate the relationship between grade 8th students' beliefs and their performance in mathematical problem solving.

Mathematical Beliefs Investigated in This Study

Beliefs are defined as the collection of cognitive concepts that developed gradually and with varying degrees of influence over ones' action (Abelson, 1979, Emenaker, 1993, Ensor, 1998; McLeod 1992, Thompson, 1992). The mathematical beliefs investigated in this study are those students' cognitive concepts that relate to the discipline of mathematics and to themselves as learners of mathematics, measured by the Indiana Mathematical Beliefs Scale, taken from Kloosterman and Stage (1992). They stated that this scale can measure two main groups of beliefs relevant to the motivation: *beliefs about the discipline of mathematics* through sub-scales 2 (word problems cannot be solved with step by step procedures) and 4 (word problems are important); and *beliefs about the individual as a learner of mathematics* through 1 (solving time-consuming problems), 3 (the importance of concepts in mathematics), 5 (the worth of paying effort in problem solving). As Kloosterman and Stage (1992) emphasized, these five beliefs are

related to students' motivation for solving mathematical problems. They can also shed light on the incentive issues in students' problem solving in mathematics classrooms, particularly on the part of secondary school. Moreover, some of the above 5 subscales of beliefs (e.g. time, effort, set procedures) have been recognized in some other studies as common students' beliefs. Therefore, these beliefs are chosen for this study.

Method

In this study, a quantitative approach was taken to investigate the relationship between students' beliefs and their performance in problem solving. As such the researcher chose a group of 8th grade students studying at University Hill Secondary School in Vancouver. University Hill is a public secondary school in British Columbia, Canada.

Quantitative data about belief was gathered from a self-reported questionnaire. Students' performance in mathematical problem solving was measured through a problem solving activity.

Then, using SPSS software, the researcher conducted statistical analysis for both groups of data to answer her research questions.

Research questions

This paper aimed to answer to the following questions in detail:

1) What beliefs do secondary students have about mathematical problem solving?
2) Is there any relationship between students' belief and their performance in mathematical problem solving?

Participants

The current study recruited 27 eighth grade students (14 boys and 13 girls) from a public secondary school in Vancouver, BC. Students were from Canada (5 students), China (15 students), Iran (2 students), Korea (3 students), and Russia (2 students).

In order to undertake this study, the researcher met her niece's teacher who works in one of secondary schools of Vancouver. The availability of teacher's time was a significant factor in selecting this class for study. After explaining her purpose of the research, the teacher allowed the researcher access to the students. All students were provided with the opportunity to participate in the study and provided with parent permission forms. Those students who wished to participate in the study formed the sample.

Material

Two quantitative instruments were implemented in this study: a belief questionnaire and a problem solving activity.

The belief survey. The survey used self-reported data designed to measure eighth grade students' belief about problem solving. Students' belief was measured by the Indiana Mathematics Beliefs Scale, developed by Kloosterman and Stage (1992) to assess students' belief about problem solving. This instrument was selected as it was specifically designed for measuring students' belief about problem solving while others are meant to evaluate students'

belief about mathematics in general. The Indiana Mathematics Beliefs Scale investigates students' opinion about five major beliefs regarding to problem solving in mathematics such as: (1) I can solve time-consuming mathematics problems; (2) there are word problems that cannot be solved with simple, step by step procedures, (3) understanding concepts is important in mathematics, 4) word problems are important, (5) effort can increase mathematical ability. The 30 questions match well with the above 5 scales and were distributed randomly by Kloosterman and Stage (1992) in order to put no item from the same scale in a single questionnaire

The performance test. The performance test, consisting of 5 mathematical problem solving questions, was used to measure how students perform in mathematical problem solving. The questions were selected from Trend in International Mathematics and Science Study, TIMSS (2003), for grade 8 students. TIMSS (2003) was selected because it was the most recent version of the test available online.

As the TIMSS (2003) is an international test developed based on a curriculum framework that includes content area which is representative of current school mathematics (e.g. algebra, data analysis, measurement, and number) and current performance expectations (e.g. knowing basic math facts, and solving problems) it was felt that this would provide a representative set of questions. As the main goal of this study was to investigate students' beliefs and its influence on their performance in mathematical problem solving, the performance test covered the expectations of students on solving the problem.

Procedure

The data were collected in March 2011; this was approximately eight months after students were introduced to a new curriculum in which the main emphasis is on teaching pupils through problem solving. Mr. B, the teacher, mentioned that his main teaching goal is making pupils more aware of implementing mathematics in real life by introducing them non-routine problems. Hence, I have thought this is a class can be a good research group. A week prior to beginning data collection, the researcher sent both the questionnaire and performance activity to the teacher who had agreed to let his class students to take part in this research. A few days prior to the delivery of the task, the teacher explained the aim of the research to students and emphasized that participation in the research is voluntary and requires parental consent. He further emphasized that the responses should be honest and all responses would be treated with the highest confidentiality and that no one other than the researcher would have access to individual responses.

The students' performance test and the questionnaire were given to the pupils in the following order: first, the performance test was administered with ten minutes provided for completion. This was immediately followed by the belief questionnaire with 30 minutes being allotted for completion.

Data analysis

To analyze the quantitative data, both the belief questionnaire and performance activity were scored. Quantitative measures were used to create data for two variables in this study: students' beliefs, students' score regarding their performance in mathematical problem solving. The "students' beliefs questionnaire" and "the performance activity" resulted in two quantitative scores for each participant: one score for students' beliefs and one for performance in problem solving.

Students' Beliefs Scoring

The questionnaire used a Likert scale format. The five points on rating scale are Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD). In the beliefs questionnaire, the participants could choose one of those responses choices (e.g. SA, A or N). Some of the items on the scales were identified positive and others were negative.
Each of the items in the belief scale was scored by allocating a 1 to the least positive (strongly disagree) and a 5 to the most positive response (strongly agree). The total score for each participant from the 30 items was summed in order to give a total score of each student's belief, with 150 responding the most favorable belief (if the participant get 5 for each of the 30 questions) and 30 the least (if the participant get 1 for each of the 30 questions). As Kloosterman and Stage (1992) recognized, there is a potential for confusion over the term "word problem" in the belief questionnaire, so the researcher explained the term to the respondent in advance.

Students' performance scoring

To score the students' performance, TIMSS (2003) scoring criteria was followed; 1 point was given to the correct answer and 0 for a wrong one. The total raw score was 5 points, if the participant gave correct answers to all the questions. The raw scores were calculated as percentage correct.

After all data was collected, it was organized and analyzed in order to respond to the research questions. The analysis included descriptive and inferential statistics.

Results

The SPSS software was implemented to perform statistical tests and analyze the quantitative data. Each participant's response from the belief survey was used to determine the percentage of participants selecting one of the five possible choices for beliefs items. Then, the overall score of each student in problem solving performance was measured. Finally, in order to analyze the relationship between students' beliefs and their performance in problem solving, the Pearson correlation (r) was conducted.

Students' beliefs. First, the scores for the 30 items were summed to provide a belief score for each student participated in this present study. The maximum possible score of 150 shows the most positive belief and the minimum possible sore of 30 represents the most negative beliefs. The participant score variety from a low of 83 to a high of 117 with a mean of 102.60 and standard deviation of 8.9. Most of participants score (92.6%) was between 90 and 150 (the upper half of this possible range). In order to have a better description of students' tendency to subscales of beliefs, the researcher combined the percentage for Strongly Agree with Agree, and Strongly Disagree with Disagree in the belief questionnaire. Combining the percentage for Strongly Agree and Agree columns related to the question of whether "time-consuming is worthwhile" showed that 92.6% of participants agreed or strongly agreed that spending a longer time on mathematics problems is valuable. However, none of students believed that it is not worthwhile to spend their time on a question that needed a longer time to be solved and 7.4% of participants did not have any opinion.

The analysis of participants' responses to the question that "word problems cannot be

solved with simple, step-by step procedures" revealed that 11.1% of participants agreed or strongly agreed that following a step-by-step procedure is not always necessary; 7.4% of them disagreed or strongly disagreed with this opinion. Surprisingly, 81.5% of participants did not express any idea about step-by step procedures.

The analysis of participants' responses to the questions about whether understanding concepts is important in mathematics revealed an interesting set of findings. A total of 85.5% of the participants believed that understanding plays an important role in solving math problems. What made it more interesting was that, only 3.7% of students disagreed or strongly disagreed with importance of understanding, and about 11.1% of respondents had no opinion about this item.

The participants' responses to the items related to the importance of word problems illustrated that 44.4% of students strongly agreed or agreed and 48.2%of them had no opinion. Also, the results showed that 7.4% of the participants disagreed or strongly disagreed with the importance of word problems in mathematics.

Finally, the analysis of students' responses was relevant to their tendency to do more effort in solving mathematical problem. These results revealed a very significant finding. It demonstrated that 96.3% of participants strongly agreed or agreed that effort can enhance their mathematical ability. Examining the percentage of disagreement for this item added the additional support for the belief that more effort can increase their ability in solving math problems. Meanwhile, the data indicated that only 3.7% of students had no idea about this category. The quantitative results showed that students' views about spending more time on time-consuming problems, the importance of understanding concepts and the value of doing more effort on solving the problems, was strongly positive amongst other items (92.6%, 85.2% and 96.3% students agreed or strongly agreed). This indicates that participants were in common agreement that spending time on time-consuming problems is worthwhile, effort can increase their mathematical ability and understanding concepts is important in mathematics. However, less than half of the participants (44.6%) expressed agreement that word problems are important in solving the problems, and less than those (11.1%) supported this belief that word problems cannot be solved with simple, step-by step procedures.

The relationship between Students' beliefs and performance. In order to investigate the relationship among students' mathematical beliefs and their performance in mathematical problem solving, the Pearson correlation procedure was performed on a total of seven variables: for six belief variables (total students belief and its 5 subscales) and students' performance.

The correlation coefficient (represented by "r" in this section) normally ranges from -1 to +1. The total students' belief was significantly and positively correlated with their performance in mathematical problem solving ($r = .887$, $p<.01$). This data means that the participants with higher performance in problem solving have stronger set of beliefs about mathematics. In fact, students' performance in mathematical problem solving was significantly correlated with three belief subscales: time consuming is worthwhile ($r =.485$, $p<01$); important to understand a concept ($r =.699$, $p<01$), and do more effort ($r = .644$, $p<01$). No significant correlation was found between students' performance and the other two belief subscales: *Problem solving is not always step-by step,* and *word problems are important*.

Discussion and Conclusion

Within field of educational psychology and mathematics education, scholars have for some time assumed a positive relationship between students' beliefs and students' math performance (Muis, 2004). However, math beliefs traditionally have been explored separately from their performance in problem solving and few studies have investigated students' beliefs and students' performance through problem solving in the same studies (Schoenfeld (1985), Purvis (2000), and McLeod & McLeod (2003). Consequently, the traditional assumption of a positive relationship between students' beliefs and their performance in mathematics has not been substantially and empirically tested, particularly in the problem solving area (Kooler, 2001). The present study is among the few studies to include students' beliefs about problem solving and its influence on their performance in the same study. In this study, data was collected through two instruments: the Indiana Mathematics Beliefs questionnaire for measuring students' beliefs, and a problem solving activity, taken from TIMMS (2003), for measuring the participants' performance in problem solving. After analyzing data the following answers were found for two research questions in this study.

Q 1: What beliefs do secondary students have about mathematical problem solving?

The findings of the current study illustrated that the majority of the secondary students (participants of this study) believed that they should spend sufficient time and effort in order to learn mathematics. Also, in their point of view understanding mathematical concept play a vital role in learning mathematics. However, a small number of them thought that word problem are important and there are word problems that cannot be solved with simple, step by step procedures.

Q 2: Is there any relationship between students' belief and their performance in mathematical problem solving?

The results showed that students' math performance was positively and significantly related with their total score on the belief questionnaire ($r = 0.887$, $p < 0.01$). With closer examination, the researcher found that there is a positive and significant correlation between students' performance in problem solving and the following beliefs: 'Effort can increase mathematical ability (effort pays)'; 'Understanding concept is important in mathematics'; and 'I can solve time-consuming mathematics problems'. These beliefs are relevant to the ways students as individual learns mathematics. They believed that spending enough time, understanding concepts and expending enough effort supported them when learning mathematics. However, no significant relationship has been found between students' performance and their beliefs about *the importance of word problems* and *solving word problems through step-by-step procedure*, which are mainly relevant to mathematics as a discipline. It seems students who think the word problems are not more important than computational skills in mathematics may not perform very well in problem solving.

Joining a small, but developing body of research, this study at least partly clarified those beliefs supporting secondary school students' performance on solving mathematical problems. In fact, students who had stronger beliefs about spending more time and effort on solving the math problems, and those who believe in the importance of understanding the concepts would perform better than those who value the word problems and step-by- step procedures in mathematics. The results of this study support the findings that students' beliefs in memorization and step-by-step procedures can limit their mathematics performance (Masoon, 2003).

From the educational perspective, the following implications would be advisable for

students. It might be worthwhile for students to be encouraged to spend more time on time-consuming problems. Step-by-step procedures in mathematics have important limitations, and time spent on understanding concepts is worthwhile. Word problems are an important part of mathematics, and more effort incorporating them in curriculum will pay off as students achieve more success in their mathematics. Teachers might also benefit from providing encouragement to students as they develop these beliefs mentioned in this study.

In terms of implication for the future research, much research is still needed to include other variables playing a role on beliefs in mathematics education, such as the relationship between beliefs and classroom contexts, the impact of different domains on students' beliefs, and whether (and how) beliefs may permanently change for the better.

Limitation of this study is implementing self-report scales. The self-report measures can be criticized due to relying solely on self-report and students' memory. In fact, students' memory for specific events may be inaccurate and their responses may be inconsistent. Due to the limitation of self-report scales, a more valid approach would be to include both qualitative and quantitative measures. For instance, a questionnaire followed by statistical analysis could be combined with interview or observation followed by in-depth qualitative analysis in order to understand how beliefs influence students' behaviors.

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Latinos in Action: Cultivating Academics, Access, Equity, and Future Bilingual Educators

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Abstract

Developing bilingual teachers is critical in closing the achievement gap experienced by bilingual and Latino children. This qualitative case study investigated the benefits of an academically grounded cross-age tutoring program designed to support low-income, bilingual high school students to graduate, pursue higher education, and explore education as a possible career. Data sources included observations, interviews, program artifacts, and quantitative academic indicators. Data were analyzed using grounded theory and narrative analysis. Theoretically framed as social design experiment (Gutierrez & Vossoughi, 2010), the study employs cultural historical perspectives and qualitative research to define underlying principles of transformative practice. Findings demonstrate shifts in individuals' learning, identity, and efficacy, as well as shifts in the institutional context and teacher attitudes as a result of the students' words and actions. Students' experiences upon graduation also point to the essential work that Teacher Educators and Universities will need to undertake to support these young people if their journey to teaching is to be successful.

Purposes

Washington State's assessment data reveal a large and growing achievement gap for some minority students, most significantly English Learners, Latino, and Migrant students (Office of Superintendent of Public Instruction, [OSPI], 2010). Between 2000 & 2010, the percentage of Latino students has risen by 72% and students identified as transitional bilingual has risen by 52%. Overall, 35% of the students enrolled in Washington state P-12 schools identify as students of color (OSPI, 2011), and as student diversity rapidly increases, the ethnic and linguistic background of P-12 teachers and teacher candidates remains largely unchanged. Currently, 93% of the state's teachers are European American (Elfers & Plecki, 2009), and 85% of those entering the profession identify as White (OSPI, 2011). Washington State ranks second to last in the nation for a teaching force that is representative of the state's ethnic composition (Peterson & Nadle, 2009).

The *Achievement Gap Oversight and Accountability Committee* was established by the legislature in 2009 to develop priorities and recommend policies and strategies to close Washington State's achievement gap**.** Two of the ten high recommendations to reduce the differential achievement of Washington State students of color included: 1) *Expanding pathways and strategies to prepare and recruit diverse teachers and administrators,* and 2) *Enhancing the cultural competence of current and future educators and the cultural relevance of curriculum and instruction* (Bertschi, 2010). In response to these recommendations, the state legislature funded the *Recruiting Washington Teachers Grant* to support the development of 4 pipeline

programs designed to expose high school students to careers in education while supporting them to graduate and gain access to college. The purpose of this study was to investigate the benefits of one of these programs, an innovative cross age tutoring program designed as a pathway to teacher education for bilingual high school students. Latinos in Action (LIA) placed bilingual high school students into elementary classrooms as teaching assistants, linking this experience to an academic course in educational foundations during the school day.

Research Questions

How does LIA participation influence the learning, identity, and academic and professional trajectories for the students involved?
How does the students' participation influence the context in which the program exists?
How does participation influence students' understandings and pursuit of careers in education?

Cultural Historical and Political Context

Latinos in Action is located in a rural, agricultural community, which has doubled its Latino population in the last decade, as traditionally migrant families have been settling in the community year round. In 2011, 35% of the district's students were Latino and 50% were on free and reduced lunch (OSPI Report Card, 2011). In this same time frame, between 50 - 60% of Latino students dropped out, and of those who graduated, very few had the academic preparation, GPA, or test scores to go on to higher education. The high school has no Latino teachers and employs only a few adults in any role who are Latino or speak Spanish. Students report (RWT Grant Study, 2011) that they experienced negative messages about their families, language, culture and future possibilities from school personnel and community members on a regular basis. Latinos in Action (LIA) was created an educational context in which students who have traditionally been viewed through a deficit lens, have the opportunity to disrupt assumptions about their identities, capabilities and possibilities through positive contributions in the school and community. Most have received little support historically to develop the kinds of academic literacy or identity that supports college access and success; this program was designed to address those capacities in practice.

Latinos in Action (LIA) is a high school leadership class focused on exposure to educational careers through academic preparation and authentic, hands-on experiences. The academic portion of the course focuses on professional, ethical, and equity issues in education, as well as child development and learning. The class includes a focus on cultural competence and culturally relevant teaching. Following ten weeks of academic preparation, bilingual juniors and seniors are placed in elementary classrooms as teaching assistants and mentors. LIA students spend over 40 hours each semester working directly with elementary students under the guidance of a mentor teacher. To prepare students for tutoring, the class develops students' professional skills in classroom management and teaching math and reading strategies. It includes a weekly seminar with a reflective component in which students write about and discuss their tutoring experiences, and collaboratively problem solving around challenges they encounter.

LIA students take on various leadership roles in the school and community. In the fall, they provide childcare for school and community events. They serve as translators at some school events. In the spring, they plan and offer a conference on higher education access for over 150

Latino students from regional high schools. LIA students planned and facilitated community-building activities at the regional Migrant Youth Leadership Conference. They have presented their program at school board meetings and conducted workshops on bridging cultures between students and teachers at regional conferences and teacher development events. LIA students were instrumental in starting an after-school bilingual program at a local Elementary and another at a residential community that houses migrant families. Students volunteered at family literacy events in the district.

The academic course also features a unit on college preparedness; supporting students to research higher education options linked to possible careers and costs involved. Students develop sample budgets for each college option and make plans for how they will fund higher education. Within the context of the course, students apply for college, financial aid, and scholarships. The LIA curriculum is articulated with a regional college class, so students receive 3 college credits as well as High School English credit.

LIA has been funded by a grant from the state level teaching standards board since 2009. Prior to this time, state funded high school programs designed to recruit teachers attracted primarily white, middle class girls. With growing political recognition of the importance of creating a teaching force that reflects the ethnic diversity of its student body, state grant funding shifted to programs focused on increasing the number of educators of color in teaching shortage areas including bilingual education (RWT Final Report, July 2011).

Theoretical Framework

Situated Learning. This study views learning and identity development as situated in activity in the world (Levinson & Holland, 1996; McDermott, 1993). In this theory, neither social organization nor individual development are viewed as fixed but as evolving—reinterpreted and renegotiated through interaction and across activity settings. Each interaction is influenced by history on multiple levels, including the biographies of individuals, historical development of institutions and practices, and the broader culture of the individuals and institutions. The relationship between the partially given nature of situations and their renegotiation in interaction highlights the dialogic relationship between history and context that allows for consideration of both reproductive and productive features of culture. This paradigm defines learning and identity development as cultural processes—a much broader view than traditional psychological perspectives.

Social Design Experiment. LIA can be viewed as a Social Design Experiment (Gutierrez & Vossoughi, 2010), an approach that intentionally employs learning principles to collaboratively design interventions with and for non-dominant communities that focus on equity. It is a form of participatory action research that is intended to simultaneously create and study change (Nofke, 1997). This approach is framed within a cultural historical perspective with an explicit focus on transformation of both individuals and the contexts in which they interact (Engstrom, 2007). Experiment in this context is used to denote the creation of collaboratively influenced rich learning ecologies that heighten the potential for deep learning to occur for all participants. In this case, as older students teach younger students, and as high school students are mentored or taught by adults, the collaboration produces powerful learning for all involved. As they participate, each individual develops existing and new repertoires of practice that facilitate individual and social change (Gutierrez, 2008). The approach acknowledges the innate complexity, contradictions and revisions that occur in learning through co-construction and

participation over time.

Social Justice. The Latinos in Action (LIA) program defines its "overarching mission…to develop empowered bilingual role models, who graduate from high school, attend and ultimately graduate from college and return to the valley, to obtain jobs in the field of education and to educate the rest of our community about difficult issues related to cultural competency, racism, stereotyping and diversity (RWT Final Report, July 2011)." In many ways, this statement encompasses the design principles for this program. LIA seeks to develop individual efficacy, and academic and professional success. However, it links individual achievement with a commitment to give back to family and community, a value that resonates with the participants. The program affirms language and culture as assets in gaining individual success and in creating role models for younger students. Finally, it acknowledges the racism, educational and social inequities that exist in the school, region and in the lived experiences of the students, yet does so in a way that supports students to overcome these through education and activism.

Methods

Participants

This qualitative case study described and analyzed the benefits of participation for LIA students. The students who participate in this program are from low-income Latino families and have learned English as their second or third language. The study focused on 42 students who participated in the program during the 2009-10 and 2010-11 academic years, with 6 students who graduated in 2009 and 2010 serving as key informants. Researchers were participants in the setting; as ELL teacher, grant evaluator, and teacher educator (Erickson, 2006). The study clearly had an action component, as ongoing analysis of data informed practices as the year progressed. As insiders in this community, they worked to check subjective assumptions by supporting all claims with triangulated data and perception checking with participants.

Data Sources & Analysis

Quantitative data were collected for descriptive analysis and to establish baseline data to monitor change over time. Quantitative data included attendance, disciplinary actions, GPA, graduation and higher education admission rates, and scholarships received. Qualitative data sources included interviews, observations, field notes, program artifacts, student work samples, and researchers' reflective journals. Data were analyzed using grounded theory in a constant comparison method (Glaser, 1965, Glaser & Strauss, 1967) and narrative analysis (Chase, 2005; Pushor & Clandinin, 2009). As noted above, the study is a form of participatory action research, using cycles of inquiry to inform program design, revision, and action (Nofke, 1997).

Lessons from the Journey to Become a Bilingual Teacher

While still in high school, students' attendance, grades, and test scores improved. In the programs 4 years, nearly 100% have graduated from high school, 85% have gone on to college and of these over 85% received scholarships. The program clearly exposed students to careers in education and offered them genuine professional experience that lead immediately to work as interpreters or para-educators for some, and longer term may produce bilingual educators. As

students graduated or completed their first year of college, approximately 50% intended to pursue a career in education. A significant number of students experience compounded difficulties in pursuing college, and are barred from a career in teaching due to their immigration status. Many students will not become teachers, yet it was their positive contribution to and participation in the education of younger students that developed the positive identities, sense of efficacy, confidence, and academic and leadership skills shown in the qualitative results.

Both students and their teachers cite a number of tangible benefits gained through participation. Students receive high school and college credit linked to academics and work experience. The course offered support for academic language and literacy development embedded in meaningful and challenging work. Both course readings and experiences affirmed language and culture as assets, personally and professionally. Being a role model for younger students motivated the LIA students to do well academically. Their teacher set very high expectations for students while offering support for them to succeed. The LIA cohort provided a community of support and peers who share a commitment to personal achievement and desire to give back to the community. The program coordinator spoke about the layered benefits for his students,

> The program is reciprocal on multiple levels, the LIA students learn reading and math strategies to use with elementary students and we believe this benefits them academically also. They serve as role models for younger students but must also be leaders and be successful academically to deserve this. They are making a contribution in classrooms but they are also learning from master teachers. They take on public roles in the community and teachers are beginning to see them differently, as responsible and able.

This quote summarizes many of the themes that emerged in the data as well as describing the layered benefits for all involved, students across a continuum from elementary through college and their teachers. The following section highlights themes that emerged in the data that point to elements that made this program beneficial for students, these themes are presented in three clusters, including; 1) Opportunities for Success; 2) Reframing Language and Culture as Assets; and 3) Reciprocity of Teaching and Learning. The final theme in this section highlights the challenges experienced by 6 graduates of the program as they navigate community college without the support of the program. These themes - illuminated through the words and experiences of the LIA students and teachers -lead to the design elements cited in the conclusion.

Opportunities for Success

As bilingual students in US public schools, many of the LIA students have had to work harder over many years to close the achievement gap with their English Speaking peers. Many of these students are still refining their academic English and striving to raise their cumulative GPA, affected negatively by their early years learning English. For many of them, LIA is the first time they have had teachers set high expectations for them and tell them overtly that they can achieve academically. Their teacher, who started the program said,

> When I started (teaching) there was not a lot of opportunity for the students that I was working with in my ELL classes. If you look at the achievement gap, it is very real and it is

> a big deal for the kids to see that they were not achieving as much as other students at the High School. In many ways, that is because they lack opportunities to succeed or be viewed as leaders. They did not see themselves as capable students. One of the things this program has shown me is that you can make a change. It is not easy, and it doesn't happen fast. But all of our seniors in the program have graduated and most of them leave with scholarship money to go to college. All of these students were in that group that were not achieving. But it is possible to make change if they have the opportunities.

The LIA teacher's comments are echoed in the words of his student, Rosario who is now a college sophomore who works as an instructional assistant in the district said,

> A lot of Latinos are not really involved in school. I wasn't. But since I got involved in LIA, it helped me to be more involved in school and the community. After this class, I have just kept going and going. It is that involvement that helped me see myself as a leader. All that volunteer work made me stand out. It helped me get scholarships. If it weren't for Latinos in Action, I wouldn't have money to go to college.

The majority of the LIA students work after school, either making money to support their families or caring for siblings and the home while their parents work. Because this program happened during the school day, it provided students who generally do not participate in sports, leadership or extracurricular activities with positive opportunities to contribute in the school and community. This participation enhanced students' learning and shifted their self-perception and those others held of them.

They also built professional networks through the leadership activities in the community. The students developed a sense of competency through participation. With each success, more doors open. This sense of possibility was gained through action, and with each success came a new sense of purpose and confidence and a related desire to give something back. Josue, also a college sophomore said, "LIA really encourages you to graduate and not to just stop there but to go beyond that and to pursue your dream or your career or what you really want to do. LIA took us out of our comfort zone and put us out there in the real world. It made us think … and to ask, 'what am I going to do with my life?' It makes you want to do something more with your life." This sense of confidence and efficacy came through the opportunity to participate and the support to succeed in leadership roles. The networks they built introduced them to local politics, businesses, and non-profit organizations.

Reframing Language and Culture as Assets

Every LIA student spoke about the importance of education, and cited education as one of the primary reasons their families had come to the USA. Many also spoke about the identity cast upon them by the media, the local community, and some teachers – as unmotivated, drop outs, gang members, or only capable of manual labor. One of the students told a story of her Social Studies teacher who she said was trying to be supportive when he told her, "I know you are a hard worker, if you continue to push yourself like this, some day you may be able to own your own cleaning business." Another teacher told a student, "You can be different, if you would just try harder, you could be like me. You don't want to be like your father." LIA actively counters the messages that

many students internalize.

In addition to providing the older students with the opportunity and support to be successful, it gives them a reason to succeed beyond their own initiative. Mariana spoke with urgency to a theme that ran throughout the interviews, a sense that educational success was vital, that it was the reason their parents had worked so hard, she said, "I will be the first in my family to graduate and that's very important because I want to show both my brothers that they can do it too. I want my brothers to finish high school and college. It's my mom's dream. That's why it's so important. I have to do this." Siblings, cousins, and younger students, all provided a motivation for the LIA students to succeed. They also spoke of a desire to finish college so they could provide for their parents and give back to their communities. This program supported the creation of a positive Latino academic identity and peer community in which students became leaders and role models who were academically successful, bilingual, and bicultural.

The academic portion of the class explored issues of educational equity and included a focus on culturally responsive pedagogy and cultural competence. This academic preparation raised students' critical awareness, offered them the language to define their own cultural identities, and provided them a forum for discussion and reflection. As LIA students worked with younger students, they saw the immediate application of language and cultural understanding as assets in their teaching. As Juan wrote in one of his reflections,

> I think a teacher has to be really careful with how he speaks, acts or interacts with the students. A teacher has to basically learn the culture of those students so they can understand each other. Every day teachers have to look at different strategies on how to teach their students since they come with different cultures, different ways of learning, and different languages.

The LIA students tutor in both English and in Spanish, and they come to see their native language as an asset that many of the teachers with whom they work do not possess. In both its academic and school based contexts, the program affirms language and culture as strengths both personally and professionally.

Often society implies that students must leave their culture and language behind in order to succeed. For many of these students, and the younger ones who follow, LIA allows them to reclaim their family's heritage language and craft identities that affirm their two cultures in a way that counters an internalized deficit perspective. For the first time, students realize that their language is also a benefit professionally. As one student told me, "I never realized that being bilingual could help me get me a job, not only in teaching but in any field I might pursue." Developing a positive bilingual / bicultural academic identity once again came through cycles of knowledge, reflection, and action focused on language and culture as strengths.

Not only did the students see themselves differently but their teachers and the community at large began to see Latino students differently also. The contributions they made - in tutoring younger students, translating at parent teacher conferences, building after school programs, and organizing conferences for other students – dramatically shifted the way these students were perceived. LIA has opened closed minds on the capacities of Latino students more broadly. One high school teacher told me he could not imagine how the school had managed to communicate with families before the LIA students began to translate and offer childcare for conference. LIA

student events and achievements are often highlighted in the local paper and offer the community at large a different image of Latino youth.

Reciprocity Of Teaching And Learning

The program builds strategic relationships between students from elementary through high school and into college. I also builds relationships between students, teachers and university faculty in a model of *cascading mentorship*. Essentially the program attempts to build a pathway to academic, social, cultural and professional success through relationships. For example, each LIA student is partnered with a mentor teacher for the semester. Also, the LIA students work with Latino university students as co-facilitators at the Migrant Youth Leadership Conference. Each individual has something to teach and to learn from those a step ahead or a step behind on the path. The following quote by Ariceli speaks to her identity as a role model for younger students,

> I remember that when I was a little I looked up to a teacher. I saw that everyone came to her for advice or for help and I said to myself I want to become as important as her. That's why I think it's important to be role models to kids… last year when I went to Buena Vista Elementary there was this little girl who I would help and she once told me, 'I want to be smart like you when I go to the high school.' It felt awesome. I think that this class has influenced kids in a positive way.

Nadia speaks to the role respect and care from others played in pushing her on to become the role model that younger students need.

> After feeling all that support, knowing all those kids are proud of you or they want to be like you. You want to graduate and go beyond, you want to inspire other people. You don't want to stop at influencing just those kids. You want to do more. You want to make a difference in your community. That was my experience in LIA.

Our traditional concepts of mentoring imply a hierarchy, with one person being the expert and another the novice, one a teacher and one a student. In this program, the learning and inspiration are much more reciprocal. Younger students ask questions about how to follow in older students' footsteps, which reinforces the value of the lessons and accomplishments older students have gained in life and learning. The mentor teachers, teacher candidates, and teacher educators who teach in elementary classrooms where these LIA students tutor, recognize the cultural competency and assets the LIA students bring to teaching. They tell stories of the learning conversations they overhear, and reflexively they learn about cultural relevance and competence from the high school students making connections to life and text with students in the elementary classrooms. This model of intentional cascading mentorship has benefits for all involved.

The reciprocity of teaching and learning provides academic benefits as a well. LIA students learn the content of their academic class much more deeply as they apply it in the context their teaching. Lupe, looking back on the reading strategies she learned in the LIA class early in the year said, "I did not think I was ever going to use them." She then went on to tell a story of a teacher asking her to work with a student who was struggling to read in English. She described her experience of working with this student,

> I realized that Alicia would try to just go through the book without thinking about it. She read the material as quickly as she could and she did not even look at the pictures. I told her that we should read a little slower and actually take time to see what the words meant. I asked her if she needed help understanding the vocabulary. I also told her to start asking questions. I started noticing she would ask me questions, and at times when she read the book she would smile at some of the words she read because was starting to understand the meanings. She was taking the time to actually listen to herself and hear what she was saying. At the end of the week, I asked her to summarize what she had read to me and she did this so well. I think we both learned something that week.

As teachers of English Learners, we teach comprehension strategies and the academic language of summarizing, connecting, questioning, identifying points of confusion, and defining vocabulary in context (Zwiers, 2008). In this brief description of her work with one student, Lupe demonstrates not only her knowledge of these strategies but the ability to use them appropriately in practice. Ultimately, as LIA students learn readings strategies to teach younger students, they are deepening their own academic language and literacy.

Continuing the Journey: Learning from Students' Experience

> We are perfect examples of why this program should keep going. We are still in school, we are working hard to earn our degrees, we are still moving forward even though we have a lot of obstacles in our lives. You just have to have the courage and strength to keep moving forward and this class helped a lot with that.

Interviewing LIA graduates who had successfully transitioned to community college offered additional insights. It certainly highlighted the powerful influence that their participation in LIA continued to have in their lives, indeed they were more articulate and clear about naming those benefits as they looked back on their experiences. They identified the multiple roles their teacher had played in their lives, as a teacher who believed in them and gave them genuine responsibly. He also served as an advocate with other teachers and held them accountable when they struggled academically. He helped them to understand what they needed to do to apply for college, financial aid or scholarships. He created a space for them to build their own community of support, challenge and learning. As they spoke about the ways their teacher had supported them, they also lamented that much of this tangible advising, accountability, advocacy, and support was missing in the college setting and their own peer community was difficult to maintain.

The LIA graduates also spoke of the tangible barriers that remained for them; finding money for college, demands of supporting family members, lack of knowledge of how universities work, and for many trying to understand how to navigate a system without papers. Many of them entered college with scores in math and English that required them to take remedial classes that will not count towards their graduation. All of these students experience multilayered challenges as they continue their journey with less support than they had in high school. Joaquin who experiences all of the barriers named above spoke honestly of his greatest challenge,

> I am pursuing my citizenships here in the United States but that has been a big obstacle in my life. It has been a lot tougher to find money. I don't qualify for financial aid so I have to find money other places. There are scholarships and if I just keep looking, I can find it. For this

> coming year, I have all my classes paid for at Skagit. That's proof that you can do it if you just keep looking but that is something that should be addressed more in schools. A lot of kids are too shy to say anything. When I was younger, I was embarrassed to say I wasn't a citizen. Programs that offered information and support confidentially and told students that it was OK to pursue college would help. But without the Dream Act, I will not be able to become a teacher or a lawyer.

It is clear that their experience in LIA made college access possible and that the benefits of their participation remains strong in their positive academic and cultural identities and their tenacity in the face of challenges. But, once enrolled in a local college, the former LIA high school students report they lacked the tangible support and knowledge, and the network of people who advised them and supported them in the past. The college students' narratives serve as evidence that the former LIA students are struggling to maintain the goal of becoming bilingual teachers. Without institutional commitment to extend support and advising into the college years, it will be a long and challenging journey for these students to complete teacher education. A number of these students have been hired I the district as instructional assistants. While this employment may support them financially to pay for college, without support to complete their journey through a traditional or alternative route to teaching, the program may actually amplify the inequities as schools take advantage of the talents of these gifted and committed young people while the doors close on genuine opportunity.

Conclusions

This study offers a descriptive profile of a pathway program that exposes bilingual high school students to critical educational issues and the work of teaching. It also highlights the powerful learning and identity development that is gained through participation that genuinely enhances the education of younger students. Participation supported students to develop the academic abilities, identities, and efficacy to graduate and gain access to higher education. Perhaps most important is the ethnographic illustration of key program design elements that support individual success linked to efficacy and action for social justice. In a time when the opportunity gap widens for Latino and bilingual students, and the cultural disconnect between students of color and their teachers persists, this paper's findings develop design principles to guide future interventions focused on teacher pathways and critical cultural change. Specifically, these principles, derived from this study include:

- Understand and Actively Address the Challenges Students Face
- Affirm Language and Culture as Assets
- Support Academic Language Development
- Recognize Resources within Communities
- Cultivate Opportunities for Success
- Build Positive Relationships
- Provide Support to Navigate Institutions
- Keep Hope Alive through Action

This study applied research to design a promising intervention to identify and develop potential bilingual teachers in their high school years, supporting them to gain the academic

literacy, identities and self-efficacy to graduate from high school and pursue higher education. As these young people continue on their academic and professional trajectories, their experiences illuminate the many barriers that remain in their journey towards teaching. These potential barriers are more than the financial, informational, and emotional issues identified by the students. The LIA students have yet to discover if the colleges of education they will enter will have the institutional capacity to move beyond the rhetoric of embracing social justice to accepting these often marginalized students and offering them an intellectual home that views their culture and language as assets in teacher candidates (Chu, Timmons Flores, Carroll, French, 2011). The LIA student experiences have the potential to become the fertile ground upon which to build the next steps of the college pathway to culturally and linguistically relevant teacher education.

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Enhancing Rural Internships: Considering the Post-Intern Voice

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Abstract

A lingering issue that has faced rural-practicum planners across all the professions relates to enhancing the overall quality of rural internships. In this report, the authors address a key facet of this subject by considering the viewpoint of post-interns regarding their own rural practicum experiences. The authors compare the perspectives of a recent group of Education post-practicum students regarding the quality of rural internships with findings from previous research related to the subject. The post-interns participating in the present study recently completed their 16-week extended practicum in rural schools in one Western Canadian province. They submitted written responses to questions soliciting their views of the positive and negative aspects of the experience. The authors explore implications of these results for practicum administrators wishing to strengthen rural internship programs in their jurisdictions.

Society delegates to the professional schools, through their various educational programs, the task of preparing its physicians, lawyers, engineers, teachers, social workers, and other professionals (Goodlad, 1984; Ralph, 2010). Urbanization is increasing on a global scale; and yet, half the world's population still resides in rural areas (United Nations, 2010). Furthermore, post-secondary educational institutions are under constant pressure to prepare increasing numbers of qualified personnel to fulfill society's needs for the services that practicing professionals provide, in urban and rural locations, alike (Lapointe, Dunn, Tremblay-Côté, Bergeron, & Ignaczak, 2006; Ralph, Walker, & Wimmer, 2010). Typically, most professional graduands prefer to work/live in metropolitan regions (Wilson et al., 2009); however, rural leaders are faced with the perpetual challenge of recruiting and retaining professionals to work and live in these communities.

The practical or clinical portion of these preparatory programs conducted in real-world settings has proved to be a key component in the preparation of prospective practitioners to enter their respective professions (Neville, Sherman, & Cohen, 2005; Shulman, 1998). Educators who administer these practicum/internship programs continually attempt to improve them, which in turn, has spawned a sizeable body of research on professional practicum programs. On the other hand, the number of studies related specifically to the rural practicum is considerably lower.

Purpose of the Study

In order to help reduce this research gap regarding the rural practicum in teacher education, we conducted the present study that examined post-practicum students' assessment of the extended practicum that they had just completed in rural schools. We believe that the student voice is critical for educational stakeholders to consider as they seek to enhance the effectiveness of the practicum portion of professional education programs (Ralph, Walker, & Wimmer, 2008, 2009a, 2009b). Our central research question was, "What were post-interns' assessments

regarding the quality of their rural-based extended-practicum experience?" Two related sub-questions were: "What was most positive about the rural internship?" and "What was most negative?"

Related Research

Because of the relative scarcity of research investigating students' opinions of their rural internships, we were able to retrieve only a few studies, from which we synthesized a set of common findings. We report these results in the following sub-sections: the first involving rural internships in professional disciplines other than teacher-education, and the second dealing directly with rural practica in teacher education.

Rural Internships in Various Professions

We retrieved ten articles, reports, or book chapters that represented seven professional disciplines in six countries, which dealt in some way with interns' or novice practitioners' views of the rural internship or extended-practicum experience. We first extracted common themes, categories, or patterns that emerged from our analysis of these sources (Best & Kahn, 2006); and we report them, below, in terms of the benefits and limitations of rural internships in the non-Education sector. These data reflect the descriptions of post-practicum students or neophyte practitioners, who disclosed their observations and sentiments regarding their lived experiences in rural placements. Among these 10 documents was one chapter in a Canadian book that mentioned rural internships in Social Work (Charles & Dharamsi, 2010), and a second chapter (Ralph, 2010) compared post-practicum students' perspectives from three fields (Education, Engineering, and Nursing). Another Canadian article (Ralph, Walker, & Wimmer, 2008) referred to rural internships in Engineering. Two U. S. reports dealt with rural internships in Nursing (Stuart-Siddall et al., 1985) and Mass Communication (Donald, 1993); while two Australian studies addressed rural practica, one in Dentistry (Johnson & Blinkhorn, 2011) and the other in Medicine (Sen Gupta, Murray, McDonell, Murphy, & Underhill, 2008).The remaining three sources treated different facets of rural placements for: Pharmacy in Ukraine (Anzenberger, Popov, & Ostermann, 2011); and Medicine in South Africa (Igumbor & Kwizera, 2005) and the United Kingdom (Deaville, Wynn-Jones, Hays, Coventry, McKinley, & Randall-Smith, 2009).

We categorized the data from these sources according to positive and negative features of rural internships, as reported by participants from the seven professions. The positive aspects were: the welcoming, friendly community atmosphere; the abundant opportunities to engage in rich and varied activities; the relatively relaxed pace/lifestyle; the pastoral serenity of the setting; the feeling of team-camaraderie in genuinely contributing to the welfare of the community; and the benefit of residing in the community and not having to commute daily. On the other hand, the drawbacks identified were: the extra expense incurred for travel and accommodation; the occasional feeling of isolation/loneliness due to being away from family and friends; the limited professional support/resources; inconsistent placement procedures; the restricted availability of social/entertainment outlets; the limited opportunities for future jobs; and the invasion of privacy.

Rural Internships in Teacher Education

For teacher education, we also found ten studies related to post-interns' assessment of their rural practicum experiences. These sources represented three countries: five reports from Canada (Goodnough, 2009; Lemisko & Ward, 2010; Ralph, 2000, 2002, 2003); three from Australia (Boylan, n.d.; Hemmings, Kay, & Kerr, 2011; Sharplin, 2002); and two from the United States (Blackmore & MacNair, 1971; Savelsbergh, 1995).Our synthesis of the data from these reports revealed a similarity to the finding from the other professions. For instance, the results from the Education studies highlighted the following advantages ascribed to rural internships: experiencing a sense of genuine belonging emanating from the welcoming community; receiving substantial support from staff/community; enjoying the relatively restful state of rural living; having access to a wide variety of available activities; having smaller school/class enrollments permitting teachers to provide more individualization; being able to become better acquainted with students/families; presenting possible future job opportunities; and encountering fewer student-discipline problems.

The disadvantages of rural internships that emerged from our data analysis were also similar to those reported by the other professions. These limitations were: a lack of resources and/or professional support; a sense of isolation; an added expense for housing and travel; a lack of privacy; a lack of prior orientation to the rural way-of-life; the limited social activities/amenities; the narrow worldview that seemed to characterize the whole community; and the work overload (e.g., teaching multi-grade classes, or having multiple coaching duties).

Research Methodology

Seventeen members of the cohort of 25 interns anonymously submitted completed surveys, on which no identifying information was recorded. The cohort had completed the extended-practicum in rural schools under the mentorship of one of the authors (who served as one of 14 College-based internship facilitators assigned to the approximately 320 interns who completed their internship in the fall semester of 2011). The cohort was placed within 14 rural schools in five rural school districts in one Western Canadian province. The cohort consisted of 21 females and 4 males, and was representative of the College's annual group of teacher candidates assigned to the compulsory15-credit extended-practicum program. The cohort was also representative of the total College student population, in terms of: the variety of grade levels and subjects taught; the mix of the interns' major and minor teaching specializations; and the range of sizes of school in which they interned.

At the completion of the practicum, we invited post-interns to complete a written survey that asked: (a) What do you see as most positive about interning in a rural school? and (b) What has been most negative? Respondents' confidentiality was preserved, because they were instructed to place no identifying demographic information on the surveys. We then collated and analyzed their responses using the "constant comparative" technique (see, for example, Mills, 2010), in which an inductive analysis of the data was conducted (Best & Kahn, 2006). Using this approach, we engaged in a process of systematically categorizing and re-categorizing the responses, according to emerging patterns or themes from the data. These evolving categories gradually formed a framework for communicating the essence of how the interns perceived their practicum experiences (see, for example, McMillan & Schumacher, 2009).

Findings and Discussion

We found that, in general terms, the majority of advantages and disadvantages reported by the teacher candidates were similar to those identified both in the previous teacher-education research and in the literature for the other professions as well. However, there were a few variations, which we discuss below.

Advantages

With respect to the positive aspects, the 2011 cohort wrote comments that produced the following categories, arranged in terms of frequency of responses (greater to lesser):

- a sense of community
- support from staff/community;
- opportunity to develop a closer acquaintance with one's students and their families;
- smaller classes and being able to engage in a wider variety of school- and community-based activities;
- greater possibility of being considered for a future teaching position
- time for professional preparation and reflection
- fewer discipline problems
- less expensive accommodation

The differences between these categories and those from the previous teacher education research seemed to lie in the varying emphasis placed by the cohorts on each item. For instance, we found that the 2011 cohort was unanimous in mentioning both the tangible sense of community pervading their rural placements, and the strong support provided by their staff/community. These same two categories, although present in previous studies, did not seem to have the same degree of widespread support reported by the recent cohort.

A comparison of the current list of advantages with that identified by the other professions also showed similar results. However, one aspect identified by the non-Education personnel, which was not prominent in the earlier and current Education studies, was that the former highlighted being able to reside in the rural community rather than having to commute a lengthy distance to/from their residences. In fact, as shown below, the Education post-interns identified having to commute as being disadvantageous.

Disadvantages

The 2011 cohort of Education post-interns identified the following negative aspects of their rural practicum experiences (arranged from more to less frequently mentioned):

- the additional expense incurred either in commuting to/from the school or in renting accommodation in the placement community
- the scarcity of professional resources and services
- the sense of isolation/loneliness in being absent from support groups/families
- a lack of privacy in the community
- the added responsibilities (e.g., coaching, supervision, extra-curricular)
- uncomfortable living accommodations
- the sense of not feeling part of the staff/community

As was the case for the positive aspects, a comparison of the drawbacks identified for

rural internships among all three research sources showed an overall agreement across the lists, particularly between those for the Education results. Again, a key difference between these two Education sets was related to the frequencies of the categories mentioned by cohort members. However, one of the two minor disadvantages identified within the earlier Education studies, which were not mentioned by any respondent in the 2011 cohort, referred to the apparent lack of diversity within school/community philosophies. Apparently, some post-interns from the earlier cohorts expressed the view that rural communities seemed somewhat closed, narrow, or uniform in their worldview/outlook (Ralph 2000, 2002, 2003). They also expressed some dissatisfaction with the lack of a pre-orientation for interns regarding rural living.

With respect to comparing the disadvantages enumerated by the Education post-interns with those identified in the literature of the other professions, we also found only minor differences. For instance, the non-Education research reported one aspect not mentioned by the former, namely, limited future job opportunities. Perhaps the aspiring teachers did not view this particular issue as problematic, as did some members of the other professions. Another difference involved the fact that some Education post-interns in both the 2011 cohort and previous studies apparently saw the additional extra-curricular and coaching responsibilities in rural schools in negative terms. The non-teachers, on the other hand, did not seem to consider the workload factor as a drawback, but rather saw their contributions as genuinely helping the community. Other research (e.g., Anzenberger et al., 2011; Igumbor & Kwizera, 2005) has indicated that people from across the professions, who have had prior experience in rural settings (such as having grown up in rural areas), tend to more readily accept the fact that the community expects everyone, including the professionals, to wholeheartedly share the load of performing extra responsibilities as a normal part of rural life. Nevertheless, it should be noted that only a very few respondents from the teacher-intern cohorts expressed hesitation about engaging in the additional activities. The vast majority of interns readily accepted the challenge, and in fact appeared to enthusiastically embrace the extra duties.

Implications and Concluding Thoughts

Before discussing implications of these findings and presenting a set of possible suggestions related to enhancing rural internships, we wish to acknowledge a limitation of this present study, which is common to other qualitative research studies. We investigated only one cohort, thus limiting its generalizability to other situations (Hittleman & Simon, 2006). However, as recognized by research experts in the social sciences, this generalization problem could reasonably be re-framed using the concept of *transferability* (Donmoyer, 1990). This term means, for instance, that leaders from similar settings could freely consider the results we present in this article, in order to gain possible insights to help them inform or interpret the operation of their own programs (Best & Kahn, 2006).

Nevertheless, we anticipate that the university and the rural school divisions, who organized and conducted the rural internships directly involved in this study, may derive the most value from these findings. However, we believe that other educational leaders with interests in advancing rural practica may benefit from our research. That is, by heeding the student voice (Ralph, Walker, & Wimmer, 2008, 2009a, 2009b), we contend that internship organizers will want to continue their quest to achieve two relatively simple goals: (a) to maintain and/or enhance the positive features that have been identified; and (b) to reduce and/or eliminate the negative aspects.

With regard to the possible next steps to be taken by educational stakeholders, we offer five recommendations based on the research findings and their implications for enhancing future programming in rural internships (Boylan, n.d.; Savelsbergh,, 1995; Sharplin, 2002). One implication we draw from the findings of the multi-year research across the disciplines is that many of the negative aspects and concerns (e.g., isolation, lack of resources, costs of travel/accommodation, cultural differences) have been chronically pervasive, but that they could be reduced. This reduction would occur if pre-interns, especially neophytes with no previous rural background, received prior preparation and/or direct rural experience/exposure. For instance, Blackmore & MacNair (1971) and Donald (1993) advised organizers to be more deliberate in providing pre-orientation sessions for all interns assigned to rural placements, in order to pre-alert them to the possible situations that might arise. During these sessions, research findings such as described in this article could be shared and discussed; and former rural-interns could be invited to share their experiences, and offer advice to their peers on how to succeed.

Part of this prior preparation organized by the universities could also include the offering of credit courses directly applicable to the rural educational scene, such as *Teaching in Multi-Graded Classrooms.* For example, one of us has taught such a course for several years at our university, and has found that several pre-interns, who took this course prior to their internship, reported that they found it beneficial, in that it had boosted their professional and personal confidence and competence, and that it had helped reduce their initial fears of having been assigned to a combined-grade placement.

Furthermore, both the university and the rural school divisions could collaborate to help alleviate rural-interns' extra financial burdens (accruing from increased travel and rural accommodation costs, the tuition fees for the 15-credit "practicum course," and the expense to retain their city accommodation until they returned from internship). For instance, the university could offer rural interns a tuition reduction, and *all* rural school divisions could follow the example of some districts who offer their interns a monthly stipend (e.g., $150-$200) to assist them in defraying expenses (Ralph, 2002, 2003). Moreover, the university and school divisions could further cooperate to re-institute a practice that had been adopted in some jurisdictions, which was to establish and maintain an up-to-date listing of accommodation contacts near each rural school. By receiving this list at the initial orientation session, interns could make housing arrangements well ahead of time.

A third recommendation derived from the implications of the research is that both the university and the rural school divisions could co-operate to recruit, train, and reward the mentor teachers in a more deliberate way. Although some of our research has shown that most interns and their co-operating teachers are matched appropriately, there are some pairings that could be enhanced (Ralph, Walker, & Wimmer, 2010; Ralph & Walker, 2011). Such incentives as providing free mentorship workshops or granting graduate course-credit to teachers who mentor interns would help make internship supervision more attractive to potential mentors, rather than being seen as a necessary but burdensome obligation.

A fourth implication deals with rural school divisions' ongoing challenge of attracting, recruiting, and hiring new teachers each year. We endorse an initiative recently introduced by one rural school division with whom we work, whereby the hiring superintendents conduct preliminary job interviews near the end of the internship term with *all* interns placed in their schools (E. Brockman, personal communication, December 20, 2011). Not only does this effort offer an actual interview experience to interns, but it provides the school district with a group of possible candidates from which to arrange follow-up interviews and eventual position offers in

the future.

Another implication that arises from the data indicating a lack of resources is related to how stakeholders could collaborate to eliminate this disadvantage (Ralph, 2003). Possible solutions to help reduce this gap are: (a) to increase the appropriate use of electronic media and technology (Jamieson-Proctor, Finger, & Albion, 2010); and (b) to consolidate the current provisions by several library systems (e.g., the university, the college, the provincial/state ministry of education, the regional/local libraries, and the provincial/state teacher union resources) to co-ordinate the mailing materials to/from interns in the field on a postage-free basis.

We conclude with a statement written by one of the post-interns from the 2011 cohort. We believe that this response captures the very essence of the integrated efforts that all stakeholders are striving to maintain in order to promote effective rural education. It was presented as advice to new interns embarking on their upcoming rural internship experience: "Embrace the uniqueness of this opportunity! Not too many schools can say that every teacher knows every student, nor care enough to know what is going on in every student's life!"

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The Efficacy of Inquiry-based Learning in Undergraduate Physiology

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Abstract

Lecture, where learning is passive, remains a prevalent instructional method of teaching content. Contextualized approaches like Inquiry-Based Learning (IBL) where students are more actively engaged remains less common. For 25 years the literature has supported contextualized approaches. Nevertheless, recent papers have claimed IBL to be an unguided approach that has produced content knowledge deficits. Therefore, we tested whether undergraduate physiology content could be learned using IBL. Four groups of undergraduates (mean ages=23, N=60) took a ten-week physiology course using IBL. A content valid pretest and posttest measured content knowledge. A one-way ANOVA indicated no significant differences within or between groups on the pretest (F=.231) or between the groups on the posttest (F=.119). After collapsing the groups into pre and post, a paired T-test indicated a significant difference between pretest and posttest scores T (32)= -7.61, P>.0001. The data clearly demonstrated significant content knowledge gains and higher than average student satisfaction.

Introduction

Lectures remain a prominent method of instruction in many high schools and colleges where teachers and professors passively engage learners using oration and text rather than one of the newer contextualized learning approaches. One such contextualized approach called Inquiry-based learning (IBL) forces students to actively participate in their own learning while the teacher becomes more of a facilitator of learning. Inquiry-based learning facilitates higher levels of student engagement, critical thinking skills, and knowledge retention. The Association of American Colleges and Universities states that the goal of education is to "provide multiple opportunities for students to engage in 'inquiry-based learning,' both independently and in collaborative teams…to learn how to find and evaluate evidence, how to consider and assess competing interpretations, and assess competing interpretations" (Fitzpatrick & Campisi 2009, p. 354).

Also referred to as problem-based learning (PBL), IBL has been touted as a viable alternative to conventional teaching approaches and has been used in a variety of disciplines (Savery & Duffy, 1995) and educational levels (Savery, 2006). Numerous Institutions of Higher Education, such as McMaster University and Loyola University Maryland, include IBL courses in their curriculums. McMaster has used IBL in its curriculums for more than three decades and other universities are beginning to follow their lead. The contextualized approach of IBL and PBL in particular have become increasingly common at the university level in the past decade, growing from 10% to approximately 80% in university science classrooms (Sundberg, Armstrong, & Wischusen, 2005). Despite this growth, critics question whether IBL can provide students with sufficient content knowledge gains.

Inquiry-based learning flips the responsibility of active engagement from teacher to student. It is defined as "focused, experiential learning organized around the investigation, explanation, and resolution of meaningful problems" (Barrows, 2000; Torp & Sage, 2002) and uses realistic problems such as medical diagnosis or lesson design (Barrows, 2000; Hmelo-Silver, 2004) to fully engage students in active learning and research.

Using a meta-analytic method, Dochy, Segers, Van den Bossche, and Gijbels (2003) reviewed 43 empirical studies on PBL in post-secondary education. The authors found that PBL yielded a substantial positive effect on the skills of students (p. 533). None of the 43 studies showed a negative effect, and there was a moderate effect size on knowledge application that favored PBL students. Brickman, Gormally, Armstrong, and Hallar (2009) also found an increase in content knowledge. Students in IBL laboratories had a content knowledge increase of 4% between pre- and posttests, while students in traditional classrooms showed no significant difference between pre- and posttests. Additionally, Mergendoller, Maxwell, and Bellisimo (2006) found that across multiple teachers and schools, students who were in PBL courses gained more knowledge than students who were in traditional courses.

Inquiry-based learning has also been associated with higher levels of student engagement. Healey and Jenkins (2000), Healey (2005) and Justice, Rice, Roy, Hudspith, and Jenkins (2009) found that the inquiry-based approach increased student engagement in coursework. Kolkhorst, Mason, DiPasquale, Patterson, and Buono (2001) found that students enrolled in inquiry-based coursework were highly engaged and enthusiastic, and post-course journal entries, surveys, and interviews indicated that the students had a sense of empowerment and ownership in their work. Graduate assistants also reported a greater comprehension of the scientific process.

Casotti, Rieser-Danner, and Knabb (2008) noted that inquiry-based physiology laboratories "improve students' critical- and analytical-thinking skills" (p. 286). The authors implemented an IBL approach with three courses: Comparative Vertebrate Physiology (majors), Human Physiology (majors), and Human Anatomy and Physiology (nonmajors). The authors found that an inquiry-based curriculum enhanced the students' comprehension of the scientific approach and of physiological concepts.

Despite the evidence supporting the efficacy of IBL and PBL, Justice et al. (2009) state that there are "extra-pedagogical challenges [with] introducing and maintaining inquiry-based learning in the curriculum" (p. 841) and that the introduction of new pedagogies are often met with resistance at the university level. Contextual learning is not a new pedagogy; it has deep roots in education. John Dewey introduced experiential learning at the turn of the 20th century and therefore contextualized learning approaches have had a long history in the literature but less of a history of implementation in the elementary, secondary, and post-secondary classrooms.

Fitzpatrick and Campisi (2009) describe a project with two groups of students, one in a physiology course and one in a statistics course, who collaborated in physiological data analysis. The IBL approach "aided student recognition of statistics in data analysis…and the use of meaningful real-world open-ended data with no known answer…[was] a major contributor to positive outcomes of the project goals" (p. 354).

Rivers (2002) also developed an inquiry-based laboratory that presented students with an alternative approach for learning physiology. Rivers found that the students who completed this IBL model at Loyola University Maryland exhibited high levels of educational commitment as well as proficiency in the biological sciences. Rivers concluded that students "need the opportunity to be engaged and active in their learning: to do science rather than just learn about science" (p. 317). The author aimed to implement IBL throughout the biology curriculum, with

techniques and topics selected specifically for student engagement. Students worked in groups of 3-4 to develop hypotheses and design experiments based upon their readings of primary research. The student teams developed mini-proposals for each topic and brainstormed with the instructor when alternative approaches were advisable. Student-directed brainstorming sessions using roundtable discussions were expected to generated student-driven solutions.

Elton (2001) found that student-centered teaching and learning processes lead to a "positive nexus for the most able students" (p. 43). Healey (2005) concurred, finding that "appropriately designed student-centered approaches [fostered] deep learning" (p. 7). An increased emphasis on active student engagement would also enhance the research and teaching connection.

Gilardi and Lozza (2009) examined a course entitled "Practical Experience of Internship", which sought to promote students' planning with a particular context. Groups of 8-10 students were paired with real companies where they executed field research projects that related to problems in marketing or organization. Students in this course indicated that they sufficiently mastered the abilities in their assessment questionnaire. The highest ratings, with means above 5.5 out of 7, were for teamwork, reporting, research/intervention design, and self-reflection. Gilardi and Lozza (2009) state that inquiry-based education promotes professionalism and field research practice "encourages a revision of tacit epistemological beliefs among students" (p. 253).

Not every educator believes in the efficacies of contextual learning approaches. Kirschner, Sweller, and Clark (2006) argue that unguided instruction is less effective [than guided instruction], indicating that there is a potential negative effect on student learning when students acquire misconceptions or incomplete information. The authors base this conclusion on the premise that "[minimally guided instructional approaches] ignore the structures that constitute human cognitive architecture and evidence from empirical studies… consistently indicate that minimally guided instruction is less efficient than instructional approaches that place a strong emphasis on guidance of the student learning process" (p. 75). The authors note that the minimally guided approach has been called by various names, including "'discovery learning,' 'problem-based learning,' 'inquiry-learning,' 'experiential learning,' and 'constructivist learning'" (p. 75) but do not discern any differences between these titles.

In a rebuttal to Kirschner et al. (2006), Hmelo-Silver, Duncan, and Chinn (2007) state that the aforementioned authors grouped together disparate approaches, namely, problem-based learning and inquiry-based learning with discovery learning. Hmelo-Silver et al. (2007) note that the "problem with [Kirchner et al.'s] line of argument is that…[they] have mistakenly conflated PBL and IBL with discovery learning" (p. 99). The authors note that Kirschner et al.'s (2006) work has two major flaws: namely, a pedagogical one and an evidentiary one. With the pedagogical error, Kirschner et al. "indiscriminately lumped together several distinct pedagogical approaches: constructivist, discovery, problem-based, experiential, and inquiry-based learning under the category of guided instruction" (Hmelo-Silver et al., 2007, p. 99). The evidentiary flaw relates to their claim that PBL and IBL are ineffective instructional approaches and is "contrary to empirical evidence that…supports the efficacy of PBL and IBL as instructional approaches" (Hmelo-Silver et al., 2007, p. 99). In IBL, students engage in self-inquiry, learning content, strategies, and self-directed learning skills through collaborative efforts. Through this collaborative engagement, students learn content and discipline-specific reasoning skills and practices (Hmelo-Silver et al., 2007). In both PBL and IBL, the teacher is the guiding facilitator to student learning and the approaches are not minimally guided because of numerous forms of

scaffolding, including scaffolding that "makes disciplinary thinking and strategies explicit" (p. 100), "embeds expert guidance" (p. 101), and "structures complex tasks or reduces cognitive loads" (p. 102).

Students in IBL and PBL classes generate more effective solutions to problems and yield higher gains in posttest scores. Hmelo (1998) noted that a longitudinal quasi-experimental study of first-year medical students found that "PBL students generated more accurate and coherent problem solutions than traditional medical students" (p. 103). Similar results were found for preservice teachers in a PBL course in educational psychology. Over the course of three semesters, there were "consistently positive effects favoring the students in the PBL class on targeted outcomes" and on "measures of declarative knowledge, there were no differences…[but] students constructed more integrative explanatory essays for concepts that they had learned using a PBL approach" (p. 103). Kirschner et al. (2006) assert that there is a lack of research using controlled experimentation exhibiting the effectiveness of PBL and IBL methods. Hickey et al. (1999), however, found that 381 students in a PBL course showed significantly larger gains from pretest to posttest than the 107 students who were in [non-PBL] classrooms (p. 104).

With IBL, the focus is on acquiring knowledge and reasoning strategies. Brickman et al. (2009) note that IBL is being promoted to increase skill development among science students. Numerous studies (Brickman et al., 2009; Casotti et al., 2008; Dochy et al., 2003; Mergendoller et al., 2006) find significant content knowledge gains in comparison to traditional curriculums and IBL appears to be a promising teaching method in terms of level of student engagement, increases in student knowledge, and increases in student outcomes as measured by pre- and posttest scores. Given the disparity between fields of thought, a first introduction to IBL with undergraduates might yield the most profound results.

Purpose

While there is a growing body of literature that supports IBL as a robust method, other papers question its unguided effectiveness in making sufficient gains in content knowledge. Despite the evidence supporting the efficacy of IBL and PBL and support for increasing IBL in science curriculums (Brickman et al., 2009) Justice et al. (2009) assert that IBL has "extra-pedagogical challenges…with introducing and maintaining [it] in the curriculum" (p. 841). Kirschner, Sweller, and Clark (2006) argue that unguided instruction is less effective than guided instruction, asserting that it can potentially cause students to acquire misconceptions and incomplete information. Conversely, Hmelo-Silver et al. (2007) argue that in IBL, students "learn content, strategies, and self-directed learning skills through collaboratively solving problems, reflecting on their experiences, and engaging in self-directed inquiry" (p. 100). In IBL, students "learn content as well as discipline-specific reasoning skills and practices…by collaboratively engaging in investigations" (p. 100).

Using federal grant funds from 2001-2004, we demonstrated four distinctively effective IBL approaches using four high schools. A monograph describing this work (DePaepe, 2005) is available at this website - cwu.edu/~ectl/ore/research.html. As a result, a few university science professors began using the IBL approach in content classes. Nevertheless, campus critics voiced opposition using the commonly used cliché claiming that there would be probable deficits in content knowledge. Therefore, this investigation was designed to test whether or not students receiving ten weeks of IBL instruction in an undergraduate physiology class could achieve

sufficient content knowledge as measured by pretest posttest gains. We hypothesized that significant gains could be made. We also hypothesized that student satisfaction scores would not be as high as the university average, because students had not heretofore experienced inquiry-based or problem-based learning approaches, and would be more comfortable learning in a traditional classroom. The study received IRB approval.

Methods

Four groups (N=60) of undergraduate physiology students (mean ages=23) participated in a ten-week IBL course, "Health and Physiological Fitness Concepts for Teachers." The purpose of the course was threefold: 1) To achieve a greater proficiency in searching, reading, deciphering, and evaluating physiology literature that is credible and appropriate for school-aged children; 2) To learn basic physiology principles directly associated with health and fitness for school-aged children; and 3) To demonstrate competence in writing about and teaching basic physiology at a level appropriate for specific age groups. Diversity was low, with 8% Hispanic, 1% Asian, 1% African American, and 90% Caucasian. The IBL course was designed around 19 physiological problems and 36 sub-problems, which the students were required to research, discuss, and arrive to an agreed conclusion. All groups were pretested and posttested using the same content valid instrument. The test questions were partly adapted from the online test in *Applied Exercise & Sport Physiology* text by Housh, Housh and Deveries (2006). For Example: anaerobic metabolism is the production of ATP without Oxygen (true or false); an isocaloric state is achieved when calorie intake is equal to caloric expenditure (true or false); and high intensity workouts are shown to be less effective in improving cardiovascular fitness and reducing fat mass when compared to moderate intensity workouts (true or false).

Three groups were pretested and all four groups were posttested. Groups one (n=13), two (n=18), and three (n=15) were pretested and posttested. To ensure that students did not study for the test and used a true IBL approach, groups one and two were unaware of the posttest. Group three (n=15) was informed of the posttest and had an opportunity to prepare. To examine pretest sensitivity, group four (n=14) did not receive a pretest and had no knowledge of the posttest. While the pretest/posttest design improves internal validity, external validity is sacrificed. Thus, group four provided an accurate gauge of whether the study had both internal and external validity. A graduate assistant examined all of the class results after the course posttests were returned as a means to avoid bias.

Results

A one-way ANOVA determined there were no significant differences between groups on the pretest ($F=.231$) or posttest ($F=.119$). Pretest sensitivity tested negative. Even when group three students were made aware of the posttest and had an opportunity to study, there was no significant difference between their posttest scores and the other groups' posttest scores. Groups (1-3) were combined into two groups and paired (pre and post). A paired T-test indicated a significant difference between pretest and posttest $T(32)= -7.61$, $P>.0001$. All groups also completed an evaluation of instruction. Results of that measure indicated an above university average score on student satisfaction.

Students also gave the course very high ratings in anonymous post-course Student Evaluations of Instruction (SEOIs). The mean score for the confidence in the instructor's

knowledge was 5.00 out of 5.00, compared to an overall university mean score of 4.65. The mean score for meeting the course objectives was 4.93 out of 5.00, compared to an overall university mean of 4.60. The mean score for evaluative and grading techniques was 5.00 out of 5.00, compared to an overall university mean of 4.43. The mean score for the instructor's teaching effectiveness was 4.80 out of 5.00 compared to an overall university mean of 4.34. The course as a whole was rated a 5.00 out of 5.00 compared to an overall university mean of 4.26. All students rated the course "excellent" overall. Written student comments on the SEOI were also unanimously positive, complimenting the course, the instructor, and the level of engagement offered by IBL.

Conclusion

Similar to Rivers (2002), this inquiry-based class provided an invigorating approach for exploring the principles of physiology. Similar to Brickman et al., 2009; Casotti et al., 2008; Dochy et al., 2003; Gilardi and Lozza 2009; and Mergendoller et al., 2006, the students in the current study significantly gained content knowledge. Similar to Healey and Jenkins, 2000; Healey, 2005; Justice et al., 2009, the student engagement level was also high. The culmination of the course involved the creation of end-of-quarter lessons that each student researched and taught their classmates. Internal and external validity were confirmed with a research design that included groups with pre- and posttests, informed posttests, uninformed posttests, and a posttest only.

The undergraduate students in this course had not been introduced to the IBL approach before. The course was an effective demonstration of inquiry-based learning. Most students felt empowered to be unguided in their own learning. While the debate over the efficacy of IBL endures, the evidence for the success of IBL continues to accumulate. Given the statistically significant differences from pretest to posttest content knowledge, high course evaluation scores, and positive comments on the SEOIs, the course appeared to be successful for the teacher, for the students, and for the future of inquiry-based learning in university pedagogy.

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"Community Building Makes it Nice for Everybody"?: Elementary Teachers' Understandings and Practices of Classroom Management

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Abstract

This qualitative research study explored elementary teachers' understandings and practices of classroom management, particularly in regard to their own and students' power, race, gender, and social class. In the first theme, the community building framework "makes it nice for everybody", I work to understand how these white, middle-class teachers embrace this approach due to their race, gender, and class, which engender their desire for pleasantry. The second theme, "hard kids are hard kids": a common sense ideology of difference, emerged from these teachers' understandings of how race, gender, social class, and power influence student behavior and their classroom management practices.

Introduction

Classroom management is a vital concern in schools for teachers, administrators, parents, and children (Duhaney, 2000; Evertson & Weinstein, 2006; Noguera, 1995; Townsend, 2000; Traynor, 2003; Ward, 1995). Teachers are concerned that without a solid classroom management foundation, instructional time will be spent on behavioral problems rather than academics (Hammond, Dupoux, & Ingalls, 2004), and student discipline problems are one reason teachers leave the profession (Evertson & Weinstein, 2006; NCATE, 2005). Since academic accountability is at the forefront of educational reform, administrators view classroom management as a primary factor contributing to increased test scores, thereby meeting state and federal expectations (Noguera, 1995). Finally, parents and children have anxiety about teachers' classroom management skills because of safety concerns, due to incidents of school shootings and focus on bullying (Duhaney, 2000; Ward, 1995).

Classroom teachers believe that good classroom management is one of the most important prerequisites for their success as a teacher (Evertson & Weinstein, 2006). For many practicing teachers, administrators, and teacher educators, classroom management is often understood as merely "techniques" that one learns over time, specific reactions to student behavior that have "worked" in the classroom to gain student compliance, and therefore, can simply be passed down from one teacher to the next. In other words, classroom management is simply a bag of tricks that allow teachers to have their own needs, demands, and goals met through control and compliance. Thus, because of the dominant assumption that classroom management is simply learned by doing rather than a "research-based set of principles, practices, and skills" (Evertson & Weinstein, 2006, p. 4), classroom management as a field of inquiry has been neglected by educational researchers (Brophy, 1988). For example, out of 3,000 presenters at the annual meeting of the American Educational Research Association (AERA), only "two or three sessions are explicitly devoted to classroom management, and tend to be poorly attended"

(Evertson & Weinstein, 2006, p. 3). Further, a meager thirty-seven percent of education professors consider it absolutely essential to train teachers how to establish and keep discipline and order in the classroom.

Consequently, teachers' pedagogical knowledge of classroom management is given little attention in research (Borko & Putnam, 1996). Moreover, Garrahy, Cothran, and Kulinna (2005) found that even rarer in research are *teachers' voices* about the attainment of classroom management knowledge. Additionally, while statistics illustrate that disproportionate discipline rates do exist for African American males and low socioeconomic students (Gordon, 1998; Mrozowksi, 2002), little research has been conducted that explores the role that teachers may play in these statistics. Although there has been a recent attempt to situate classroom management within the changing demographics of schools (Weinstein, Clarke, & Curran, 2003), there has been little research that has explicitly explored how teachers make sense of these changing demographics, specifically in regard to their understandings and practices of classroom management.

Background to the Problem

In spite of the increased attrition rate of teachers due to classroom management problems (Evertson & Weinstein, 2006; NCATE, 2005), the rapidly changing demographics of schools (Ladson-Billings, 2003), the disproportionate discipline rates of African American males (Gordon, 1998; Mrozowksi, 2002), and general public concern for management in the classrooms, little research has been conducted to understand how teachers make sense of the role that race, gender, social class, and power play in their classroom management practices. Instead, dominant classroom management discourse generally describes teachers who demonstrate effective classroom management skills as those who "arrange the environment for learning, and maintain and develop student-appropriate behavior and engagement in the content" (Rink, 2002, p. 136). Strategies such as rewards and punishments are implemented in the same manner with all students in all contexts in order to develop and maintain "student-appropriate behavior" (Rink, 2002, p. 136). Surprisingly, even in light of the recent community building discursive shift in the field of classroom management, these dominant classroom management strategies remain teacher-centered. Further, dominant classroom management discourse lacks an understanding of how *teachers' identities* influence their classroom management philosophies and practices.

Finally, the majority of classroom management literature is not situated within a critical framework and offers readers more of a "how-to" discussion of classroom management and student behavior rather than an exploration of *why* and *how* teachers implement particular philosophies and practices in light of their own and their students' race, gender, and social class. Additionally, researchers have not given specific attention to exploring how power and dominant ideology operate in teachers' understandings and practices of classroom management. I focus specifically on elementary teachers due to my own elementary teaching experiences, and because the literature on "elementary classroom management is not a mature field situated within a disciplinary community that might give rise to a rigorous and substantial body of tightly reasoned scholarly texts and refereed research reports" (Carter & Doyle, 2006, p. 373).

Therefore, the problem this study explicitly addressed is the missing critical exploration of practicing elementary teachers' understandings and practices of classroom management, particularly in regard to their own and students' power, race, gender, and social class. This

research project generated qualitative interview and observational data to address these questions:
1. What are elementary teachers' understandings and practices of classroom management?
2. How do elementary teachers make sense of the role that race, gender, social class, and power play in these classroom management understandings and practices?

Theoretical Framework: Critical

A critical theoretical framework guides this study as it addresses the ways in which reality is shaped for the participants by their economic, cultural, social, political, ethnic, historical, and gender values as well as institutional policies and practices (Dimitriadis & Carlson, 2003; Freire, 1988; Giroux, 1988; Gramsci, 1971; Kincheloe & McLaren, 2003; Lewis, 2005; McLaren & Farahmandpur, 2003; Weiler, 1988). In addition, critical theory allowed to explore the ways that "privileged groups (i.e. white middle-class people, including myself) have an interest in supporting the status quo to protect our advantages" (Kincheloe & McLaren, 2003, p. 437). Therefore, dominant classroom management ideology is a "manifestation of the discourses and power relations of the social and historical contexts that produce" it (Kincheloe & McLaren, 2003, p. 235). Teachers' understandings and practices of classroom management are socially constructed; context, power, and ideologies are all factors that must be taken into account when trying to describe and explain teachers' understandings and practices of classroom management in light of their own and students' race, gender, social class, and power.

To do this, I draw from both Critical Race Theory (CRT). Critical Race Theory assisted me in the exploration of the relationship between race, racism, and power (Brantlinger & Danforth, 2006; Decuir & Dixon, 2004; Delgado & Stefanic, 2001; Delpit, 1995; Fine, 1991). I utilized CRT to explore the role that race and racism played in teachers' classroom management understandings and classroom management interactions. Critical Race Theory prepared me to critique the liberal progressive ideology of "race is something good people simply do not notice" (Guinier & Torres, 2002, p. 51), which was prominent at this school and articulated by my teacher participants. This liberal ideological framework adheres to the notion that "race talk" increases racial inequalities, and Critical Race Theory guided me in my critique of this notion of colorblindness and assisted me as I explored if colorblindness plays a role in the participants' understandings and practices of classroom management (Crenshaw, Gotanda, Peller, & Thomas, 1995; Delgado, 1995; Ladson-Billings & Tate, 1995; Nebeker, 1998).

Rather than understanding racism from a psychological view, described as simply a misperception or prejudice, I viewed racism "as a structural arrangement among racial groups" (Sleeter, 2005, p. 244). Thus, understanding the distribution of privilege and power gained from being white was explored in this study. For example, when asking teachers about disproportionate discipline rates in schools today, most defensively replied or directly avoided addressing this issue; thus, "when our social status is threatened, we tend to become even more conservative in order to protect our material gains" (Gordon, 1985, p. 37).

Power. Power must be understood as an "active process, one that is produced as part of a continually shifting balance of resources and practices in the struggle for privileging specific ways of naming, organizing, and experiencing social reality" (Giroux, 1988, p. 101). For example, the current federal emphasis on evidence based practices aligns with Giroux's (1994) argument that teacher education, and education as a whole, is about the use of techniques. Instrumental or technical rationality is one feature of contemporary society that critical theorists

believe causes continued oppression (Kincheloe & McLaren, 2003). The notion of rationality is situated within how-to discourse to determine "techniques, procedures, and correct methods" (Kincheloe & McLaren, 2003, p. 438); methods and efficiency are valued over purpose. Dominant classroom management discourse is situated within this instrumental rationality and ignores the role that teachers' and students' identities play in the classroom. Dominant classroom management approaches, therefore, are based on characteristics (i.e. white middle-class) that are assumed to represent all students, ignoring gender, ethnic, and social class differences (Hammond, Dupoux, & Ingalls, 2004). For example, teachers often believe that strategies such as positive and negative reinforcement can provide rewards or punishments that are consistent with the needs of all students in order to gain compliance with classroom rules (Hammond, Dupoux, & Ingalls, 2004).

Although dominant classroom management literature claims to be preparing teachers to develop classroom communities where students are self-regulating and working together to promote classroom unity, the methods teachers are implementing remain controlling in nature partially due to "that accountability thing" as described by one first grade teacher. In light of the federally mandated high-stakes tests, it becomes apparent that current educational practices are more interested in methods and efficiency than in purpose (Giroux, 1994; Kincheloe & McLaren, 2003). Thus, the "recipe knowledge" (Berger & Luckmann, 1966, p. 42), which dominates classroom management literature, is a mechanism of power used to "control," "reward," or "punish" student behavior and to shape teachers' understandings of appropriate classroom management. Moreover, it is assumed that the practice of reinforcement naturally facilitates behavior change; however, the teacher has the ultimate power to control, arrange, and monitor the environment to promote the behavior change (Alberto & Troutman, 2003).

Therefore, the critical project I work towards is suggested by Hytten (1999) who argues for practitioners to "interrogate the power dynamics behind the valuation of only certain forms of cultural capital and show how social institutions, the media, and schools often help reproduce, rather than challenge, inequitable social relations" (p. 530). Thus, this critical inquiry into teachers' understandings and practices of classroom management assisted me in the exploration and understanding of hegemonic classroom management discourses.

Research Design and Methods

A case study of teachers' classroom management philosophies and practices in one multiracial elementary school was conducted to explore teachers' understandings and practices of classroom management, particularly in regard to race, gender, social class, and power (Merriam, 1998; Stake, 1994). A case study was employed to examine how elementary teachers make sense of classroom management in one social context and the complexity and interrelatedness of multiple factors rooted in this context (Glesne & Peshkin, 1991; LeCompte & Preissle, 1993; Stake, 1994). Case study methodology was used to invite the readers into the everyday lives of the teachers as they make sense of and reason through classroom management pedagogy. Specifically, this research approach would help readers understand how elementary teachers within one school make sense of the role that race, gender, social class, and power play in their classroom management in order to initiate a more critical discourse within the field of classroom management.

I observed students and staff three to five days a week over a four month period. Field work included observations of teachers implementing classroom management pedagogy as well

as informal interviews with teachers on the playground, in the cafeteria, hallways, and teachers' lounge. Close to 450 hours were spent at Benton Elementary, and roughly 125 single-spaced, typed observational field notes were collected. A myriad number of hours were spent in the field to observe how my teacher participants practiced their classroom management understandings and explore how and when these teachers talked informally about race, gender, and social class, either with other staff members or me. In addition to informal interviews with and observations of teachers, I employed in-depth formal interviews with teachers and staff and collected school documents such as discipline records, academic materials, and school-wide management programs. The first round of interviews was guided by an interview protocol as well as field notes from informal conversations and classroom observations. In addition, a second round of interviews was conducted with the participants. This was designed to clarify any questions from the first interview, explain particular moments from observations, and allow the participant to correct any misinformation from the first round transcripts. For example, the following questions were used to help guide the second round of interviews: What new questions do I have for the teacher? Do the participants have questions? What have I miss? All participants in this study were female (7 Caucasian, 2 African American). Each interview was tape recorded and transcribed verbatim.

Data analysis refers generally to anything the researcher does with the collection, management, and reporting of data (Wolcott, 1994). More specifically, analysis is the "systematic procedures followed in order to identify essential features and relationships" with the data (Wolcott, 1994, p. 24). After the first interview, observation, document collected, and/or personal anecdote was documented, the analysis began (Maxwell, 1996; Merriam, 1998). Daily, I read and reread each data source and reviewed my research questions and the purpose of my study in order to make personal notes about the data. I wrote reflective memos to document initial reactions to the data, emerging themes, and guidelines for the following observations and interviews (Merriam, 1998). Observational field notes, interview transcripts, and documents collected were compared to each other throughout the data collection process. I searched through the data for commonalities and patterns as well as topics my data covered and designated words or phrases to label each pattern or topic (Bogdan & Biklen, 2003). I continued to compare incidents from observations or comments from teachers with each other in order to explore similarities and differences among the data (Merriam, 1998). I used constant comparison in order to chunk the data into meaning units.

The constant comparison method allowed for me to look for patterns across the data (Bogdan & Biklen, 2003). The chunks were coded according to overarching commonalities illustrated in the data. As I coded the data, I looked for connections and disjunctures between teachers' practices and understandings, in order to attempt to understand how classroom management is multidimensional. Also, a matrix was made to sort out and place findings into meaning units, or categories. This display of data offered me a clearer picture of the teachers' understandings of classroom management, because I was able to make note of the frequency of events, commonalities, and differences among data (Merriam, 1998). As I continued to collect data, code, and write, I collapsed categories together to form large themes that later served as a tool for writing up the analysis.

Community Building Approach Makes it Nice for Everybody?

In theme one, I explore how these community building practices appeared to "make it nice" for the *teacher* and not necessarily all students. Although, these Benton Elementary

teachers aim to ensure that all students have the opportunity to reach their highest academic achievement by starting the school year with firm classroom rules and expectations for behavior, I observed how this community building approach to classroom management remains teacher-centered, with a traditional style of solving classroom management incidents. Thus, I ascertained that these teachers embraced the relationship building approach for their own purposes; "building peer relationships" was code for an attempt to gain classroom control by "knowing who works well together."

Community building makes it nice for the teacher. To explore how the supposedly student-centered, community discourse is simply a means for developing controlling, teacher-centered classroom management practices, I draw from observational notes along with interview excerpts and weave in theory to demonstrate that the community building approach to effective classroom management is simply behaviorism re-titled with a progressive-sounding name. Although teachers believe they are developing collaborative learning communities, and they trust that their practices are fostering such environments, their use of progressive language such as democratic and community, does not match their classroom management practices. Consequently, these participants' practices in the classroom setting did not directly align with their understandings of what constitutes a student-regulated, community approach to successful classroom management. Although a few teachers said they were trying not to be "overly dominant," they were constantly seeking control of their students during instruction by using clapping patterns, counting down, and raising their hand in the air in effort to gain student attention, all of which are re-titled behavioristic techniques. Thus, it appears that the community building framework remains teacher-centered and does not take into account individual student's needs and the possible role that student's background plays in behavior or a teacher's responses to behavior.

Throughout the year, the following examples were recorded as various ways these Benton Elementary teachers reinforced students to display socially appropriate behavior by offering "a lot of upfront teaching."

> (Teacher singing) "Ch, Ch-Ch, Ch, Ch-Ch," is the signal for the students to gather on the carpet. Class sings and moves around stretching and warming up for the day (First grade, field notes).
>
> Snaps two times and students are to put their finger in the air to "sky write it."
>
> 5 clap repeat is used to get eyes on teacher (First, second, sixth grade, field notes).

Further, Barbara implements numerous verbal and non-verbal "tricks" to teach students how to move about the classroom and follow her directions, and the following field note illustrates the success of her strategies.

> The students are able to move in and about the classroom pretty freely. They are to use a sign language signal for the bathroom when they need to go. Works pretty effectively. Seems like less "control" and more freedom. After about 10 minutes of work time at the centers, she shakes a rattle thing and the kids are silent and still. She is going over the task and the room is quiet momentarily (First grade, field notes).

Although these well-intentioned teachers attempted to create a classroom environment that embraced group processes and active learning, the underlying political and epistemological implications of this community building approach to classroom management were ignored. For example, a focus on individualism permeates the community building framework, in that each student is responsible for their own success or failure (academic and behavioral), and the

function of schooling is not examined. For example, in the Benton Elementary School Management plan, teachers are to:

> Acknowledge that *self-discipline* is the culmination of a process that takes years to accomplish. The major goal at Benton is to help children assume increasing responsibility for their behavior and to accept the consequences which follow *their* actions (Benton school documents).

According to the American Dream, *choosing* to get a quality education facilitates social mobility toward middle-class status. Competition is often a "trick" used within a these teachers' classrooms to help students make better behavior choices; however, when students are uninterested in the "prize" granted after the competition, do not see the benefits of competing, or see that their failure is inevitable, then this strategy often results in some students "tuning out." Therefore, meritocractic schooling inevitably separates students along race/ethnicity and social class lines (West, 1997). For example, this teacher states, "In fact I tell the kids this, 'you know if you want to tune out that's your business'" (C. Holt, personal communication); thus, it is the *students'* fault that they fall behind academically.

The focus on individualism, self-regulation, and meritocracy writ large shaped this classroom management discursive shift (Pruitt, 2004). Promoting self-regulation perpetuates the ideological hold of educational meritocracy; after all, most white middle-class people "believe that meritocracy must be real because it has always rewarded their hard work" (Pruitt, 2004, p. 236). A critical approach is used to explore how and why these well-intentioned teachers' community building classroom management practices appeared to be contradictory to their understandings and the progressive-sounding goals this framework claims. Central to the contradictory understandings and practices of these teachers was a *common sense ideology of difference*.

"Hard Kids are Hard Kids": A Common Sense Ideology of Difference

The second portion of my analysis, a common sense ideology of race, gender, social class, and power, emerged from the data as the foundation for these teachers' community building framework. I hope to demonstrate how this common sense ideology of difference is non-threatening and comfortable, particularly for white middle-class female teachers to use and embrace, and thus, it makes it nice for them. For example, they often replaced the term "race" with "culture" or ignored both and believed that "family background" was the most influential factor to their classroom management understandings.

> I think the only thing that might be different is how I talk to their parents about the problem. Because different parents react differently. But I think that a lot more has to do with the parents (Field notes).

The focus on "family background," however, "displaces a discussion of the increasingly gender- and race-shaped class hierarchy, shifting the focus from economic well-being to family structure" (Bettie, 2003, p. 6). This class and race hierarchy was illustrated in the demographics of those "written up" for behavior disturbances at Benton. These teachers believe that "because the students do not have the structure at home," *they* are at fault for misbehavior, not the structures of schooling. In both explanations, she situates the problem according to students' ascribed characteristics; these "natural" characteristics often require Benton teachers to do "a lot of up front teaching" in order for students to display "positive school behaviors."

> Sometimes I think it has a lot of the discipline rates have to do with the achievement gap.

> You know boys do not achieve quite as well in schools, anyway so then you add on the African American discrepancy too and they get even more frustrated and use more attention getting behavior to get out of work or whatever (M. Burke, personal communication).

She attributes the disproportionate discipline rates to low achieving boys, and to the racial stereotype of African American boys assumed to embody more "attention getting behaviors" so they may "get out of work." The Benton teachers believe that they have to "kind of culturalize them for schools, or schoolize them or something like that of the expectations because a lot of them don't have those at home" (M. Burke, personal communication). However, only certain groups, of what Meredith referred to as the "clientele," needed "culturalized or schoolized." What is problematic about this "code" language such as, "clientele" that do "not have the structure at home," often means for white teachers, students of color and those from low socioeconomic backgrounds.

> Um…I think that hard kids are hard kids… and, um I definitely don't think that I am harder…um, on you know, one group than the other (C. Holt, personal communication).

However, throughout my time in their classrooms, it was evident that when they responded and how they responded varied from student to student. At one end of the continuum was an immediate response such as an exit from the group or classroom, and at the opposite end was a complete overlook of the misbehavior since some students "generally don't misbehave" (S. Albert, personal communication).

> Students are to find a "silent" spot to work on their writers' workshop.
> (African American boy) "You said we could choose where we want to sit."
> "I choose because I want you to sit here. You are not working well with him today. You need to stop arguing with me" (Second grade, field notes).

Although these Benton teachers generally avoided talking specifically about how race influenced their classroom management practices, and referred to socioeconomic background instead, they were able to discuss their understandings of the influence of gender, and their practices were reflective of these understandings: "I think that, when you have a high percentage of boys in your classroom it is very very noticeable (ha ha)" (Field notes).

> The boys sometimes have troubles with that (self-control), they are very impulsive…You know, they think it…do it. They are just more action oriented (M. Burke, personal communication).

Boys were seen as "rambunctious" and "impulsive," and consequently, these teachers believed they needed to quickly intervene in any potential misbehavior situation. Girls' behaviors, however, were often those that fell under the "rudeness" or "calling people names" category, or relational in nature. For example, girls were understood to "fall in line better," and thus, they were often given compliments for "doing the right thing," were given more opportunities to correct their own behavior, and received less behavior interventions.

> "I am looking for people ready to listen" (4 girls are pointed out as listening).
> "Everyone at the yellow table is working quietly" (all girls are sitting at this table).
> "I love the way you three girls are on-task."
> The orange table is thanked for "not talking" (all girls).
> (Second grade, field notes).

Thorne (1993) critiques this "different cultures" approach by stating, "it collapses 'a play of differences that is always on the move' (in Edward Snow's phrase) into static and exaggerated dualisms" (p. 126). For example, within the community building framework, teachers are

prepared to ignore minor misbehaviors, those they typically labeled as behaviors girls exhibited, and intervene immediately when a "student is taking away from others' learning," which was understood as a time when a student is being "rambunctious and loud," or behaviors boys often illustrate. The preconceived notions of students' behavior that these teachers held, "with girls it's that, snippy, sneaky, girl thing" and the boys "just kind of get mad and it's over," questions the possibility of a true "sex-equitable" classroom.

Conclusion

I learned that Benton teachers' classroom management discourse rests on a common sense ideology of difference that is comfortable for teachers (particularly white middle-class females), because it provides teachers with space to avoid race (by hiding under the language of "culture or socioeconomic status"), but also provides them space to locate gender dynamics in classroom management as natural and permanent differences among the students. Within this community building framework, teachers adopt technical classroom management strategies that are deeply embedded in *common sense* ideologies of difference that focus on "efficiency and control" rather than critique (Giroux, 1988, p. 4). A "treating all students the same" approach does not appear to be working in light of this school's disproportionate discipline rates as well as those throughout the country.

As the demographics of schools are rapidly changing (Ladson-Billings, 2003), and the disproportionate discipline rates of African American males are not only present at this school, but also appear across the United States (Gordon, 1998; Mrozowksi, 2002), it becomes clear that the interrogation of race, gender, social class, and power is needed within dominant classroom management ideology in general, and this community building framework specifically. In this study, it appears that because of the discursive shift from "classroom discipline" to "classroom management" to "classroom community," there should also an ideological and pedagogical shift. However, teacher-centered practices geared toward specific "clientele" appear to be implemented at Benton; as opposed to the community framework that claims to work *with students* to solve classroom incidents.

This research works to extend the culturally responsive discourse (Gay, 2002; Weinstein, Clarke, & Curran, 2004) by infusing a critical theoretical perspective of race, gender, social class, and power into the classroom management discourse. Therefore, in order to identify and critique how hegemonic dominant ideology, social stratification, and power influence teachers' classroom management understandings and practices, and students' academic and behavioral outcomes, this study initiates a more critical discussion of classroom management in an effort to eliminate the disproportionate rates of African American males. Thus, the hope is that a continued discussion takes place that addresses: for what and whose purpose does dominant classroom management ideology serve? And, who benefits and how?

Limitations

Classroom management has multiple layers. It is not simply about having control of the environment to ensure the safety of the students. It entails knowing yourself as a teacher, understanding who your students are, and having effective, meaningful, and engaging pedagogy. That is why it is essential to explore each layer of classroom management in order to help pre-service and practicing teachers gain an understanding of how to determine what constitutes

effective classroom management in their classroom; this type of endeavor was beyond the scope of this study. I did not specially attend to the academic facets (culturally responsive teaching, Benton's curriculum, and teachers' pedagogy in general) of classroom management; these are necessary to better understand how academic pedagogy and race, gender, social class, and power impact classroom management discourse and practices. I believe that another limitation to this study is that I was often *negatively* "critical" of these teachers' understandings and practices. I questioned many of the practices they were implementing; however, I implemented many as a teacher myself. I often overlooked the accountability of teaching in this reform age, and that academically productive, controlled classrooms often equates to job security; being critical of their own practices that "work" is often not a financial option for them. Thus, social, economic, and political institutions policies and practices shaped how these teachers understood and practiced classroom management pedagogy.

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Because It's a Girl Cake!: Fostering Dialogue About Gender Identity in Elementary Classrooms

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Abstract

In this documentary account, a kindergarten teacher and teacher educator describe our efforts to explore how young children think and reason about gender expression in and beyond the classroom. We describe our ongoing collaboration to develop a framework for teacher-initiated and student-initiated conversations about gender, which often result from students' spontaneous remarks and questions about gender norms. We explore the question, How can educators create relevant and engaging learning opportunities to invite young learners to discuss gender norms within the classroom? In this paper we share kindergartners' conversations about gender and three examples of their writing about this topic. We conclude that an inquiry approach to teaching, that aims to be respectful of and responsive to students developing ideas about gender identity, is both possible and necessary.

The conversation below sparked our interest and curiosity, and made us consider how gender is thought about, seen, portrayed, and discussed among elementary students.

A student teacher reads a poem; kindergarteners stand up when their birth month is read and the observing teacher educator stands when May is read. Later the teacher educator works with two kindergarteners to sound segment words and spell them phonetically (e.g., iz for eyes) as the student teacher confers with individual students. The teacher educator leaves, and the class has the following conversation.

Student Teacher: Isn't my friend nice?

Female Student & Male Student: Ya!

Female Student: Is she a boy or a girl?

Student Teacher: She is a girl.

Female Student: She has short hair.

Male Student: And she's REALLY tall!

Student Teacher: Do any of us have short hair?

Students: Boys have short hair!

Student Teacher: Can't girls have short hair?

Class: NO!

Male Student: Ya.

In this paper we describe our efforts to explore two questions.

- How do elementary students understand gender identity and gender norms?
- How can we create relevant and engaging learning opportunities to invite young learners to discuss gender norms within the classroom?

Questioning Gender Stereotypes and the Binary Framing of Gender

Multicultural education advocates argue that curriculum should draw on students' experiential background and daily experiences and "be reformed so that it regularly presents diverse perspectives, experiences, and contributions, particularly those that tend to be omitted or misrepresented when school conduct 'business as usual'" (Sleeter & Grant, 1994, p. 185). We believe that "socially significant yet potentially contentious issues pertaining to identity, diversity, equity, and inequity can be shaped into useful educational experiences" (Nelson, 2009).

Despite the inroads made by feminist, gay rights, and transgender rights movements in questioning the binary framing of gender, "the notion of how each of us must look, act, and dress because of our sex is deeply embedded in our society" (Wilchins, 2004, p. 8). Identities such as man or woman are assumed to be "real, natural, and universal," suggesting a common and uncomplicated sense of identity (p. 124). Gender "difference" research demonstrates that boys and girls have very small, in fact tiny, differences in their cognitive abilities, but that a much stronger influence in how children learn stereotypical "boy" and stereotypical "girl" behavior is through the influence of parents, teachers, and messages from society (Rivers & Barnett, 2011). Children internalize and enforce binary gender stereotypes (Moss, 2007; Katch & Katch, 2010; Pelo, 2005).

While boys and girls are more alike than they are different, educators and parents are bombarded with media reports that make sweeping generalizations about differences between boys and girls. "We hear that boys are interested in objects while girls are interested in people, that boys have poor verbal skills and girls can't do math, that boys need to read books about combat and girls need to learn science through cosmetics" (Rivers & Barnett, 2011, p. 2). Educators make recommendations for boy's classrooms that are active and noisy, full of hands-on projects, and writing assignments focused on hunting or racecar driving. Educators make recommendations for girls' classrooms characterized by a gentle atmosphere and quiet and hushed tones, where girls focus on building social relationships, and writing assignments focused on writing about a dream wedding dress or perfect birthday party. These sweeping generalizations about *all* boys and *all* girls are toxic for students, educators, and parents; they reinforce rigid stereotypes about how boys and girls are supposed to behave and limit our ability to "see students as individuals and encourage them to stretch beyond stereotypes and discover a

range of talents" (Rivers & Barnett, 2011, p. 160).

In contrast to educational recommendations based on general stereotypes, critical educators advocate for classrooms that, " . . . open up discursive spaces where dominant perceptions of "normal" bodies can be explored, critiqued, and reconsidered" (Jones & Hughes-Decatur, 2012). Critical educators seek to foster and sustain cultural pluralism, create educational environments that support students to question and challenge normalized discourses, and engage education as instrumental in working toward a society that is more equitable and humane (Jones & Hughes-Decatur, 2012; Martino & Pallotta-Chiarolli, 2005; Paris, 2012; Ritchie, 2012; Weaver-Hightower, 2003). As Gallas (1998, p. 13-14) so eloquently writes,

> "(children) are experimenting in the laboratory of the classroom . . . These children provide us with a mirror within which to contemplate both how they approach and negotiate the murky world of social relations, and how we, as adults, are approaching it. It is sometimes a disturbing reflection for us to consider, but it is always a provocative one" (p. 13-14).

Educational psychology is a dominant framework in describing and understanding classrooms (Kohn, 1999). Developmental psychology, while helpful for naming patterns of brain develop and behavior (Wood, 2007), often focuses elementary educators on children's developing brains and bodies, rather than the complexity of socialization within communities. Engaging the murky world of social relations can help us move beyond simplistic rhetoric and recommendations for "boy friendly" and "girl friendly" educational practices to "better understanding of the implications of the various masculinity taken up by boys (and girls!) in school" (Weaver-Hightower, 2003, p. 488). In addition, gender expression takes on different meanings in different cultural groups; reinforcing limited conceptions of race, gender, and sexual orientation essentializes communities and excludes individuals who do not conform (McCready, 2010). Listening to students' perspectives and questions allows students and teachers to interrogate assumed definitions of what is means to be a "normal boy" or "normal girl" (Martino & Pallotta-Chiarolli, 2005).

Documentary Account and Teacher Identity

This documentary account describes our efforts to explore how the limiting binary framing of boy or girl impacts young children's thinking and reasoning about gender expression (Katch & Katch, 2010; Pelo, 2005). We describe our ongoing collaboration to develop opportunities for children to discuss gender identity and gender norms. We are working to develop a framework for thinking about how teachers can initiate conversations about gender, or how the conversation can begin, as the result of responding to students' spontaneous remarks and questions about gender norms.

This inquiry is the result of our shared curiosity about how young learners think about gender identity and gender norms. Through our collaboration we have engaged the tradition of reflective practice by asking as teacher-researchers questions such as, "What can I make of this?" and "What have I really been doing?" (Schön, 1983, p. 241). By asking questions about our experiences, we theorize about teaching and learning and create living educational theory (Whitehead, 2003). Cornbleth (2008) notes that when considering the growth of new teachers in relation to how they engage difference within schools and in society, not enough attention is paid to "what happens in practice in student teaching and beyond" (p. 9). By situating teacher educator, teacher, and elementary student thinking in relation to each other, we are not trying to

prove a causal connection, but instead consider how looking at student engagement and student work helps educators improve their teaching.

The two authors, a teacher educator and a kindergarten teacher, met in the Spring of 2010 in the context of an undergraduate education course focused on classroom teaching and learning. During the 2010-2011 school year we worked together in a Master of Arts in Teaching (M.A.T.) program, having frequent discussions and email exchanges about conversations occurring in Mr. Wacker's student teaching classroom—a kindergarten class. This year, during Mr. Wacker's first year of teaching kindergarten, we continued our collaboration and developed a workshop on gender and learning for M.A.T. candidates. Throughout the two-year collaboration we have intentionally written down students' remarks, documenting in writing the nature of conversations about gender identity and gender norms in the classroom. In writing this article we discussed each conversation in depth and shared our perspectives about the important s moments in each conversation.

The social identities and unique biographies of each educator influence teacher actions (Nelson, 2009). Our collaboration continues to be influenced by our identities. Thus, here we share some facets of our identities and our experiences, with the understanding that our identities are not static, but always changing, and that identifying in a particular way is both helpful and problematic. Mr. Wacker is a straight man who played and coaches football. He is one of five male teachers out of the 40 teachers at the school (12.5%). The vast majority of elementary teachers are women; only 18% of elementary school teachers in the United Stated are men (Bureau of Labor Statistics, 2011). Amy is a teacher educator. She is a lesbian. She identifies as a woman, despite the fact that many people, both children and adults, regularly mistake her for a man.

Framework: Teacher Initiated Conversations and Responding to Children's Questions

As we have worked together to develop learning experiences to support young learners to discuss gender identity and norms, we have identified two ways to foster conversation and dialogue among students and between teacher and students. One strategy we have found productive is to use picture books or writing lessons to intentionally and purposefully open up dialogue about gender; we call this strategy teacher-initiated conversations. A second strategy involves being open in ongoing classroom dynamics and conversations to listen for, and authentically respond to, children's comments and queries about gender; we call this responding to children's spontaneous remarks.

Teacher-Initiated Conversations

Teachers can create an inclusive and safe environment for students by systematically and intentionally presenting diverse perspectives and experiences. Some educators suggest, "Teachers and schools need to talk explicitly about gender bullying and how to interrupt it" (Moss, 2007, p. 54). Teaching expressions like "You can't say that boys [girls] can't play" and "That's weird, being boys and girls doesn't matter here" (p. 53) can give students a language to use to challenge sexist remarks. Other educators advocate using "and" statements to help students respond to remarks that reinforce the gender binary and to stand up for who they are, and their activity choices. For example saying, "I'm a boy and a princess" (Riseman, 2009, p. 2). In our work, rather than teaching particular responses, we focus on initiating learning

conversations where students can share their thinking about their likes and interests and their perceptions of gender in the classroom and in society.

Picture books. Teachers can intentionally and purposefully raise gender identity as a topic of discussion thorough the use of picture books. Stover (1992) argues that youth should experience texts that "validate their own experience as young men or women, but also challenge that experience, perhaps showing them options of which they have been unaware" (pg. 94). Below is a transcript of a conversation sponsored by the book *10,000 Dresses* (Ewert & Ray, 2008).

> Mr. Wacker: We're going to read a really special book today. I want everybody to have special attention while I'm reading. Let's make sure to remember the characters and beginning, middle, and end of the story (shows the cover of the book, which is orange and red and depicts a boy wearing a dress and smiling). The book we're reading is 10,000 Dresses. What do you think the book is going to be about?
>
> (One boy blurts out): He's gay.
>
> Mr. Wacker: What do you mean by that? I know that word can mean a couple things.
>
> Male student: Well, I mean….
>
> A different Male student: It means you like boys.
>
> (Other students respond with these descriptions of "gay": lonely, sad, alone, weird, scary, nerd, stupid)
>
> Mr. Wacker: Ya, you're right. It can also mean you're happy. Why do you think he's gay?
>
> Male student: Because of the dresses.
>
> Mr. Wacker: Ahhhh. I see, well let's read the book…
>
> (After reading the story the students discussed whether or not they thought it would be okay for boys to make and wear dresses if they wanted to. Students had a range of perspectives, but the majority of the students felt it would be okay.)
>
> Female student: It would be okay if it would make him happy.
>
> Male student: It would make the boy sad if he wasn't allowed to wear dresses.
>
> Three male students: Boys cannot not wear dresses!!
>
> Male student: My dad told me boys can't wear dresses.

In this conversation students suggest that dresses are not appropriate clothing for boys and note that boys who wear dresses are gay, demonstrating how gender identity is used to make

assumptions about sexual orientation. One student also explicitly states how parents influence how young learners view gender norms, "My dad told me boys can't wear dresses." We wonder how the conversation came up between the boy and his father. Was there something on TV? Did he see a dress in a store that he liked? Did he want to wear a dress? We also notice that some students are reasoning in terms of individual happiness, "It would be okay if it would make him happy," whereas other students are thinking about boy versus girl norms "Boys cannot wear dresses!!" The conversation allowed students to share their reasoning about individual happiness in relation to societal gender norms and to experience different points of view.

Writing. Another way teachers can initiate conversations about gender norms is to create writing lessons focused on the topic of gender norms in the classroom. "[C]hildren's storytelling activity is embedded in the ongoing framework of their everyday group life—in the "real world" of their classroom mini-culture" (Nicolopoulou, Scales, & Weintraub, 1994, p.104-105). Dyson (1997) argues that, "diversity is a potential classroom resource for individual and collective growth" and that classroom conversation and writing can develop "newly imagined ways of depicting human relationships" (p.6). Below we describe a writing lesson focused on the different choices student make during free time. We then analyze three representative examples of student writing.

> Mr Wacker: So, I was noticing during choice time some girls like to play with certain things in the classroom, while the boys play with different things. Are there things in the classroom that only boys and girls play with?
>
> (Several hands go up, some students shout out "yes" or "no")
>
> Female student: Ya, girls only like Playdoh.
>
> Male student: I play with the Playdoh during choice time too!
>
> Mr. Wacker: Oh…so do only girls play with the Playdoh?
>
> Female student: I don't think so. No.
>
> Mr. Wacker: Well, I always see a lot of boys playing with the trains. What do you think about the trains?
>
> (Several boys agree with wiggles of excitement and hands in the air)
>
> One female student shouts: I like the trains. I play trains with Marcos.

The discussion continued with the teacher and the students suggesting different activities and objects around the classroom. The majority of students agreed that there weren't things only girls or boys played with during choice time. After this conversation students had twenty minutes to draw a picture related to the discussion and then write about "boy things" and "girl things" in the classroom.

We examined the writing of all sixteen students in the class. As we examined and analyzed the students' writing we noticed three different approaches to the writing prompt. Some children's writing emphasized that boys and girls like the same types of classroom activities, some children described activities at home, and some children shared things they like to do. We sorted the writing samples into these three categories and discussed each writing sample in detail. After discussing each writing sample in a group we selected one student's writing that we felt best represented the student work for that category. We wish we could have included all sixteen written responses in this paper. Below are representative writing samples we selected for each type of response the students wrote and our analysis of the written work.

Example 1: Boys and girls like the same activities. Responding to the given writing prompt, this student writes specifically about classroom spaces noting that both boys and girls use the writing center and play with blocks. She writes, "Every time I see BOYS like to pleay with the BloCS. And lsome of the GRILS Like to RRitine sentR AnD some ofof the Boys Come to the RRiDIneR sentr anD som GRils RPlay with the BloCS. ☺" Translation: "Every time I see boys like to play with the blocks. And some of the girls like to writing center and some of the boys come to the writing center and some girls play with the blocks. ☺"

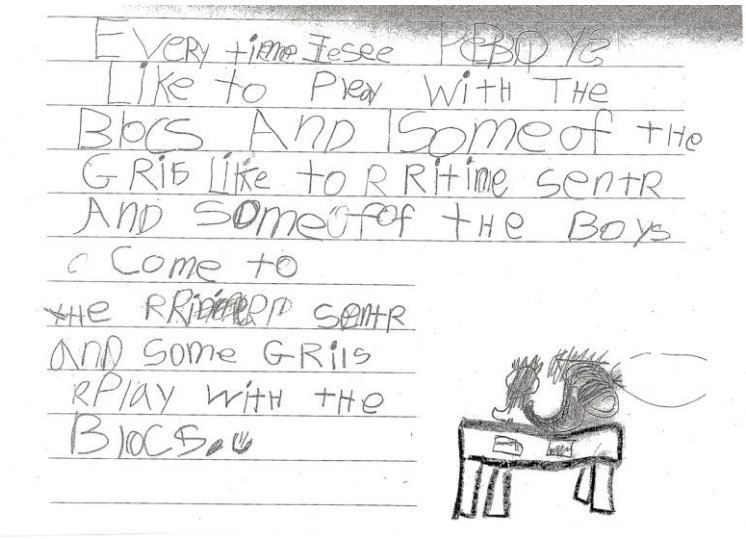

Figure 1. The Writing Center and blocks

She begins her writing with "Every time I see," suggesting that her observations of classroom experiences inform her thinking about what activities are acceptable for boys to do and what activities are acceptable for girls to do. In her drawing she represents herself with long stylish hair and bangs covering one eye, pulled up in a ponytail. In front of her on the table is a piece of paper with writing on the entire page. We notice that there is more detail in the drawing of the girl figure, particularly the hair. She also labels herself with her name (removed to protect student privacy). She has also drawn and scratched out a second arrow and figure with short hair. Is she identifying a mistake by crossing it out? Is she suggesting in her drawing that boys are not welcome at the writing center? She states that both boys and girls in the classroom choose the writing center and blocks during free time.

Example 2: Clothing gender norms at home and school. This student writes that her

father has a pink shirt that can be worn on a special occasion like Easter and that she has a "cute pink dress." She writes, "MY DAD HAS A PINK Srte AND He's GOINg too wire it to EStr But I A CUte PINK DRESS. Mr. WACKer DoS Not HAVe A PINK Srte BeCUS I DID Not See it." Translation: "My dad has a pink shirt and he's going to wear it to Easter. But I [have] a cute pink dress. Mr. Wacker does not have a pink shirt because I did not see it."

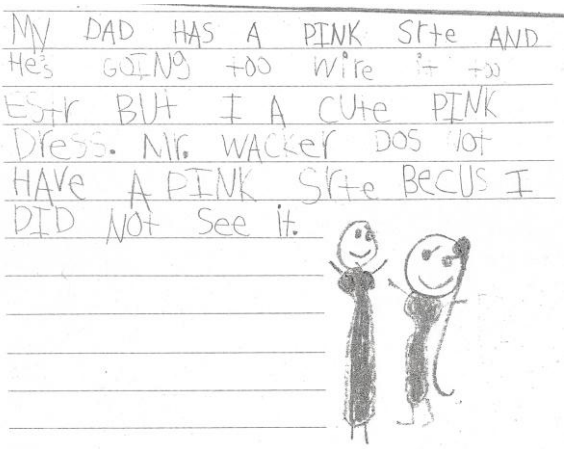

Figure 2. Dad and Mr. Wacker's shirts

She connects her observations about her dad's clothing to the classroom context by noting that she does not believe Mr. Wacker wears pink because she has never seen him in a pink shirt. This, like the example above, reminds us that students are constantly observing the people and things around them and searching for patterns of behavior. Her drawing shows two figures wearing dresses. One figure has eyelashes and long hair in a bun extended with a ponytail. Both figures have hourglass shaped frames suggesting a curvy female body. The second figure has no eyelashes, hair or feet. Maybe she did not finish her picture? Is the second figure another girl? A female adult? Her father in his pink shirt? Rather than focusing on choice time activities, she writes about the clothing of her teacher and her father connecting gender norms observed at school and at home.

Example 3: Describing activities they like. This student writes the chorus from the Justin Bieber song Love Me. She writes, Ya Man, LOVeMeLOVeMeSAY YouLOVeM" Translation: "Ya man. Love me, love me, say you love me."

Figure 3. Princesses, cheerleading, and Justin Bieber

This student primarily focuses on drawing rather than writing. She draws three female figures each wearing a three-pointed crown. Two of the figures are wearing high heels and dresses, suggesting curvy female bodies. One of the figures holds pompoms and is wearing a short skirt and T-shirt and has her mouth open cheering. All three figures have eyelashes and long hair that extends below the waist. Two have heart shaped lips. Her drawings reveal many normative female characteristics, such as long hair, wearing dresses, and long eyelashes. From this drawing we infer that the student is communicating she likes Justin Bieber's song, cheerleading, and princesses or queens. We wondered if we would look at this picture differently if a boy had drawn it.

Student drawing and writing helped us consider the range of ways that students see gender identity and gender norms in school and in society. All the writing samples were unique, but focused on gender, even if not directly addressing the writing prompt about gender norms during choice time in the classroom.

Responding to Children's Spontaneous Remarks

There are many missed opportunities in pubic school classrooms to engage young students thinking about identity as it naturally arises in conversation. Children's spontaneous questions and remarks, "if [we] do not shut them down by shushing or lecturing," are opportunities for us to learn more about how they view gender categories. Posing questions, like What do you think? "suspends certainty that there are clear answers" (Chang & Conrad, 2008). Katch and Katch (2010) argue that it is most important for teachers to listen carefully to what children say and pose questions to learn more about their thinking. Below we share two examples of how students spontaneously initiated the topic of gender identity in relation to teacher body movements and a classroom toy.

Teacher body movements and voice. We have found that moving, or speaking in a particular tone, that contrasts with how students perceive normative gender roles can invite students to raise questions about gender norms. Body movement, dress, and tone of voice are interpersonal symbols of gender identity (Wilchins, 2004). We agree that " . . .the teacher's body *is* pedagogy, that her students and others will perceive her in multiple ways that will fundamentally shape their learning experiences" (Jones & Hughes-Deactur, 2012).

> Mr. Wacker is standing at the front of the room leading the morning calendar routine, as he moves across the front of the room he flicks his wrists, snaps his fingers, and jerks his neck.
>
> Female student: You did a girl thing!
>
> Mr. Wacker: What? What'd I do?
>
> Female student: This! (Impersonating the wrist flicker and neck jerk)
>
> Mr. Wacker: Oh…What about that makes it a girl thing to do?
>
> Female student: I don't know!

Later in the morning routine, while singing Twinkle Twinkle Little Star

Mr. Wacker: How I wonder what you arrrrreeeee….

Female student laughing: You sing like a girl!

Mr. Wacker: Whaaa?! How do I sound like a girl? (Smiling)

Female student: You go like this (starts singing a tone while holding an arm in front of her)

Mr. Wacker: Ooohhhh I didn't know that. Well, am I a boy? I think I am.

Female student: Yes! (giggling)

Mr. Wacker: Okay, but I sing like a girl?

Female student: Yes.

In these conversations students notice body movements and tone of voice that seem in contradiction with the gender identity they have created for Mr. Wacker. We notice that students impersonate the body language or tone of voice and state confidently, "That's a girl thing." In questioning the binary framing of gender (e.g., boys have low voices and girls have high voices) students seem to accept that Mr. Wacker can move or sing like a girl, but still be male. Although these teacher expressions were unintentional and sponsored spontaneous commentary about perceived gender norms, we now realize that teachers can use body movements and tone of voice to intentionally raise a contradiction to sponsor student conversation.

Classroom resources. Classroom resources can also sponsor spontaneous remarks about gender identity. Below we share a conversation a student initiated in relation to fairy-princess puzzle pieces in the classroom. Two girls approached Mr. Wacker proudly with a green bin that contained puzzle pieces put together in the form of a cake. They removed one piece from the puzzle cake and handed it to him.

Figure 4. Classroom toy

Girls: This is for you Mr. Wacker!

Mr. Wacker: Oh my goodness! Thank you so much! What is it?

Girl #1: It's a cake! For her birthday (pointing to Girl #2) she is going to get a Cinderella cake with candles on it. But don't let any boys have it (with a smile on her face).

Mr. Wacker: Why not?

Both girls: Because it's a girl cake! A GIRL CAKE! (shoving the 'cake' very close in front of Mr. Wacker's face while pointing at the princess. Still smiling.)

Mr. Wacker: Well, why can I have it then? I'm a boy.

Girl #1: It's not for a little-kid boy.

Mr. Wacker: It's not for little-kid boys?

Girl #1: It's for big boy kids.

Mr. Wacker: Oh, so it's okay for big-kid boys to have this but not other boys? What about this makes it a girl thing?

(Girl #2 interrupts with the puzzle piece in hand): Because it's a princeeessss!

Girl #1: It's okay for big-kid boys to have this, but not little-kid boys. No little kid-boys.

Mr. Wacker (to girl #1): Hm. What is it about this cake that makes it a girl cake?

(Both girls run off towards the animals and dinosaurs.)

In this conversation two girls bring forward the topic of gender in relation to a classroom toy. In anticipation of one of their birthdays they see foam puzzle pieces as pieces of birthday cake. They distinguish between "little-kid boys" and "big-kid boys," asserting that boys in the classroom cannot have princess cake, but that Mr. Wacker, an adult, can have princess cake. The girls note that princess items are girl things. This conversation occurred in the flow of choice time, as the two girls envision a birthday party. The dialogue flows in the coming and going of interaction. Mr. Wacker joins the conversation by repeating what the girls say and inviting them to share more of their thinking. At the end of the conversation the two students run off to re-engage in classroom choice time activities. This is an important reminder that students may not take up our invitations to share more of their thinking and that these conversations are embedded in the broader social world of the classroom.

Identities "are relational; they are positionings; they are negotiated and renegotiated through social interactions" (Nelson, 2009, p. 103). We learn about whom we are and each other in ongoing social interactions. Showing interest in the gender-related comments, rather than being defensive or uncomfortable, invites students to openly talk about gender norms in the

classroom and society and helps students understand that gender identity is not a taboo topic.

Concluding Remarks

Colleagues have asked us, 'Aren't you afraid of what parents and families might say if they hear you are talking about gender with young children?' Our response is that it is our responsibility to create a classroom climate of openness, to open up dialogue with students, to listen carefully to what young children have to say, and to respond naturally and authentically to their questions. In addition to teaching the mandated curriculum, an important aspect of our work as educators is helping students think about who they are, who they are becoming, and how they fit within the world around them. Teachers should not "shoehorn girls and boys into little pink and blue boxes," but instead "see students as individuals and encourage them to stretch beyond stereotypes and discover a range of talents" (Rivers & Barnett, 2011, p. 160). As teachers we work to "envision gender in its relational interdependencies" (Weaver-Hightower, 2003, p. 489-490), to create curriculum and pedagogy to help ourselves and our students understand the categories of "male," "female," and "other" in complex and interrelated ways.

Students pose all kinds of questions daily. When they make spontaneous remarks or pose questions, teachers make choices about whether and how to respond. By ignoring students' remarks about gender identity and gender norms educators may communicate that students cannot ask questions about the world around them, that they should keep their ideas to themselves, or that their ideas do not matter in the classroom.

As we have described, teachers can raise the topic of gender for discussion by using picture books or writing assignments, and teachers can invite students to bring forward the topic by engaging students' spontaneous remarks about gender. When gender identity and gender norms are discussed in a way that is relevant to students and in a classroom climate of openness, students are supported to share and consider the complicated perspectives they themselves and their peers hold. Opening up the conversation gives students an opportunity to ask questions they didn't think they could ask and to make comments when teacher actions are not perceived to be in line with binary gender norms. Teacher openness to conversations about gender supports students to talk about gender norms and to understand that gender is just one of many things in their everyday life that they can speak about in the classroom.

We are still learning how to foster dialogue about gender identity with young children. Although our work focuses on gender norms we believe that the framework we have developed can be used to engage a range of identity conversations, for example race, culture, sexual orientation, religious beliefs, political beliefs, and disability status. We believe that "we must charge education with the important task of crafting a generous and open language to address the infinite ways people may choose to live in their bodies and in relation to others" (Gilbert, 2006). As we continue our collaboration the following questions focus or exploration:

- How do we begin to raise the importance of discussing gender identity and norms with other teacher educators and teachers in a climate of curriculum and test score accountability?
- How can we, and students, become more intentional in challenging how language reinforces gender norms (e.g., congressman, mailman)?

- How does a teacher's identity impact the perspectives about gender identity that the teacher feels comfortable voicing?
- How do we begin to address the hidden fear amongst some educators about talking about gender identity with young children?

We and our students live in a complicated world where we engage in an ongoing search for meaning about ourselves, others, and the world around us. Children will ask questions about gender identity and norms whether we invite them to or not. Our openness to their questions expands the possibilities of inquiry for children and adults about the centrality of gender identity in shaping life experiences.

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Acknowledgements

We are grateful to Chris Kline, Dean Emerita, School of Education, University of Puget Sound, Joseph Flessa, Associate Professor, Theory & Policy Studies in Education, Ontario Institute for Studies in Education, University of Toronto, and Holly A. Senn who each provided supportive feedback, recommendations for related literature, and who asked critical questions on evolving drafts of this work.

Collaborating to Teach Research Methods in Education

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Abstract

The purpose of this paper is to describe a pedagogical collaboration between two research methods instructors in a Faculty of Education in Canada. Both instructors represent different paradigms in the classic quantitative vs. qualitative dichotomy in that they were trained in vastly different ways and have tended to approach their research along these same lines. However, despite these differences the paper explores how they each viewed this as a potential limitation in their methods teaching and how through crossing over to each other's classrooms were able to both expand their own understanding as well as offer a more balanced and useful learning experience for the learners in their classrooms.

What can a statistician and an arts-based researcher learn from one another? Plenty, it would seem. This paper documents the two authors' experiences collaborating to teach general research methods courses in a Faculty of Education at a Canadian University. We – Todd and Catherine – completed our doctoral studies at approximately the same time and found ourselves contracted to teach methods classes shortly thereafter. During our respective studies in the same Faculty, one of us (Todd) was trained predominantly in statistical methods while the other (Catherine) was trained predominantly in participatory, action-oriented, and arts-based approaches to research. Although our training represented different orientations and our respective background experiences, interests, and personalities inevitably shaped the content, focus, and pedagogical strategies we each employed in our particular classrooms, we both aimed to present the students with a holistic approach to research. As such, we recognized the boundaries of our own knowledge and drew upon one another's strengths to enrich the experiences of the adult learners in our classrooms. We feel that by offering the students a more collaborative view of research we might, as Luttrel (2007) describes, induct students in education into a community of scholarly practice, rather than forcing them into a decision about a specific research identity (p. 186).

Professional educators are often required to participate in at least one graduate level research methods course in order to complete a Master's degree. However, the purpose of that course, as well as its content and paradigmatic orientation, can vary dramatically according to the instructor, the students, and the specific discipline in education in which the course is housed (among other factors). Consequently, the purpose of including research methods in the curriculum remains an unresolved issue in teacher education. Lei (2010; 2008) notes in particular that there are different implications for teaching depending upon whether the intention is for students to become producers or consumers of educational research – a distinction on which we will elaborate below as it is relevant to our respective approaches.

The existence of multiple approaches to teaching research methods is not unique to

faculties of education, of course. Various approaches have been documented by authors in disciplines such as Sociology (Bulmer & Burgess, 1981; Navaro, 2005; Shostak, Girouard, Cunningham, & Cadge, 2010), Public Health (Morrel-Samuel & Zimmerman, 2010), Geography (Crooks, Castleden & Tromp-Van Meerveld, 2010; Kindon & Elwood, 2009; Pain, 2009), Nursing (Clark, Stanforth & Humphries), and in a number of other disciplines that employ participatory and/or action-oriented approaches to research (Barzangi, 2006; Etmanski, 2007; Kur, DePorres & Westrup, 2008; Levin & Martin, 2007). Contemporary educational researchers may draw insights from these and other disciplines, further informing the range of paradigms, methodologies, instruments, and methods from which they draw.

While Creswell (2008) promotes qualitative, quantitative, and mixed methods approaches to research design, the range of possibilities expands well beyond the samples provided in his classic and oft-cited text. Educational researchers increasingly draw upon a range of methodologies to conduct their studies, such as Indigenous methodologies (e.g. Kovach, 2009), participatory or action-oriented methodologies (e.g. Reason & Bradbury, 2006), narrative inquiry (Connelly & Clandinin. 1990) and arts-based research (e.g. Eisner, 1997; 1981; Knowles & Cole, 2008) to name only a few. Similarly, for students who are required to complete a capstone project or thesis, the introductory experience of a research methods class is the potential opportunity to choose among these diverse approaches to research and gain at least a surface level appreciation of how the overall research design, as well as the ontological and epistemological positioning of the researcher and phrasing of the question(s), can affect the study results. The challenge for the instructor, then, becomes one of introducing a curriculum that is both broad enough to generate a sense of possibility and a narrow enough to create clarity and a feasible way forward.

The focus of the collaboration outlined here is across a series of education research methods classes – both in person and online – taught by both instructors. We felt that in order to better meet the needs of our students something greater than our own understanding of relevant issues and approaches might be useful and, to this end, sought out each other for collaboration. This paper outline some of the issues in the literature around research methodology but primarily speaks to the collaborative process we brought to our classroom instruction: the benefits it offered both ourselves and our students and the belief that by modelling this behaviour we can potentially help students avoid dichotomizing views in educational research.

The paper is organized as follows. We open by providing the background and context for the methods courses we taught. Here we provide the descriptions included in the university calendar and describe the diverse audiences to which these courses appeal. Next we briefly present literature related to collaboration in methods teaching and the intrinsic value of both learning from colleagues and including guest speakers in a classroom. We suggest that collaboration benefits both instructors and students and describe why it was helpful for us in addressing the diverse needs of the adult learners in our classes. An overview of our unique backgrounds and training follows. Here we outline both our areas of expertise and the limitations of our knowledge, a discussion that sets the stage for what we went on to learn from one another. Next we outline the evolution of our collaboration, from Todd's virtual visit in Catherine's online classroom, to each of our lectures in one another's face-to-face classrooms. We conclude with a discussion of what we learned through this process, particularly in terms of our own reduction in dichotomous thinking in research and our hope that we conveyed this to our students. With the story of our experience, our intention is to communicate that through this collaboration we found ourselves on a journey of learning together that we may not have chosen

to take individually and that this was both personally enriching and beneficial to the students.

Context: An Overview of Two Methods Courses in Education

The Faculty of Education in which we were both teaching is home to three graduate departments, with over 16 programme areas. The Department of Educational Psychology and Leadership Studies provides different areas of focus for graduate students in Educational Psychology (where Todd taught) and in Leadership Studies (where Catherine taught). This section describes the background of each course and demonstrates how each has different stated purposes and is geared toward different audiences.

The description for Todd's educational research course, provided in the 2011 University calendar, states that the class is an *introduction to quantitative and qualitative research designs, the research process, the selection and design of data collection instruments and methods, writing and reporting findings, and systematically evaluating and critiquing the quality of research studies. [It is intended to be] useful for students preparing to conduct thesis research as well as students who wish to become better readers and consumers of research.*[1] According to Lei (2008), research "consumers locate, read, understand, critique, and then use results of research to make sound educational decisions" (p. 668). With this definition in mind, the major purpose of the course was to introduce students to the broad field of educational research so that they could: (i) critically evaluate the research conducted by others; (ii) develop plans for and conduct research of their own if they so desired; (iii) identify methodological issues and practices that are relevant to a given research situation; and (iv) locate and understand information relevant to their practice or research agenda. The simple objective for this class is to have the student leave with more confidence in the consumption and potential production of research.

Meanwhile, Catherine's course was *designed to prepare students in Leadership Studies to undertake independent, scholarly research so that they might fulfil the research requirements for the M.Ed. degree in Leadership Studies. [Through this course, students] become familiar with different lines of inquiry, appropriate methodologies, proposal preparation, and the ethics involved in doing research*. The primary purpose of this course was to provide students with the theoretical and methodological knowledge, as well as the practical guidance, to design a working version of their final project proposals. Throughout this course, students were expected to: (i) demonstrate an understanding of academic research norms, including the content expected in a Master's level project; (ii) differentiate between various research methodologies and methods, and select which of these were best suited to their research question and interests; (iii) evaluate the relevance of their personal history and location (worldview, biases, related experiences, etc.), the limitations of their studies and ethical concerns such as power dynamics, informed consent, voluntary participation, compensation, research relationships, and so on; (iv) understand some strategies for data analysis and representation of research findings; and (v) generate a working document that explained the overall design of their projects, including research focus, question (and sub-questions if applicable), objectives, appropriate methods for pursuing their line of inquiry, a draft timeline, and a plan for next steps. In the subsequent semester, several of the students in this class went on to secure ethical reviews for their projects and collect data with Catherine as their capstone project supervisor. Others were required to participate in a second research class in preparation for conducting thesis research.

It is important to understand that these general courses must appeal to students with not only diverse backgrounds and interests, but also diverse requirements for graduation. For

example, the M.Ed. in Counselling is considered to be a terminal degree designed for people seeking to secure skills and credentials to work in applied fields. Indeed, as part of their program, one option for the final graduating project is to build a research proposal; however, these students are not actually able to conduct research. These factors contribute to a general perception that a class in research methods in not necessary given their career paths, a negative perception toward required research methods classes also described by Lei (2010; 2008). Our challenge as educators is not only to help such students develop skills to critically evaluate research findings in order to apply them to their fields, but also to help them understand that "research is a way of thinking, a tool that they may use to improve the work they do with other people" (Lei, 2008, p. 668).

Additionally, as adult learners, many graduate education students are working full time outside of their studies. Students in the M.Ed. Counselling program must complete an intensive practicum while simultaneously completing coursework, or are sometimes already working as counsellors. Leadership Studies draws students from education and higher education, government, business, and a range of other sectors. M.Ed. students in Leadership Studies, are often currently or previously employed as community educators in a range of disciplines (environmental non-profit organizations, for example), as public or private school teachers, guidance counsellors, or administrators in the public school system, or – increasingly – as international educators, either Canadians who primarily teach abroad, or international students who are teachers or other professionals in their home countries. Some of these students choose a more practical focus for their final project, while others choose a more theoretically focused thesis. The introductory methods courses must support this diverse range of learners with an equally diverse range of goals and needs. In light of this diversity, the following section reviews some of the literature on successful approaches to teaching research methods.

Mutual Learning through a Collaborative Approach

In their 1981 paper, sociologists Martin Bulmer and Robert Burgess asked several fundamental questions about the way forward for methodology teaching. Among them were: "if methodology is taught by experienced researchers will this area become little more than an excursion around the personal experiences of individual researchers? In this respect, will research methodology be little more than the personal preferences of individual investigators?" (p. 588). Crooks, Castleden, and Tromp-Van Meerveld (2010) raised a similar concern when one of the authors stated:

> I'm reluctant to make it a class about *my* methodologies, methods, and techniques but am very aware that it could easily become such without concerted effort on my part . . . I'm not in a position to speak from personal experience about many of the issues we'll be discussing. Further, I've taught myself about many of these things as they were not taught to me while in graduate school. I'm concerned that I may unintentionally favour certain perspectives in a way that could shape the students' own study design. (p. 160)

While some scholars might argue that the teacher's acknowledged or unacknowledged biases will *always* shape students' learning, the point is well taken that methods instructors need to be mindful of not allowing their own preferences to dominate students' research needs and interests.

A number of scholars have pointed to collaboration and the use of guest speakers as means of mitigating this challenge. For example, Lei (2010) suggests that "faculty teaching introductory research courses in academic programs can expand their instructional network by

tapping into ideas and experiences of colleagues in similar disciplines" (p. 239). In an earlier study, he also reported that the inclusion of guest speakers was among the top six factors influencing the students' changing attitudes toward, and increasing appreciation of, the value of research courses (Lei, 2008, p. 676). Moreover, in their discussion of a collaborative approach to teaching, Zhou, Kim, and Kerekes (2011) reported that "peer observations made the three instructors familiar with each other's teaching styles and instructional emphases, and more important, they often resulted in new ideas about integration between sessions and subjects" (2011, p. 130). Finally, Shostak, Girouard, Cunningham, and Cadge (2010) suggest that "all groups, including faculty, benefit from an understanding that they are part of a broader research team, promoting a feeling of collegiality across the department" (p. 94). All of these authors suggest that there is much we can learn from our colleagues if we dare to step across what Luttrell (2007) calls the "anxiety ridden border" of each other's classrooms (p. 191).

This collaborative approach to mutual learning benefits both educators and students. Students benefit not only from the content knowledge provided by diverse instructors, they also learn through instructors modelling collaboration, a desire to learn from one another, and, at times, productive critical debate. As Waters and Burcroff (2007) assert, "with adult learners – and learners in general – it is important to note that one of the basic components of learning is seeing and experiencing the behaviour in practice" (p. 306). This sentiment is echoed by Zhou, Kim, and Kerekes (2011) who report that their classroom modelled

> how to work together in teaching. […] university teaching, particularly methods courses, has direct influence on pre-service teachers' understanding of teaching. Faculty collaboration in university teaching impacts future teachers' perspectives of collaborative teaching and motivates them to teach collaboratively at schools. (p. 133)

Scholars such as these both affirm our choice to learn from one another throughout our teaching and inspire us to continue experimenting with various ways to collaborate.

The reviews concerning our collaboration were quite positive and students appeared to enjoy and benefit from these guest lectures and the diversity of methods presented. Student feedback from the courses reflects this sentiment in the following statements: "The guest speakers really worked well to enhance the content" or "Great survey of research methods and we really benefited from the guest speakers (no offence Todd, we like you too!)." "[The instructor] was able to motivate us to put our knowledge to use – this utilizing of our skills has made us proficient in methods – both to our interest and also those Methods we may not necessarily use." In addition, students commented directly to us that they appreciated both instructors' efforts to bring others into the classroom and that these experiences helped to broaden their perspectives on conducting research.

Two Distinct Research Backgrounds

As mentioned above, each of us comes from different theoretical and paradigmatic backgrounds. For Todd, the basis of his doctoral training and the body of his dissertation was primarily – if not entirely – quantitative in nature. Additionally, his ongoing research deals with the secondary analysis of large data sets, e.g., Programme for International School Assessment (PISA) or Trends in International Mathematics and Science Study (TIMSS). Todd is often called upon by graduate students and other professors to help in data analysis and interpretations. He is well versed on univariate statistics, test theory, and measurement in the areas of education and educational psychology.

Todd approaches the world and his research from a decidedly positivistic paradigm, urged to deduce, test theory, and search for measurable outcomes. From this perspective, research relates to measuring or quantifying, elements of reality. A survey is the method he most commonly uses for collecting data and he analyses the data using statistical calculations. He teaches his students about representative samples so that the results can reasonably be generalized to a larger population and that there are specific (and occasionally conflicting) calculations for doing this. Todd more readily approaches – and tends to spend more class time on – the topics of survey design, correlation, and experimental analysis. He finds these topics easier to explain and discuss, and finds it easier to locate and provide relevant examples and information as well.

Conversely, Catherine was thoroughly trained as a qualitative researcher. She participated not only in general research methods courses and seminars at the graduate level, but also in special topic courses such as *Participatory Research, Action-Oriented Approaches to Research, Popular Theatre as Research,* and *Aboriginalizing Research.* For her doctoral work, she employed Arts-Based Research (e.g. Eisner, 1997; 1981; Knowles & Cole, 2008) as an overarching methodology with participatory theatre (Boal, 2002; 1979; Butterwick, 2002; Diamond, 2007; Kidd & Byram, 1979) as her key research method. Needless to say, she approaches the world and her research from a different perspective than Todd.

In particular, Catherine enjoys engaging learners in philosophical discussions about research and encourages them to examine their assumptions about the nature of reality, being, and knowledge—and how these assumptions affect what researchers see as truth or valid research outcomes. The discussion of data collection methods is often driven by student interests and always includes experiential activities that demonstrate how multiple methods, including arts-based methods, can generate data and new knowledge. She loves the moment when a light bulb goes off and students realize that surveys, interviews, and focus groups are important, yes, but not the only means of collecting data.

All instructors inevitably bring their worldviews and lessons from their respective training into their lectures, activities, and discussions. However, with these brief descriptions of each of our backgrounds, it is perhaps not hard to imagine that the students in either of our classes might encounter very different experiences. Our training and interests aside, as instructors and professionals, we felt responsible to ensure that students who would be engaging with either quantitative or qualitative methods had sufficient exposure to and resources on the necessary tools to be successful researchers (or consumers of research, as described earlier). With this recognition of our human limitations firmly in mind, we worked to mitigate these by offering three guest experiences in one another's classes over the course of a year. These three exchanges are described below.

Our Experiences as Guest Speakers in Each Other's Classrooms

The initial foray into this collaboration was through an online (i.e., Moodle) section of Catherine's Community Based Research course during the fall of 2010. For readers not familiar with Moodle, it is a course management system that supports a constructivist approach to online learning. Since "constructivists suggest that teachers should let students' learning drive what they teach" (Zhou, Kim & Kerekes, 2011, p. 131), the online format presented a perfect opportunity to create a space for quantitatively-oriented students to receive support from Todd. This particular course was set up according to weekly thematic units, with the adult learners

directing much of the conversation in the discussion forums. In this initial experiment in collaboration, Catherine invited Todd into this digital classroom space to offer guidance on statistics and the role of quantitative data collection and analysis methods in research. During the week of Todd's visit, Catherine created a "bonus discussion forum" where the students could ask him questions directly. The forum was set up for asynchronous conversation (i.e. more like e-mail; not real-time communication, such as chat rooms), which meant that Todd could respond to questions and engage in ongoing discussion as his time permitted. Catherine opened the forum with a brief introduction and photo of Todd, and posted a few questions to get the conversation started. Todd then accessed the Moodle Site a few times during the week-long unit to respond to Catherine's initial questions and to those of the students. During his virtual visit, he shared resources, examples, and philosophical musings and students commented that his presence was most useful.

Two actions helped to make this experience a positive one and are worth noting here. First, Catherine was deliberate in preparing the learners for Todd's visit and also in facilitating the discussion while it was underway. Although the online environment can be disorienting for some students, Catherine has been teaching online for some time and through practice has come to understand how to prepare students for a virtual guest. Accordingly, she had alerted them about Todd's visit several times, had encouraged them to generate questions in advance, and had directed them to the correct forum when he arrived in the virtual space. As a result, they knew he was coming and knew where to find him – seemingly simple details, but without which the experience would have been lost. Second, despite the asynchronous nature of this interaction, Todd responded to the students' queries quickly, and provided further elaboration as they requested it, thus creating a feeling of ongoing dialogue and immediacy that can occasionally be lost in slower asynchronous communication.

We both considered this initial collaboration to be such a success that we arranged for Todd to give another guest presentation in Catherine's face-to-face research methods class the following term. The lecture he gave was entitled, "Introduction to quantitative research, or how I learned to stop worrying and love statistics" and was based primarily upon the text Doing Quantitative Research with SPSS (Muijs, 2011). Initially, Todd had some concerns about this guest visit. Unfortunately, his previous teaching and collaborative experiences with students supported Lei's (2010; 2008) claim that quantitative data analysis and statistics are seldom the highlight of students' graduate training in education! Despite this initial consternation, the experience was quite a positive one and offered a decidedly different perspective from what this group of learners had been receiving in the class thus far. The students' questions were directly related to their own research agendas and Todd helped to clarify several points related to his expertise.

The course reviews demonstrated that students appreciated and understood the value of exposure to multiple perspectives on research, and one student in particular was very grateful to have Todd's guidance for her research design. She later commented:

> Prior to Todd's lecture I was unsure if I had the capability to pursue a mixed methodological approach. I was not confident that I knew enough about the material to understand and analyse the results I would collect. Listening to Todd speak and having the opportunity to ask him questions in relation to my study gave me the confidence to further explore quantitative statistics as a method of inquiry. I now feel confident in this methodological approach and will be using a quantitative survey in my study. (Z. Woods, personal communication, February 13, 2012, cited with permission)

What stands out in Catherine's mind is how Todd spoke about the fluidity and complexity of 'truth' with eloquence and humour, despite being admittedly grounded in a positivist paradigm. This experience revealed how literature written by both qualitative and quantitative researchers often creates a false dichotomy and intentionally or unintentionally constructs the 'Other' as inferior. In surfacing her assumptions, this experience also underscored how easy it can be to make assumptions about another scholar's beliefs when we do not engage in dialogue with a genuine desire to learn.

In our final example of collaboration, Todd invited Catherine into his class. As part of Todd's approach to his survey research methods class, he invited a series of guest speakers ranging from the research librarian, to representatives from the human ethics board, and a series of graduate students or scholars who had recently completed their PhDs. Each of these guests came into the classroom at different points throughout the semester to deliver their perspectives on research or research approaches. In this case, Catherine came in to speak about her doctoral dissertation and subsequent research pursuits. Her approach to the class was inclusive and she created a seminar-type atmosphere. She learned names quickly and asked about students' research interests in order to link her work to theirs. After a brief overview of her dissertation – an arts-based study, through which she demonstrated principles of action-oriented, participatory, and arts-based research – she opened the floor to questions and discussion. For Todd, what was most memorable about this interaction was how seamlessly Catherine was able to incorporate ideas and terms such as validity or generalizability, which he had previously covered in the class, albeit from a different perspective. Catherine offered real life definitions of what these sometimes abstract terms represent. From reading the student reviews for this class, Todd knows that this experience was a positive and meaningful highlight.

Reflections on Our Learning

Gaining a window into another instructor's methods classroom and inviting that same individual into our own classrooms became a bright spot in our teaching over the year. As sessional instructors, we were required to teach many classes and often did so in isolation and relative obscurity. Being involved in another professional's classes, witnessing interactions with students, and new approaches to pedagogy has been deeply informative to our teaching. We each witnessed a colleague who was passionate about the subject, took the role of instructor as a serious and important one, and cared deeply about the personal journey and learning of the students. We could not have asked for a more rewarding and motivating experience. Additionally, this opportunity also offered a level of feedback and validation of our own approaches to teaching that is otherwise unavailable. We shared philosophical and pedagogical approaches that helped make the work feel worthwhile.

One of the biggest learning opportunities we have taken from this collaboration, and that we have hopefully been able to share with our students, is a reduction in dichotomous thinking. The idea of a dichotomy between quantitative and qualitative research is perhaps helpful when first learning these ideas, but is not *always* a useful one. Ercikan and Roth (2006) suggest that instead of dichotomizing research into qualitative and quantitative, we need integrative approaches that provide the appropriate forms of knowledge. To this end we both have sought to – in our own teaching as well as research – recognize and demonstrate how both research orientations have many similarities. As Ercikan and Roth (2006) suggest, this dichotomy of qualitative vs. quantitative actually does a disservice to research by promoting certain types of

data collection and certain construction modes rather than focusing on good research questions and conducting good research (p. 14).

Despite the recognition *in theory* that researchers might be more successful to focus on research questions and design instead of working to fit into predetermined paradigms, it was only through exchanges between us, both in our respective classes as well as through more informal conversations, that the value of this understanding became more relevant *in practice*. Todd remembers asking Catherine in class what she defined as mixed-methods in her research as what she was explaining did not fit with his preconceived notions. She explained that as part of her doctoral candidacy exams, she was required to examine four research approaches, four methodologies, and four methods and then justify which of these she would be employing in her study. In order to complete this exam, she was required to produce theoretically grounded working definitions of each of these categories (approach, methodology, and method) because the scholarly literature provides contradictory information and her committee members did not pre-determine which of these definitions she ought to use.

She ultimately chose to use Sandra Harding's classic work, *Is there a feminist method?* to justify her claims and define "a research method [as] a technique for (or way of proceeding in) gathering evidence" (Harding, 1987, p. 2). As Harding further explains,

> One reason it is difficult to find a satisfactory answer to questions about a distinctive feminist method is that discussions of method (techniques for gathering evidence) and methodology (a theory and analysis of how research should proceed) have been intertwined with each other and with epistemological issues (issues about an adequate theory of knowledge or justification strategy) in both the traditional and feminist discourses. This claim is a complex one and we shall sort out its components. *But the point here is simply that "method" is often used to refer to all three aspects of research* [emphasis added]. Consequently, it is not at all clear what one is supposed to be looking for when trying to identify a distinctive "feminist method of research." (Harding, 1987, p.2)

With this reasoning in mind, Catherine finds it difficult to relate to suggestions that there are only three approaches to methods: qualitative, quantitative, and mixed. Rather, she sees qualitative and quantitative more as descriptions about one's approach or orientation to social science research, with many possible methods embedded therein. These might include more traditional methods such as surveys, interviews, and focus groups, and non-traditional methods such as theatre and other artistic media, community building methods, and cultural methods employed, for instance, by Indigenous researchers. Moreover, the methods or tools for gathering data can themselves be employed in more qualitative or quantitative ways according to the researcher's training, research objectives, or perhaps even personality or preference. Interviews can be conducted in a more linear, formulaic fashion, or in a more open-ended, discursive manner; surveys can likewise employ a numerical Likert scale (e.g., a scale of 1 to 5) or use open-ended questions which enable more nuanced information to emerge. In this sense, the quantitative/qualitative divide quickly becomes a false dichotomy.

To Catherine, then, the term mixed methods has come to mean any combination of the above methods, though she recognizes this is not the traditional definition. Although Todd was initially a little taken aback by the explanation that she was required to come to her own definition, he (*thinks* he) has begun to better appreciate the validity of this approach. He *knows* he better recognizes that his individual position influences how he does things in general and how he approaches research. He realizes that there are certain perspectives that appeal to him

more than others, and certain data that he will be more apt to collect. However, this collaboration has helped him see that there are valid reasons why all research is conducted and he is beginning to better recognize the strengths of non-dominant research approaches. Catherine shared a similar realization through this discussion, but from a different perspective. Since she mostly finds herself in the company of colleagues who have read similar literature, she sometimes forgets that statisticians have very different training than she does and have not always been exposed to debates in the literature about paradigmatic stances (just as she has not been exposed to the same training and debates as they have, of course). What is more, because they are operating within traditional or dominant approaches, she has come to understand that such scholars are not always trained or required to examine their location and positioning in the world of research. Catherine's experience has been that more traditional researchers are sometimes more interested in dismissing or discrediting non-dominant approaches, rather than trying to learn from or about them. This is perhaps why she focuses on describing various approaches to validity and generalizability (as witnessed by Todd during her guest lecture). As is often the case, people with non-dominant knowledges are often required to explain or justify their claims in terms that make sense to dominant groups. It is refreshing to work with a person like Todd who is more interested in learning together than in discrediting non-dominant, innovative, or marginal approaches to research.

Closing Thoughts

This paper has offered a brief overview regarding collaboration between two colleagues in a Faculty of Education. It addresses a contemporary issue in teacher education in that it describes the challenge of teaching research methods to a diverse and multi-disciplinary group of students, who may or may not conduct scholarly research in practice. Through this collaboration in both teaching and writing, we were able to address for ourselves some of the paradigmatic differences between qualitative and quantitative research, and offer evidence for our students that perhaps this dichotomy is not always a useful one. In addition, we have documented an example of simple collaboration at the post-secondary level from which we hope other instructors might benefit. We feel that, based upon our own experiences and a (albeit non-random) sampling of comments made by students at the end of the classes, that we were successful in these areas. We believe that through our collaboration, students were supported in and confident enough to pursue their unique research agendas (as either consumers or producers of research), even when these agendas were outside of each author's individual comfort zone. The diversity of student needs was manageable when the authors worked together. Collaboration within the context of a research methods class allows both the teachers and students the opportunity to better understand the variety of tools available to answer questions which pertain to educational problems and issues. If not for this collaboration we believe we would have had a lesser experience, as would the students. When we return to our initial question, *what can a statistician and an arts-based researcher learn from one another?* the answer is, indeed, plenty.

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Notes

Author names are in reverse alphabetical order. Responsibility is shared equally between us.

[1] Although we recognize that full anonymity may not be possible when we are speaking about our own experiences, we have removed the name of the University in order to maintain some level of confidentiality.

The Importance of Professional Dispositions: A Survey of Diverse Teacher Educators

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Abstract

Dispositions are undisputedly crucial for teaching success and academic achievement, but what are they and which ones are most important for candidates to develop before student teaching? Can we identify, define, influence or assess dispositions for a common language among all stakeholders in teacher education? In order to find out if stakeholders from 30 certification areas share common definitions of essential teacher dispositions, and whether their range of opinions can be reduced to major constructs, we surveyed faculty and staff in 30 NCATE-accredited certification programs housed in three colleges of a large public comprehensive university. This article presents the qualitative and quantitative findings in the first phase of the study, in which we identify subscales and refine the instrument.

As teacher educators in the United States, we prepare candidates for certification governed by state and national accreditation. We believe, and the literature supports, teaching is a developmental profession with candidates advancing from novice to expert status more quickly when informed by research and theory, monitored, and provided feedback. Although teacher educators are tasked with monitoring professional dispositions, they work in a wide range of academic disciplines. One major challenge for education preparation programs is the lack of a cohesive perception regarding candidates' professional competence. Even more troubling, the research conducted so far has been limited in the scope of representation for this great range of academic traditions, each with its own culture and logic. This leads to a resultant need for a collaborative process in defining a shared understanding of this crucial topic. Lund, Wayda, Woodard and Buck (2007) serve as an exception to the norm for having polled faculty first to define dispositions, but the population was limited to one discipline. This highlights a systemic complication: education serves multiple disciplines, some of which are unfamiliar with educational theories, and the need for consistent disposition modeling as well as assessment in teacher education programs. Concurrent with this disconnect is the potential for program legal challenges and disposition controversies which have arisen regarding their origins, definitions and applications (Diez, 2007).

Literature Review

The focus on effective teaching has increased with mounting political and business pressures combined with federal legislation such as No Child Left Behind (NCLB) to collect, aggregate and disaggregate data demonstrating effective teaching outcomes. Critical to the

qualities needed of effective teachers are those of dispositions. The variety of definitions and terms utilized in studies of dispositions are typically compatible with other working definitions of dispositions developed by professional groups (Katz, Hindin, Meuller, May and McFadden, 2008). Examples of these definitions are seen with the Interstate New Teacher Assessment Support Consortium (INTASC, 2010) and the National Board for Professional Teacher Standards (Whitsett, Roberson, Julian and Beckham, 2007). Defining or distinguishing what effective teaching attitudes are; however, is difficult to do, especially when trying to measure an effective teaching attitude.

One theoretical, working definition is set forth by the National Council for Accreditation of Teacher Education (NCATE, 2006), a professional accreditation council for schools, colleges and departments of education, which defines professional dispositions as:

> Professional attitudes, values, and beliefs demonstrated through both verbal and non-verbal behaviors as educators interact with students, families, colleagues, and communities. These positive behaviors support student learning and development. (p. 10).

Along with accreditation, performance-based licensure programs utilize the ten standards and indicators articulated in the Interstate New Teacher Assessment and Support Consortium (INTASC) performance standards which reflect agreement of what new teachers should know and do as beginning professionals. These indicators, derived from national standards developed by the Council of Chief State School Officers (CCSSO, 2010), are disseminated as three separate constructs (knowledge, skills and dispositions) in a framework to help express the differences which may exist between dispositions and the needed skills to be developed by teacher candidates. Further support for dispositions is recognized in the National Board for Professional Teaching Standards (NBPTS, 1994) which speak to five core propositions forming the foundation for the knowledge, skills and dispositions/beliefs that frame the National Board Certification of teachers.

In the midst of competing perspectives regarding the definition and assessment of dispositions in teacher education, we are seeing a renewed commitment and an escalating interest in the nature of teaching (Burant, Chubbuck and Whipp, 2007) with many state accreditation agencies using the term disposition as part of their standards. Sparking the demand to hold teacher education programs accountable for outcomes, states issue mandates including requisite teacher candidate dispositions and qualities of effective teachers. For instance, Washington State's Standard 5.4, Understanding Teaching as a Profession, notes:

> Candidates understand professional responsibilities and model professional dispositions delineate in professional, state, and institutional standards. Their classroom behaviors are consistent with the ideal of fairness and the belief that all students can learn. They are aware of current research and policies related to schooling, teaching, learning, and best practices. They are aware of the roles that teachers play outside the classroom and the opportunities for engagement in the larger professional community (WAC 181-29A-270).

With an escalating need for teacher preparation programs to both measure and assess effective teaching, Mark Wasicsko, Director of the National Network for the Study of Educator Dispositions (NNSED), states "There's research going back more than 50 years that shows there are dispositions that have a positive effect on student success" (Hallam, 2009, p. 27). Because not all dispositions are favorable, teacher prep programs must strive to strengthen effective teaching dispositions which lead to student success and minimize those dispositions which are

less desirable. Some dispositional examples include teacher beliefs in the:

- importance of using many methods and strategies to help students learn
- importance of mutual relationship building (Katz et al.,2008)
- nurturing of essential values and beliefs necessary to help families in their efforts to develop skills and strategies to help their children succeed (Baum et al., 2008).
- need to respect for all cultures; value multiculturalism and diversity; be sensitive to individuals with learning differences; and be a positive role model (Thompson, 2009).

According to Alger (2006), undesirable attitudes may come from a variety of teacher candidates' own experience such as elementary and secondary instruction, negative family history, less positive background information from colleagues and other faculty at a school site, or negative interactions with a student that may impact their perceptions and interactions with students. Alger (2006) further notes the importance of continued research to discern whether teacher candidates are able to develop effective teaching dispositions. If we want to move beyond the acquisition of skills and knowledge to that of acquiring positive and effective dispositions, we need to be more proactive in teaching and modeling what effective teaching dispositions are. Although content knowledge and pedagogical skill necessary for successful teaching are already well-defined and measured; dispositions, undisputedly crucial for effective teaching, are not. As pointed out by the American Educational Research Association's Panel on Research and Teacher Education (Cochran-Smith & Zeichner, 2006), there is a lack of data for comprehensive causal comparative studies, limited primarily to academic achievement and crude demographic measures.

This leads us to our inquiry: *Can we identify, define, influence or assess professional dispositions for a common language among all stakeholders in teacher education?* Because our concern is for their functioning as a member of a school community, and we recognize the crucial role of administrative and other support staff, we think it is important to consider candidates' interactions with all personnel. Once the language is defined, it will be possible to test whether their behavior at the university is correlated with their behavior in K-12 schools.

Method

In order to find out, we surveyed faculty and staff in 30 NCATE-accredited certification programs housed in three colleges of a large public comprehensive university. This study presents the qualitative and quantitative findings in the first phase of our research agenda in which we identify subscales and refine an instrument well-grounded in the perceptions and language of the broadest possible population of teacher educators and support staff who interact routinely with candidates including secretaries, administrative assistants, and certification personnel.

Participants

We recruited all faculty and support staff from 30 departments providing teacher certification programs accredited by the state. There are over 150 such faculty in three colleges: the College of Arts and Humanities (approximately 30); College of the Sciences (approximately 30); and the College of Education and Professional Studies (approximately 80 plus other faculty who serve as field supervisors and lecturers). Invitations to faculty and staff in contact with teacher candidates were extended via university e-mail after permission was granted through the

Center for Teaching and Learning Advisory Board. The respondents (N=43) represented all teacher educator roles: 31% were full professors, 21% associate professors, 26% assistant professors, 7% lecturers, 10% field supervisors and 5% staff members.

Procedure

This survey research, while looking to identify patterns of response utilizing rigorous analysis methods, incorporated consensus building between the faculties and staff in rating the importance of 39 dispositions commonly noted in the literature. In order to find out if a) stakeholders from all certification areas shared common definitions of essential teacher dispositions, and b) whether their range of opinions could be reduced to major constructs, faculty and staff were surveyed from 30 NCATE-accredited certification programs housed in three colleges of a large (10,000 students) regional comprehensive university. Participant privacy was maintained by configuring *Qualtrics* options as per Human Subject Review approval: participants accessed the online survey via secured weblink, but no name, email, or IP address were stored associated with the online survey responses.

Instruments

The data collected were measures of both dependent (survey response) and independent (demographic characteristics) variables. Following the informed consent page, a demographic questionnaire asked participants for information of interest to our study, e.g., academic discipline; K-12 teaching, mentoring, and supervision experience; teacher education teaching, advising, and supervision experience. Demographic questions in this first phase were open-ended in order to discover the most appropriate codes to identify distinguishing stakeholder characteristics. This qualitative data was reduced to codes entered into the database for correlation with participant responses; this analysis was also used to reconfigure the demographic portion of the survey to yield more quantitative data in the next phases of the study.

The *Faculty Survey of Teacher Candidate Dispositions* then asked participants to rate (Likert-style) the importance of dispositions described in 39 statements. The concepts in the statements were commonly mentioned in the literature (e.g. Brock, Waples and Mumford, 2008; Lund et al., 2007; NCATE, 2002; Singh and Stoloff, 2008). Once the data set was found adequately reliable, an exploratory components analysis was done to identify any patterns of responses which might suggest a parsimonious set of subscales. Factor analysis was appropriate because statistical assumptions of adequate size, skewness and kurtosis were not egregiously violated. Internal consistency measures established reasonable reliability; Item analysis suggested statistical significance. Principal Component Analysis reduced the data to subscales (Thompson, 2004), which were then named based on theoretical models in professional literature and in consultation with experts. Effect size established a measure of statistical power for multivariate analyses that may be used to identify different trends within and across respondent groups (Grimm & Yarnold, (2005). Respondent ratings can then be correlated with personal characteristics and experiences to discover possible influences on values (Thompson, 2008).

Results

A Principal Component Analysis was conducted to maximize variance. Oblimin rotation

with Kaiser Normalization was performed because there were some correlations between variables. The analysis was forced into three factors to preserve the minimum requirement of ten participants per factor. When the analysis was run without forcing factors, scree plots demonstrated a leveling effect (though eigenvalues remained above 1) after the third component was extracted. Together the three factors accounted for 56.2% of the variance (see Table 1).

Table 1.

Principal components of the Faculty Survey of Teacher Candidate Dispositions

Component	Theme	Variance
1	Civility and Compliance	32.8%
2	Diversity and Tolerance	11.2%
3	Emotional and Social Maturity	10.2%

Some items overlapped between components. However, correlations between components were minimal, ranging from 0.18 (components 2 and 3) to 0.25 (components 1 and 2). This suggests that each component represents a robust theme. The items were examined to identify those themes, resulting in tentative names of 1) Civility and Compliance, 2) Diversity and Tolerance, and 3) Emotional and Social Maturity.

Discussion

With only 43 participants, there was concern about having more factors than the data would support. However, the respondents did represent the range of disciplines among the certification programs as well as different roles and ranks. The modest response rate certainly highlights the difficulty of aligning opinions among different academic disciplines. This in turn has suggested ways to improve communication amongst the stakeholders and will inform the next phases of this research agenda. Additionally, it is important to point out this study is unusual because teacher educators across campus were invited to participate. Most studies are limited to one discipline and much of the literature is theoretical and anecdotal.

In this study, three themes emerged. The first component, "Civility and Compliance," is certainly of great interest, given that an uncooperative and disdainful attitude is not welcome in any professional setting. Part of the orientation to the profession is seeing oneself in the context of a large organization requiring well-defined protocols for efficient and effective administration of its mission, that is, one is expected to follow rules with a positive attitude. In addition, if one wants to change things, one is expected to use the democratic procedures embraced by the organization. This theme is perhaps a 'negative option', meaning that it is assumed people will follow policies and precedents with civility, but someone who does not is conspicuous for disturbing a peaceful working relationship. The challenge is typically revealed by efforts to control incivility. Use of coercion undermines the intrinsic value of cooperation, but behaviors are far more easily recognized and prohibited than dispositions. Hence there is a need for common language that empowers teacher educators to recognize these important elements of the social institution of school.

It is worth noting that the second component, "Diversity and Tolerance," is aligned with state mandates and professional ethics regarding the treatment of individual students relative to

their cultural backgrounds and racial differences. Legal guidelines have focused on guaranteeing equitable access to public education and equitable treatment within the institution. This means prevention of impropriety has received more attention than the development of cultural competency and the attitudes that govern it.

The third component, "Emotional and Social Maturity," is more personally focused on the individual candidate's capacity to integrate all aspects of teaching when confronted with the ambiguities and isolation of typical classroom environments. Teachers' demeanor and judgment is affected by their personal lives and the stages of development they are navigating, so candidates do need to learn strategies for controlling their vulnerability to stress and distraction. This suggests a need for mentors that can monitor the whole candidate, not just pedagogical skills and academic knowledge. It also suggests the need for interactive environments in the teacher education courses in order to reveal patterns of irrationality and overreaction when confronted by frustration. While reflective practice is promoted in teacher education programs, candidates are not always encouraged to factor in the emotional and social issues which are key to understanding their effectiveness.

Further research

The next steps in this research agenda involves surveying teacher educators regarding the refined instrument and developing an assessment protocol for using it to measure dispositions in teacher candidates. We expect to correlate observations with self-reports and eventually have a robust means to correlate dispositions with proficiency. Although we think it is important to consider the voices of non-teaching staff with whom teachers interact, it complicates the findings. Perhaps a separate study of non-teaching stakeholders would serve as a useful companion study to our primary focus on synthesizing teacher educators' opinions about preservice teachers developing dispositions. Thus, in subsequent phases of developing this instrument, we will confine the study to faculty with knowledge of teaching and learning, expanding the sample to include other institutions.

Merit

There is considerable merit in contributing psychometrically valid instrumentation featuring cross-disciplinary collaboration and consensus building that provides a common language for addressing a systemically challenging and ambiguous objective. We extend the work of Lund et al. (2007) who polled faculty to define the construct, but only in one discipline, highlighting a systemic complication and need to serve multiple disciplines, many unfamiliar with educational theories that nonetheless inform their practice.

The overall findings of this study hold much promise in providing a compendium of previous research study analyses and insight into the identification and influence of dispositions for professional educators, teacher education programs, and teacher candidates. This is of interest to thousands of programs and agencies across the nation responding to accountability reforms and the need to identify characteristics of effectiveness. This research can be applied to the curriculum of teacher education programs. Once there is a consensus regarding the dispositions of most worth, the teacher educator community must address the need to define, introduce, model, coach, and monitor those dispositions in the candidates.

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The Perils and Promise of Personalized Learning

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Abstract

In this article I explore the concept of personalized learning, a relatively new concept being promoted by the British Columbia (BC) Ministry of Education as the "new" approach to effective learning through the lens of a practicing professional. I begin by tracing my own emerging understanding of personalized learning as a discourse in BC education and then follow this with a discussion about the dominance of neoliberalism as an ideological frame for thinking about education and schooling. In particular, I consider how the role of the teacher shifts from professional to functionary, and how this shift is reified through two distinct BC educational policy initiatives that promote technology as the great educational equalizer. I conclude by suggesting that rather than fixing schools, teachers and reformers should direct their efforts to taking up the potentiality inherent in these competing discourses.

What is personalized learning, and how will it affect me as a teacher? This paper offers an analysis and critique of the newly proposed "Personalized learning" policy of the Ministry of Education in British Columbia (BC) and traces its neoliberal ideology as evidenced in two BC Policy documents. I begin by exploring how I became aware of the neoliberal discourses prevalent in education, including the catalyzing effect of a research presentation I attended in 2009 and through to my more recent analysis of the BC government's personalized learning policy framework – including the changing role of technology in education. The article ends with a discussion about how to re-purpose educational discourses in ways that might effectively put children back at the center of our thinking as educational advocates, teachers and policy makers.

A Need for Change in BC's Schools

As a high school teacher, I have been both heartened and skeptically leery of the changes proposed through the adoption of the British Columbia Ministry of Education plan for personalized learning. For years I have bemoaned the irrelevance of existing curricula and students' growing lack of engagement with the materials, methods and structures that constitute high school education. From my observations and experience, there appears to have been a shift in student thinking about formal education – away from the ideas of schools as places of "learning" towards the notion that course work has no real bearing on their future beyond what its mastery can provide them in the way of acceptance to colleges or universities. In other words, for many students, high school is something to be "got through" in order to get "somewhere else". Considering that students spend approximately 13 of their first 20 years of life in formal schooling, the idea that the last 5 or 6 years of their experience is for some, conceptualised, as an exercise in "hoop jumping" is quite depressing. Nowhere except for those incarcerated in prison, is this enforced, routinised, "putting in time" existence allowed, even sanctioned, by society.

Upon reflection, this shift may not be solely in students' thinking about education, but in

students' and society's willingness to question aloud the historically sacrosanct concept of formal education as the appropriate vehicle for serving the common good. It is this shift in perception that destabilizes the foundation upon which schools, and to a certain extent, the identity of educators has been built. No longer is formal schooling viewed as an inviolable institution – a "sacred cow" off limits for public scrutiny and critique. Governments and pundits worldwide have called for a shift in education as conceived and delivered to become more responsive to the needs of students and society and have advocated changes that move beyond the reform paradigms of the past to a revolutionary re-visioning of how we conceive of education and schooling (Innovation Unit UK, 2011; Robinson, 2006). Personalized learning as proposed by the BC government has the potential to transform both our understanding of and relationship to schooling and education, as well as to completely reconfigure our identity as educators. As this paper will discuss, this development is both welcomed and feared.

The Hopes (and Fears) of Revolution

A presentation at ICSEI (International Congress for School Effectiveness and Improvement) 2009 in Vancouver, British Columbia, Canada, by Valerie Hannon from the Innovation Unit UK was the first I had heard of the ideas of "21st century learning" – or, "personalized" learning. As we listened to the presentation, a colleague leaned over and whispered excitedly in my ear, "*This* is what we've been waiting for". I nodded, but while my head was whirring with the possibilities, alarm bells were ringing as I quickly tried to assimilate how the adoption of these ideas might play out in a province where the relationship between the teachers' union and government is fraught with distrust, acrimony, and bitter labour disputes. The hope and excitement for an educational revolution was tempered by a sobering analysis of what systemic change might mean for me as a teacher. What role would my colleagues and I play in this new system? What might our future as educators look like if the ideas proposed were adopted? How might this "revolution" impact our identities as education professionals? What were the details? Changes to the education system in BC were mere murmurs back in 2009; in 2011 with the advent of the BC Education Plan, those murmurs have been amplified and articulated. Changes are coming – a transformation of the education system is on the way. What remains to be seen is how the plan will play out and how significantly it will change our roles as educators.

Neoliberalism – Education, Accountability and the De-professionalization of Teachers

What is of utmost importance here is not to question whether changes to our education system were needed – that much is a given. Of utmost importance is an examination of the ideological framework informing this shift away from schooling and education as a communal activity towards personalized learning with its concomitant emphasis on tailoring education to meet students' individual interests, resulting in individual student success – a concept firmly rooted in neoliberal ideology – or is it?

Daniel (2007) posited that:

> The neo-liberal vision perceives a close relationship between education and the economy within a larger framework of global competition. This relationship influences the drive to higher educational standards and increased student testing as a preparation for entry into the marketplace. The neo-liberal perspective draws on the language of liberty, free

choice, and individualism (p. 14).

According to Hursh (2005), in neoliberal ideology the goals of the economy supersede the needs of individuals in society, and thus, "education becomes less concerned with developing the well-rounded liberally educated person and more concerned with developing the skills required for a person to become an economically productive member of society" (p. 5), and that as a result, "…neo-liberal…politicians have reshaped educational policy around the ideology that schools need to incorporate markets, competition, and choice in order to prepare students for the global economy" (p. 13). Burbules and Torres (2000) suggested that the

> economic effects of globalization tend to…promot[e] market approaches to school choice…; rational management of school organizations; performance assessment (testing); and deregulation in order to encourage new providers (including online providers) of educational services. (p. 13)

Hursh (2005) postulated that neo-liberal governments' desire to get out of the business of governing and their goal to reduce the size of government overall has resulted in "a system in which [they] can govern schools from afar through policies promoting testing, accountability, and choice" (p. 6). According to Codd (2005), this has resulted in an education system unlike any seen in past generations in that:

> New forms of control and accountability have emerged informed by theories of economic rationalism and based upon a culture of mistrust…educational accountability has shifted away from a focus on inputs and process and onto a focus on outcomes and products…Education is reduced to a commodity…one of preparing people for the job market. (pp. 194, 196)

Codd (2005) averred that neoliberal educational reform has resulted in education being denigrated to the point where "knowledge, experience, understanding, and especially imagination, are recognized only if they can be reduced to something observable, or to some performance outcome that can be specified in advance of the educational moment" (p. 201). As a result, Codd (2005) determined that "[the] emphasis on efficiency and external accountability treats teachers as functionaries rather than professionals and thereby diminishes their autonomy and commitment to the values and principles of education" (p. 201).

Teachers as Professionals or Functionaries?

The neoliberal conception of teachers as "functionaries rather than professionals" places educators in a difficult position. As noted by Hargreaves and Lo (2000),

> Of all the jobs that are professions or aspire to be so, teaching is the only one that is…charged with the formidable task of creating the human skills and capacities that will enable societies to survive and succeed in the age of information…It is teachers, more than anybody, who are expected to build learning communities, create the knowledge society and develop the capacities for innovation, flexibility and commitment to change that are essential to economic prosperity in the twenty-first century" (p. 168).

Hargreaves and Lo (2000) went on to note that although it appears that the expectations placed on teachers continue to grow, when it comes to funding cuts, education is generally at the top of the list. In other words, "[t]eachers are caught in a dilemma. They are expected to be leading catalysts of the informational society, yet they are also one of its prime casualties" (p. 168).

By diminishing the role of teachers to that of functionaries, or service providers – or as in the case of the BC Education Plan – "guides or coaches", neoliberalism calls into question the

morally based values orientation that most educators see as equal to, if not more important than the knowledge base that they bring to their role in schools. From an economic rationalist perspective, service providers simply fulfill a role within the market relationship. Should the service provider fail to meet the obligations of the contractual relationship, the market would dictate they be replaced by a more adequate, cost effective entity capable of delivering the required outcomes. While this checks and balances notion is absolutely critical within economic relationships, it is anathema to the social humanist context within which educators and students work.

It does not require a huge leap in logic to presume that if teachers and educators are simply service providers then they are also motivated by the market driven ideology which assumes that their primary motivation is self-interest, not necessarily the interests of those whom they are contracted to – in this case, parents, students and society (Codd, 2005). Running contrary to that notion however, is the vision alluded to by Hargreaves and Lo (2000) and Codd (2005) who noted, "teachers who are fully professional… embody fundamental educational values…manifested not in a narrow set of technical competencies, not in a job description or an employment contract, but in personal initiative, self-knowledge and professional autonomy" (p. 202). This flies in stark contrast to the view held by neoliberal governments who see teachers as "little more than skilled technicians…who…have specified competencies, [are] extrinsically motivated within a contractual relationship, and [who] produce what the performance indicators can measure" (Codd, 2005, p. 202).

Kumashiro (2010) illustrated how this perception of teacher as technician or service provider – contracted to perform a service and thus replaceable, has resulted in the proliferation of "fast tracked" teacher certification programs in the United States (p. 60) where the emphasis is on hiring "teachers" based on "individual performance…attributed to knowing what to teach (versus how to teach)" thus, "[t]raditional teacher preparation, within this logic, cannot be the solution to educational disparities" (p. 60).

As it would appear that the qualities attributed to "professional" educators – those who "embody fundamental educational values…" (Codd, 2005, p. 202) are of little significance in a solely outcomes based system, it is not surprising that governments have "turned its attention to removing "barriers" to teacher recruitment and opening the door to alternative routes to certification, particularly as the definition of teacher quality and teacher qualification became less linked to preparation, and more linked to subject matter competency" (Kumashiro, 2010, p. 61). According to Imig, Wiseman, and Imig (2011), "many of the reform efforts are sponsored by powerful reform organizations determined to transform teaching by changing the way that teachers are recruited, prepared, placed, supported, evaluated and compensated"(p. 400). The authors (2011) described recent efforts ("The Growing Education Achievement Training Academies for Teachers and Principals Act, 2011") by both Republican and Democratic senators that seek to fund training programs for educators that operate *outside* of university preparedness programmes (p. 400).

So, in light of what appears to be a move on the part of the neoliberal vanguard to deprofessionalize teachers – to have individuals engage in a marketized relationship with institutions such as education, the question becomes, what might the adoption of the BC Education Plan mean for the professional identity of current and future teachers in the province of British Columbia?

The Premier's Technology Council and the "Shifting" Role of the Teacher

In December 2010 a report was released by the Premier's Technology Council (PTC) entitled *A Vision for 21st Century Education.* Inside, the authors put forth a plan for an "ideal" education system in British Columbia. The authors cautioned that the ideas they were putting forth were practicable if implemented on a "blank slate". In other words, they were "not recommending that the existing system be torn apart but [instead] it must transform if it is to prepare students to be successful in our rapidly changing world" (PTC, 2010, p. 4). The document goes on to highlight the transformations in the education system necessary to meet the needs of our "rapidly changing world" that they describe as the "knowledge-based society". Within the first few paragraphs of the document, the "knowledge-based society" is presented alongside the "knowledge-based economy" and the terms are then used almost synonymously and interchangeably throughout the rest of the paper. In fact, this document speaks specifically to the need for an education system that prepares students and society to compete in the global marketplace. As the system is transformed so too are the roles of educational stakeholders, including teachers, who become guides:

> It is no longer a requirement for the teacher to know more information than the student on every topic…As a learning coach or coordinator the teacher can move from being the primary source of information and direction to acting as a co-ordinator of purposeful activity that matches student learning needs with available resources, thereby promoting self-directed learning behaviour. For the teacher this will require a focus on participation and negotiation rather than direction and instruction. (p. 26)

As a teacher, I am hard pressed to consider my eight years of post-secondary education as preparing me to become a "learning coach" or "coordinator" of learning. Such terminology and the concomitant repositioning of educators as guides does little to assuage any fears that the conception of teachers as professionals – akin in status to lawyers and doctors—is on its way out, to be reconceptualised as technical "facilitators" of learning.

The BC Education Plan

In October 2011, the BC government released its *Education Plan*, highlighting forthcoming changes to public education to meet the needs of the 21st century learner, society, and the knowledge economy. The document is essentially a framework – ostensibly to be interpreted and implemented at the district level rather than delivered as a prescriptive missive from the educational powers in Victoria. This does not appear to be a policy "floated out" by the government to assess public support or lack thereof. In all its vagueness and lack of detail, this *is* the blueprint for educational change in British Columbia. Although the government is soliciting input from students, parents, the public and educators via their website, it makes clear a transformed education system is on the horizon. How the plan will be interpreted and implemented across the diverse geographic and demographic landscape of British Columbia will be telling as to whether the plan can create a more *equitable* educational environment for all BC students or whether it will be simply another attempt at promoting educational *equality*. If, as it appears "equality" will be defined as increased access to technological tools to level the playing field – so that all students have equal access to a multitude of resources, then in essence, the role of the teacher across jurisdictions will be reduced to facilitating student learning. In other words, the teacher no longer "directs" or "catalyses" learning; instead, the teacher becomes another *tool*

in the students' personalised tool boxes in order to leverage learning. However, teachers understand that *equality* and *equity* are not synoymous: *equal* technological access may enhance students' opportunities, but a teacher is critical to recognizing that the systemic barriers many students face will not be erased through *equality* measures, and thus, as professionals, they strive to provide an *equitable* educational environment for all students.

The new roles and tasks educators are to perform are not detailed in the *BC Education Plan* – the website notes that the government will be consulting with its education partners over the next months to iron out the specifics. What is known from the plan is that there will be increased flexibility in the assessment of student work based on fewer but more indepth learning outcomes, and that teachers – through technology – will have access to more indepth student information in order to both help tailor their individual learning plans and to identify and resolve student learning problems sooner. Additionally, it appears that teacher professional development will become more prescribed and less teacher-driven; its rationale is that it will increase accountability to society for the dollars spent. While many might argue that what currently passes for "professional development" is pedagogically questionable at best, the prescriptive tone set forth in the *Education Plan* infers that teachers are not professional enough to engage in authentic self-directed professional development aimed at improving both teaching and learning. Another potential blow to the the perception and conception of teachers as professionals.

Education: The Great Equalizer?

According to Horace Mann (1848), "education …beyond all other devices of human origin, is the great equalizer of the conditions of men, the balance-wheel of the social machinery". A liberal arts education was believed to be the best, broadly configured mode of transmission in order to create a citizenry who could contribute to the betterment of society - with all of the inherent rights and responsibilities that democratic citizenship affords. Students would be inculcated with the knowledge, skills, values, morals and ethical attributes valued by the society in order to serve the common good. They were socialized into society through the structures of schooling, the content of the curriculum, and the social nature of learning.

This historical notion and widely accepted truth of the potential for education to transform society and bring about equality has been scrutinized by critical education theorists (e.g. Ball, 2006; Kumashiro, 2009) and found wanting in light of the inherent inequality apparent in the workings of capitalist economic systems. Instead these theorists have argued, education has become not a tool for equality and the common good, but a tool to maintain the hierarchical status quo of society where there are natural winners and losers. As Hursh (2005) noted, the triumph of the capitalist economic paradigm has "redefine[d] the relationship between the individual and society" where "inequality is a result of individuals' inadequacy, which is to be remedied…by requiring individuals to strive to become productive members of the workforce" (p. 4). One might argue that the heavy emphasis on the narrowing and standardization of curriculum and assessment in order to measure and compare student achievement necessarily creates a competitive paradigm mirroring the capitalist marketplace where students will eventually take up their place. In the *BC Education Plan* this is exemplified through the proposed adoption of fewer learning outcomes and yet more rigorous assessment. Yet there is a significant difference between education reforms instituted previously and those that are being proposed in the current plan. One might call these new changes "revolutionary" based as they are in a reconfiguration of both educational structures and roles.

The above makes clear that the move towards a "knowledge-based society" has triggered a shift in the way we conceive of the purpose and structure of schooling. Personalized learning advocates argue that students pursue knowledge based on their own interests and aptitudes. This would seem to suggest that the curriculum implementation will now be approached as more "bottom up" than "top down" – although constrained by acceptable objectives and pre-determined outcomes. The emphasis is not on student accumulation and regurgitation of facts and bits of information doled out by the teacher, but on a synthesis of information presented – more problem-based learning (a la Freire) – where what one does with the information is more important than having the information at one's recall. This shift is mind-blowing. The potential for students to make real connections and thus give meaning to their learning has increased exponentially as a result of placing more of an emphasis on self-directed learning. But there's a problem.

Technology: The New Equalizer?

If education as historically conceived, has failed as the great equalizer – we still have poverty, we still have all of the social ills education should have eliminated, what can bridge that gap? Has education failed, or have the structures upon which education has been built failed? All things being equal, there should not be disparities in the provision or quality of education delivered and consumed province wide. But in a province as geographically and demographically diverse as British Columbia, all things are not equal. Rural communities are sometimes underserved by education. Teacher retention is difficult in small remote communities. Access to educational opportunities is sometimes limited by geography or perhaps socioeconomic status. There are some bad teachers. There is disparity in content knowledge amongst teachers making for an uneven delivery of the curriculum. There is disparity in the quality and quantity of appropriate resources. All of these factors weigh heavily on a system that purports to be the great equalizer. So, given the factors that might militate against student success, what measures might we adopt to once again, level the playing field? What objective, rational, value neutral tools might we use to equalize educational opportunity? According to the Premier's Technology Council and the *BC Education Plan*, the answer is technology. If we provide students, families and educators with greater access to technology, it appears we should be able to iron out the wrinkles of disparity in the educational fabric. Once all students have access to the same information as every other student in the province, their ability to succeed will be greatly enhanced by eliminating the factors working against student success. But there is a problem. How do we pay for more technology in education when the last decade has seen cut upon cut to the education budget? The answer may be in the Plan:

> Boards of education will also have more flexibility to organize classes and other learning experiences so they can better direct resources to support student learning...Students will continue to create blended learning opportunities through online learning and class-based environments. Enrolment in online courses has grown by more than 500% in the last five years. (BC Education Plan, 2011, p. 6)

In 2001, the BC government switched from block funding for education to a per-pupil funding formula. As school districts shrink or grow, gain or lose students, so too does their funding. The per-pupil funding is meant to cover all district expenses, including those not directly related to student learning – salaries, carbon offsets, student transportation costs and skyrocketing BC Hydro rates are all borne by districts who must choose how to allocate their

share of the provincial pie. How do districts, faced with the challenge of meeting these costs now fund huge increases in school-based infrastructure through the implementation of more technology? Unless the province decides to untie the purse strings and pour money into the system, the answer might be found in the "flexibility" offered to school boards described above. With a 500% increase in enrolment in online courses since 2006, the potential savings in moving to more online offerings may be tempting for some cash-strapped districts (BC Education Plan, 2011, p. 6). Online learning does not require the traditional one teacher per 30 students (or so) ratio nominally associated with face-to-face learning. Savings on teacher salaries could go a long way towards funding increased technology while still providing *equal* educational opportunities to all students through online offerings. Unless of course, school districts should decide that there is something fundamentally imperative in face-to-face learning that cannot be replicated in an online student-teacher relationship – such as a face-to-face student-teacher relationship. But then again, if teachers are simply service providers, subject experts, or technicians, then the absence of the social relationship exemplifying the underlying moral purpose of education and evident in the daily interactions between teacher and student should not give districts pause in considering the cost savings in moving towards more online offerings. Of course, this is just musing. Perhaps the government has a huge financial surplus that they intend to inject into the education system. Perhaps they have a "deal" with corporate sponsors such as Telus and Cisco Systems to supply hardware, software and support in exchange for some currently intangible trade-off. Only the future will tell.

How I Stopped Worrying and Learned to Love "The Plan"

At the outset of this paper I alluded to both my skepticism and my hope upon hearing about the potential for a 21st century education system. My natural inclination to distrust anything put forth by this government is based in my experiences as a teacher in this province during the bitterly acrimonious labour disputes through the last decade. The offloading of responsibility for the delivery and maintenance of public services to the private sector, the funding cuts to social services, the apparent disregard for the will of the people (as evidenced by the recent HST debate in BC) and the "we know best" arrogance that have earmarked the years since 2001 have, for many teachers, coalesced into something bordering on an obsessive hatred of all things BC Liberal. This distrust, cynicism and suspicion make it really difficult to find the merit in the BC Education Plan even though many elements are exactly in line with my own thinking around the problems in British Columbia's education system. But how to forego the hatred and embrace the plan?

As alluded to early on in this paper, the roots of personalised learning seem firmly embedded in neoliberal ideology especially considering the emphasis on the individualization and personalization of learning as the locus of success. Yet at the outset, I also championed the idea of a more relevant education. This collision of contradictory beliefs caused me great consternation. I felt that in accepting the BC Education Plan as a good thing, I had in essence "drunk the Kool-Aid" – becoming a minion of neoliberal ideology. How to resolve this contradiction? Mudge (2008) provided the key: she described neoliberalism as "a *sui generis* ideological system born of historical processes of struggle and collaboration…" (p. 704). In other words, it is a unique, peculiar ideology, a "one-off", according to the Merriam Webster dictionary, and one that acts as a "hybrid" that "reaches well beyond nationally bound politics and does not mesh neatly with right-left distinctions…" (Mudge, 2008, p. 721).

Perhaps this was the source of my conflict – neoliberalism is a *pragmatic* ideology: it can be taken up by parties of both the right and the left, as elements of these traditional political binaries can be simultaneously articulated through policy as meeting "collective interest [through] individualistic terms" (Mudge, 2008, p. 721). So it would appear that I can be *pragmatic* and choose to accept personalised learning as articulated in the BC Education Plan because in part, it addresses the problems I have identified and experienced with the current education system. According to Pykett (2009),

> In examining the convergence and divergence of core concepts of the person and of freedom within personalization as a contemporary discourse circulating the education policy arena, it can be shown how personalization means different things to different people at the same time. An emphasis on its contemporaneous discursive agency opens up a seemingly unlikely confluence of personalization denounced as a linear, right-wing, neo-liberal project and the 'progressive' philosophies of the de-schoolers of the late 1960s and 1970s. (p. 378)

This seeming tension between those who see personalized learning as bound in neoliberal ideology and those who see it as an emancipatory practice towards making education meaningful for students is a perfect example of this dichotomy as exemplified by my feelings towards the BC Education Plan:

> For some proponents of personalization, the idea denotes a modern notion of educational choice, flexibility, parental control and independence from the state. For other, 'progressive' educators, commonly regarded to be from a more left political tradition, it denotes an education which values personal differences, learner control and democratic schools, and is opposed to rigid national testing. In this latter sense, the idea of the school is seen as a depersonalizing environment in which children and young people must conform to social (and nationally tested) norms which pay little regard to people as individuals with different needs and interests. (Pykett, 2009, p. 378-379)

So, ultimately, perhaps what is needed is <u>not</u> a *sui generis* education system - a new, hybrid form of education that creates and draws from the discourses and ideologies of progressives and neoliberals alike, as does the BC Education Plan. Perhaps what is needed is a *sui generis* re-formation or re-creation of society. Maybe we need to turn this scenario on its head. Perhaps we should stop for a minute and consider the idea that schools are in essence microcosms of society. Perhaps we should question the criticisms that schools are not meeting the needs of society and instead turn the spotlight on the failures of society to live up to the expectations of its children. Perhaps if we start framing the problems as "what is wrong with society" instead of "what is wrong with schools", we might discover that for too long we have avoided critiquing the assumptions we hold about our place in the world, our superiority over nature and "other" and the notion that our insatiable consumption will not have consequences. Perhaps if we start reframing our relationship to each other and to the world as one of interdependence and to start to act towards each other with what Starratt (1991) identifies as the "ethic of care", we may find that a new form of education system evolves. An education system that is based not in the market ideologies of competition and unfettered capitalism, nor in the de-schooling movements of yesteryear; not one based solely in the theoretical, but one based on praxis and what it means to reflect and act on the problems generated through and impacting on the interrelated and interdependence of all humans and our environment. One based in notions of environmental and social sustainability, one that seeks to solve problems not of self-importance, but of global importance, that has as the one and only learning outcome - our common fate: an education

system that Hargreaves and Fink (2006) likened to an eco-system – one that "value[s] community interests over self-interest, diversity over sameness, and connectedness over individualism…[consisting of]…interconnections and interrelationships" (p. 224). Perhaps articulation of such a vision might result in education and society that are truly in accord with upholding, nurturing, and extolling the "common" good. This is a plan to genuinely love.

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Promoting Cross-Cultural Competence and Awareness in Teacher Education: Toward the Integration of Western and Non-Western Perspectives

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Abstract

Calls for culturally competent teachers persist amidst the ongoing diversification of the P-12 student population (Aud et al. 2010), continued racial homogeneity of the teacher workforce (Boser, 2011), chronic academic achievement disparities between majority and minority student groups (Vanneman et al., 2009), and persistent racial disproportionality in school discipline practices (Losen et al, 2012). In an effort to encourage and promote cross-cultural competence and awareness, we describe a graduate seminar we designed and taught around the integration of western and nonwestern perspectives on cognition, development and learning. We share a number of insights gained from the seminar experience and conclude with an appeal for a critical examination of existing practices in teacher education.

An hour into our weekly graduate seminar our teachers begin to explicate a chapter on the Islamic educational tradition, which they had read as an assignment in preparation for the class. In small "fishbowl" like circles groups of three to four respond to the prompt asking them to identify and consider the fundamental beliefs and values of an Islamic education, while others outside the inner-circle analyze the conversation.

Sue, an experienced elementary teacher, begins by calling attention to the idea of "unity" in the reading and how everything for her "is connected in Islam." Jonathan, also an elementary teacher, responds by reading from the text about the openness of learning from within the Islamic/Koranic tradition but then positions himself critically by observing "it's open if it fits the Koranic perspective but I don't know how it's really open if it has to fit the Koranic perspective." Drew, a middle school language arts teacher, echoes Jonathan's concerns about the lack of openness to which Jonathan sarcastically responds, "We all use text but they do everything with the Koran. I can't imagine what would happen in our schools if we did that…that's what we call a 'true canned curriculum.' It's based on one book!"

The outer circle of teachers then joins the dialogue. Belinda asks, "So, where does the concern for the holistic child fit in?" Janet quickly replies, "the five pillars that's where everything comes together" before recalling how two Muslim students in her college religion class accepted the Koran with "their whole being." Looking up from his book, Jonathan adds, "I realize that's a small population sample but doesn't that confirm what we're saying?"

This excerpt from our field notes occurred in a course we designed and co-taught for two years in a graduate program for inservice teachers at Pacific Lutheran University. Our goal was to promote cross-cultural competence by developing deeper understandings of cognition,

development and learning through the study of teaching and learning across home, school and community contexts in diverse cultures. We describe our experience from the course in the hope that sharing what we learned will spur more discussion about adopting a more globalized approach as one way to address the challenges of teaching diverse student populations. We conclude with a number of insights gained from our seminar experience and close with an appeal for a deeper and more critical examination of existing curricular practices in teacher education.

Addressing Cultural Differences in Teaching and Teacher Education

Calls for culturally competent teachers persist amidst the ongoing diversification of the P-12 student population (Aud et al. 2010), continued racial homogeneity of the teacher workforce (Boser, 2011), chronic academic achievement disparities between majority and minority student groups (Vanneman et al., 2009), and persistent racial disproportionality in school discipline practices (Losen et al, 2012). In the face of these trends we believe too many teacher preparation programs still operate from mostly Eurocentric perspectives but convey expectations to candidates that they adapt a more non-Eurocentric or "culturally responsive" approach to teaching (Cross, 2005; Howard, 2010). As practitioners we operate from the standpoint that we have a professional—if not moral—responsibility to assist current and future teachers in examining their own cultural identity (Spindler & Spindler, 1994), deepening their knowledge of other cultural systems and developing frames of reference that will inform and guide their instruction, curricular interventions and capacity for self-reflection and critique (Nieto, 1999).

We believe these processes facilitate the development of cross-cultural competency—or the attitudes, behaviors and practices that Cross et al. (1989) attribute to effective and empowering work in cross-cultural settings. Yet, in our view, many of the efforts designed to promote cultural competency in both university programs and district-based workshops are superficial and largely additive in scope. As Michael Vavrus observes (2002), "Teacher education programs have generally perceived multicultural education as a possible elective or singular addition within a Eurocentric core curriculum that is supported by conventional pedagogies and systems of evaluation" (p.1). Asking teachers, for example, to affirm students with classroom posters of famous identities from their social group, to showcase students' home cultures on cultural holidays or even to mimic students' home talk in their instruction encourage at best a shallow and tourist-like approach to teaching. These efforts are often well meaning and speak to the importance of creating inclusive classroom communities, but such strategies rarely extend to the deeper and more impactful question of how we as educators develop communicative and epistemological frames of reference necessary to establish pedagogical conditions for the educational empowerment of all children (Villegas & Lucas, 2002).

Teachers in today's classroom must have some familiarity with how students' ways of knowing are shaped by the traditional or "home" culture's approach to teaching and learning, and also how to use these insights to design instructional environments that promote deep and powerful learning (Marzano, 2004). In designing our seminar we wanted to push our teachers as well as ourselves to go beyond typical "diversity" exercises like the listing of racial stereotypes on butcher paper or reading the latest crushing indictment of the educational system to critically analyzing the myriad of ways human development, culture and schooling intersect each day in the context of one's classroom or instructional practice. We therefore started from the premise that cultural awareness needs to be instilled in every aspect of the curriculum.

Structure and Content of the Seminar

Our seminar met once a week for three hours over the course of a fourteen-week semester. Each course in the program was connected to one of four curricular themes—ours was linked to the theme of "advanced cognition, development and learning." However, rather than focus solely on the western tradition in cognitive and behavioral psychology as past practice had established, we transformed the seminar into an international/intercultural comparative approach to support and foster the integration of western and non-western perspectives. In doing so we were guided by a number of questions like: How can an anthropological and globalized approach to educational inquiry promote cross-cultural competence and awareness? And, how might our students integrate and apply knowledge from different traditions in their own instructional practice?

Given the rapidly shifting demographics of many school districts in the Pacific Northwest like those along the thirty mile "I-5 corridor" between Seattle and Tacoma where seven school districts now enroll minority majority populations (Shaw, 2009), we believed a singular focus on and commitment to the theories and approaches of mainstream educational psychology would limit teachers' understanding of diversity in their classrooms. But as we embarked on this collaboration our search for a curricular model linking western and non-western perspectives yielded few leads. Although this posed some challenges, not having a predetermined curricular template provided opportunities to be creative and to draw from multiple perspectives in designing the course.

While the curricular materials changed a bit from our first to second year, the central focus did not. We juxtaposed one text representing what we would consider the Western tradition in educational psychology, *How People Learn: Brain, Mind, Experience and School* (Bransford et al. 2000) against another, *Non-Western Educational Traditions: Indigenous Approaches to Educational Thought and Practice* (Regan, 2005). We also layered in an assortment of articles, book chapters and position papers depending on the learning objectives of each class session.

We started the seminar with foundational work around the history of learning theory and conceptualizing culture, which involved defining terms like "cultural and epistemological ethnocentrism" and considering multicultural perspectives on teaching and learning (Gay, 2000; Ladson-Billings, 1994; Nieto, 1999). The assignment for this part of the course included a cultural autobiography in which the teachers were asked to analyze their experiences with group membership (e.g., ethnic, class, religious, gender, linguistic, etc.) and to identify how that membership has shaped their view of schools and the kinds of assumptions they hold about teaching and learning.

By the third week we shifted the focus to the integration of western and nonwestern educational perspectives. We devoted one session, for example, to forms of apprenticeship learning in which teachers considered expert/novice studies (e.g., Wineburg, 1991) alongside the funds of knowledge framework in the context of Mexican-American families (Velez-Ibanez and Greenberg, 1992). This line of inquiry was continued when teachers considered ideas pertaining to the transfer of learning (Bransford et al, 2000) via Oloko's (1994) research on children's "street work" in Nigeria and Louis Moll's (1990) work on "Creating Zones of Possibilities." We also asked teachers to read about the role of proverbs as an oral practice in traditional African societies in relation to scholarship on effective teachers of African American children (Ladson-Billings, 1994). The assignment accompanying this portion of the course included a reflective

essay in which teachers analyzed themselves as learners and considered how their own learning modalities shape their classroom instruction and beliefs about learning more generally.

To illustrate concepts related to informal apprenticeships, funds of knowledge, and the transfer of learning Vidya introduced teachers to the traditional South Indian practice of rice flour doorway drawings called *kolam*. This is a primarily female practice taught informally to and performed by young girls and women, who have used the practice as a way to convey messages of well being in front of their doorways in the early morning. A *kolam* is designed around patterns with dots and lines and is created using a technique that sifts the rice flour between the thumb and forefinger. Vidya first demonstrated the activity to the teachers in the seminar and then encouraged them to try while asking them to monitor their own learning as they engaged in the activity. She then asked the teachers to examine the cognitive strategies they used and the intellectual competencies that might be developed through participation in the activity. The teachers then engaged in a reflective theory building discussion in which questions about the relationship between the spatial intelligence, imagery and visualization required to design elaborate kolams and mathematical proficiency were considered.

In the final segment of the course we asked teachers to read about traditional educational practices in places like Africa, China, and the Islamic world (Reagan, 2005). One in-class exercise, for example, prompted teachers to identify the beliefs about learning and performance embedded in the imperial examination system in Confucian China and those currently informing "high stakes" assessment regimes in the United States. Additionally, we challenged the teachers to reflect on how cultural minority students at their school are tasked with navigating expectations, interactional norms and so on. We did this, for example, by assigning excerpts from Phillips' (1983) work on native and Anglo communication on the Warm Springs Reservation in Oregon, and Delgado-Gaitan's (1994) work on "*Consejos*: The Power of Cultural Narratives." The assignment connected to this portion of the course asked teachers to collaborate in designing a school, school system or a professional development pathway for teachers, which included an artistic representation, narrative description and metacognitive reflection. The culminating assignment involved narrative entries aligned with the thematic focus of the course within the program's electronic portfolio system. These entries offered participants a more individualized approach to reconcile, synthesize and reflect upon the full range of course content and experiences.

Data Collection

The first seminar we taught consisted of twenty-three students and the second contained sixteen. There were therefore, a total of thirty-nine students enrolled in the two seminars all but one of who were professional educators. Among the thirty-nine students were three international teachers—two from Scandinavia and one from Africa—in addition to three Asian American, two African American and at least four students of mixed racial heritage. The majority of students—just about two thirds—identified as white.

The data collected and analyzed for this study include course papers and assignments, fieldnotes taken during and after the seminar, emails sent to us from students, in-class writings including weekly "metacognitive reflections," informal conversations and the final narratives students included in electronic program portfolios. Our analysis of the evidence included reviewing fieldnotes about student participation in the seminar, analyzing student coursework and communications for themes and patterns, and engaging one another about our own

respective interpretations of the collected evidence.

Reflections and Insights from the Seminar

In designing this course we wanted to provide seminar participants with substantive learning and professional growth opportunities. The opening vignette, however, exemplifies the kind of tensions that sometimes occurred as a result of elevating a globalized approach within teacher education. The teachers in our seminar engaged in participation strategies that extended from resistance and indifference to glorifying "other" cultures to critically engaging with the course content in ways that ignited what some participants described as a deeply transformational experience. We conclude by sharing a few insights from our seminar for those similarly committed to complicating the conversation around cultural competency in teacher education.

In looking back on the two years we taught this course we believe we were hindered by the curricular scope and sequence of the program, which only allotted four-credits to the study of cognition and development. We believe the limitations of the single seminar format itself proved the biggest barrier to teacher learning. While multicultural perspectives were embedded in other parts of the program curriculum, our seminar was the only one that brought these perspectives to the explicit examination of teaching and learning as social practices. Clearly, this programmatic approach does not constitute the kind of institutional transformation needed to help practitioners respond to the dramatic demographic changes resulting from global economic restructuring and the concomitant appearance of immigrant children in their schools and classrooms (Lipman, 2004). We believe the seminar would have better served participants as one experience among a number of carefully sequenced courses attending to the complex relationships between and among human development, culture, and schooling in the 21st Century.

Another insight we took away from the seminar was the disparate response to course readings. The majority of white teachers experienced discomfort and difficulty in reading articles/chapters that discussed nonwestern educational thought and practices, while many of the teachers of color (10 of the 39 teachers in the combined seminars) expressed their excitement in reading about nonwestern cultural groups. In some cases the reading material pushed teachers to test their cultural boundaries, which in turn created visible discomfort. Some even expressed difficulty in understanding the meaning of the content. Could the anxiety experienced by some of our white teachers parallel the difficulty some minority populations experience with a Eurocentric curriculum? We think this question is worth exploring especially if teachers are provided with more rigorous and ongoing opportunities to engage with these issues.

We also view the frustration with the seminar readings in line with what Grossman, Wineburg and Woolworth (2001) refer to as the "essential tension of teacher community." This concept refers to the strain that often emerges in professional development contexts between some teachers wanting to learn only that which is directly applicable to improving their instruction versus those committed to deepening and broadening their knowledge base more generally. For a number of our seminar participants wading through theoretical terminology like, ethnocentric epistemology or considering research on the thinking behind children's street work in Nigeria was not applicable to their day-to-day realities in the classroom and they experienced aggravation and dissonance with the lack of direct and practical *take aways.* For others, though, especially our international teachers and teachers of color, this content provided an opportunity to explore what Greenfield and Cocking (1994) term the "cross cultural roots of minority child

development." These participants seemed driven more by intellectual curiosity and a commitment to address the inequities of historically marginalized students then they were to learn a new instructional strategy they could use in their classroom the following day.

Third, most teacher educators like us are graduates of a Eurocentric educational system that too often limits our ability to demonstrate the very same cultural competencies state and national accrediting bodies and standards boards are asking us to impart to our candidates (State of Washington Professional Educator Standards Board, 2010). We encountered challenges while teaching aspects of the seminar when our own limited knowledge and familiarity with some nonwestern cultural traditions was exposed. Instead of pivoting around these shortcomings we urge teacher educators to make them visible to their candidates and to model intellectual openness and continual inquiry as signifiers of what lifelong learning looks like within the profession. While there is no agreed upon script for how one becomes a culturally competent teacher, we do not see anyone becoming so without first being intellectually open, inherently curious and self-reflective.

Our final insight involves connecting theory with practice. Because our seminar—like most in university-based teacher education programs—was located on a college campus removed from the schools and classrooms, the students and families, and the neighborhoods and communities invoked by the course content, an uncomfortable social distance textured our deliberations in ways that again, exposed the contextual limitations of the seminar approach. We believe that if teacher educators are to play our part in closing the achievement gap in public education, we will need to go beyond assigning articles about it or asking program participants to reflect on its causes. In short, we have come away from this experience believing even more deeply that it is incumbent upon teacher educators to build partnerships in diverse communities (Murrell, 2001; Seidl, 2007), which will support and sustain the development a new professional paradigm for thinking about who we teach, what we teach and the ways we go about crafting pedagogies that are both personally relevant and culturally responsive (Keengwe, 2010).

Conclusion

This essay reported out on the design and development of a graduate course for inservice teachers that sought to integrate western and non-western perspectives on cognition, development and learning in the hopes of promoting cross-cultural competencies and awareness. After teaching the seminar two times, we came away with an even deeper respect for the challenges of moving cultural competence to the center of teacher education then at the outset of our project. Even during the second seminar, for example, we often found ourselves preoccupied with the complexities of delivering a truly integrated curriculum. As a result while many teachers reported a deeper awareness of cross-cultural issues upon completion of our seminar, we were never able to answer our second question regarding the extent to which the seminar experience impacted our participants' instructional practice. We attribute this shortcoming in part to the limitations of a single seminar approach, which we liken to the old adage of pouring new wine into old bottles. While we thus remain committed to the integration of western and non-western perspectives as one way to promote cross-cultural competency and awareness, we believe such an approach would be better supported by a deeper and more structural transformation of teacher education itself.

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Life Changing Events for Students: An Initial Exploratory Study

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Abstract

The purpose of this exploratory study was to discover under what conditions teachers' comments create transformative moments for students. This study shows that emotional arousal, frequently triggered by surprise, appears to be a catalyst for the spontaneous and profound restructuring of a student's personal schema or worldview. Our brains evolved to respond to emotionally intense challenges rapidly and reflexively. These challenges are instantly processed by the brain's innate, stress-driven, conceptual, problem-solving system. Our reflexive brain system is organized to accept the most expedient solution, not necessarily the best one. It's thus quite vulnerable to making impetuous responses that may generate self-fulfilling prophecies (Sylwester, 2010)

I collected 179 anecdotes of "life-changing events" from graduate students in a teacher education program. Qualitative analysis shows when these moments are most likely to occur. Emotional arousal is always present and surprise appears to be a critical catalyst.

Introduction

Students' beliefs about themselves and about their self-efficacy have an impact on their learning (Halpern & Hakel, 2003). In addition, Pillemer's (1998) insightful work on personal event memories underscores the impact that specific moments in time can have on personal development. Pillemer argued that memories of personal events become like belief systems that help structure identity.

We all hear stories about significant events that spontaneously shape lives. Popular literature is rife with such accounts For example, the "Chicken Soup for the Soul" (1993) series, and "The Right Words at the Right Time" (2002) provide numerous stories of personal transformation. This exploratory study seeks to describe the characteristics of these transformative moments in learning and reveal the mechanisms by which they change students. The emphasis of this study is one of description and discovery rather than the testing of an already formulated theory.

In my earlier work (Rousell, 2007) I referred to such specific transformative events as Spontaneous Influence Events, (SIEs). I used the terms *spontaneous* because of their inadvertent nature, *influence* because of their powerful effect, and *events* because they occur during significant incidents.

Theoretical Framework

The key developmental process for Kegan (1982), as it was for Piaget and Inhelder (1969) is adaptation. The complementary processes of assimilation and accommodation drive adaptation. Assimilating occurs when new information fits into existing schemas. Accommodation occurs when new information transforms the existing schema. Imagine a

teacher addressing a timid student, "You show immense leadership potential." Assimilation occurs if the nervous student brushes off the comment as empty praise. Accommodation occurs when the shy student accepts the literal comment and transforms from timid participant to active leadership. This study focuses only on the accommodation process of personal schemas, of the spontaneous and momentous variety.

Method

Episodic life story essays turned out to be particularly relevant an illuminating method for exploring this phenomenon. Rich narrative reflections tend to provide more useful contextual information than a more heavily structured interview or questionnaire, (Braud, 2000).

This small-scale research project was based on qualitative data obtained from graduate pre-service education students' essays on "Stories of Influence." Students were prompted to write about a turning-point experience whereby a singular event created a profound change in their beliefs or behaviors.

The essay prompt: Write a brief 150-200 word anecdote about a major influence event in your life. It may be positive or negative but it must have the following elements: a description of the event, how it changed your thinking, and how it affected you in the long term.
Students also received the following sample essays.

> Positive Event: Kaitlyn
> In grade two, I thought my teacher was mean. Then one day she gave us an assignment which changed how I thought about teachers, and it also gave me a new direction in life. She took a jar of simple shirt buttons and handed one to each student. She smiled, which was a rare thing for her, and told us enthusiastically to create a story featuring the button. It was an interesting idea and I thought long and hard about it. I decided to write about how the button was actually a magical being, and going on a whirlwind of inspiration, I completed the story fairly quickly. When we got our grades back, the teacher asked if she could use my story as a feature at a local convention. I was absolutely delighted. Since then I've been writing fantasy and I plan to pursue a career in writing.

> Negative Event: Jewel
> I used to smile all the time as a happy-go-lucky child, until age eight. I remember the episode clearly. My third grade teacher asked me to take a note down to the office. I skipped happily down the hallways, humming a favorite tune. When I got to the office, a bitter school secretary wearing a scowl, snapped at me, "Wipe that smile off your face. You've got nothing to smile about." I froze, stunned in shock. I walked back to my class impassively with a new outlook on life. That moment still haunts me and produced a monumental effect. Now, more than 30 years later, my friends still comment on my stoic demeanor.

I sorted the essays into four categories: 1) classical conditioning, 2) aha moments (sometimes called epiphanies), 3) the slow incremental sway of interpersonal influence, and 4) the spontaneous transformation of a personal schema, life-changing events.

When you think of classical conditioning, think of a loud angry dog jumping at a young child. The young child may develop a visceral response of fear that generalizes to all dogs, and every subsequent dog encountered stimulates that fear response. When you think of "aha"

moments, think about the young girl who loves music and performing. Her uncle comments one day, "You'll do well as a drama teacher." She experiences the elation of "aha" with a response like, "Now I know what I want to do with my life!" When I think of slow incremental interpersonal influence I recall those stories of favorite teachers or family members, "My third grade teacher always had faith in me and supported me when I thought I wasn't very smart." The last category is the one that I study exclusively, those singular events that transform us, instantly, forming or transforming our personal schemas or worldviews.

Of the 179 stories I collected, I eliminated 72 that did not refer to specific events. These 72 stories were general in that they referred to either people (e.g., "my third grade teacher") or spans of time (e.g., "my fifth grade"). I also excluded 19 events that clearly described classical conditioning (e.g., a student develops a fear of public speaking after the teacher mocks his effort). Of the remaining 88 stories, 46 described sudden realizations or what we often refer to as "aha" moments, and 42 illustrated spontaneous personal schema accommodations, life-changing events. These latter 42 anecdotes are the focus of this study. Of these 42, 25 were positive (liberating or broadening) and 17 were negative (constricting or debilitating).

The following two examples illustrate an event with a positive outcome and one that produced a negative result. In this first story, Carlinda describes how a seemingly mundane comment surprised her, producing a positive transformation in her self-efficacy.

> As a fifth grader, I still had not learned to tell the time. This was a huge embarrassment to me and wreaked havoc on my self-esteem and confidence. I can remember thinking that I just wasn't very smart. That thought was proven wrong in my mind when one day my teacher called out names of students who would be placed in an advanced reading group. My name was called. I thought she had made a mistake, so I asked her. She told me that I was one of the top readers in the class. I honestly had no idea. This doesn't sound so monumental to me now, but as a ten year old, it was life-changing.

In this next story, Casey describes how a surprisingly cruel comment by a teacher negatively transformed her confidence in math.

> I used to be a decent math student until my freshman year in high school. During one class I was confused about a problem. I raised my hand and said, "I don't get it." The teacher snapped back, "You'll never get, so just sit back in your chair and quit interrupting my class. If you can figure that much out, I'll give you a C." So that's what I did. That was the last time (prior to my college stats class) I tried to learn anything in mathematics. I hate math and even have a hard time helping my own young children with their math homework.

Results

Certain trends were clear: 1) life-changing events occur regularly, 2) elevated emotions frequently trigger these events, 3) the influence type, positive or negative, is created subjectively, and 4) the subjective experience commonly initiates a self-perpetuating cycle. Although I restricted this study to 42 specific cases of the spontaneous accommodation of personal schemas, life-changing events in general appear relatively common. Sixty percent (107/179) of the surveyed students remembered specific transformative experiences.

Of the 42 narratives selected for this study, all revealed elevated emotions as a core

ingredient and shock or surprise was the common trigger. The vast majority of these events were also unpredictable by the recipient; hence the common component of surprise or shock.

The type of influence, whether it was positive or negative, was created by the subjective interpretation of the event's meaning to the student, not the event itself. For example, one student may feel indignant toward a teacher's snigger, another student may feel crushed, and a third may feel amused. Surprise plays a key role. Students that expect a derogatory comment from a teacher and then receive one, are not surprised; their world views and personal schemas remain intact. However, if students receive an explicitly positive comment when they expect scorn, the resulting surprise triggers an "all alert" response in the brain (LeDoux, 2003) opening a window for a life-changing event. The opposite is also true; expecting praise but receiving ridicule instead triggers the same dynamic process, but usually with negative results.

Once a student's personal schema spontaneously accommodates, subsequent subjective experiences initiate new self-perpetuating social, psychological, and intellectual processes. A self-perpetuating cycle often ensues. As Yeager and Walton (2011) explain, it is by affecting self-reinforcing recursive processes that events can cause lasting improvements in motivation and achievement, even when the original treatment message has faded in salience. They refer to such events as "stealthy" in that they are brief and get at the student's belief systems indirectly rather than through direct preaching.

The narratives I examined underscore this "stealthy" effect. While these events profoundly affected the students, the teacher in all likelihood had no awareness of the dramatic change in the student. Indeed, the students themselves may not have been aware of the profound accommodation that took place. To a fly on the wall, these events may have appeared rather mundane, despite their momentous effect.

Discussion

After studying influence events for more than two decades, I believe that these moments happen to all of us, regularly, throughout our lives. It's part of the human condition. We don't usually get to choose which events transform us, how they transform us, nor are we typically aware of the influence when an event takes place. An event simple takes place, we react to it, and then something else happens, we react, and so goes life.

We generally don't take notice of these events because the transformation takes place outside normal awareness. Remembered stories, such as the ones I've collected, provide us with glimpses into how personal schemas are formed and transformed. Examining these glimpses helps us undercover the mechanism for life-changing events.

Goldberg (2009) illustrates how our brains' hemispheres evolved to specialize in particular tasks. We all have these complementary processes in our hemispheres. While which hemisphere specializes in which task may vary from person to person, like handedness, the division of specialty remains intact. He argues that for most humans, the right hemisphere is organized to effectively interpret and creatively respond to novel challenges, and the left hemisphere is organized to identify familiar challenges and then activate effective responses developed during previous challenges. The right hemisphere's neuronal systems are thus broadly connected to permit the consideration of many alternatives. The left's primary task is to activate established routines. During a novel event, the left hemisphere has no routines to call upon. The right hemisphere jumps to action and generates a response. If the response works, it becomes adopted by the left and applied in like situations automatically; it becomes routinized.

Consider the following composite example. It illustrates the capricious vulnerability of a young student's personal schema during moments of disequilibrium (cognitive uncertainty) accompanied by elevated emotions.

A young student struggles with a math problem, gradually becoming intensely anxious. The teacher walks over and addresses the student. Juxtapose the following two possible teacher remarks. Teacher comment one, "You sure struggle with math." Teacher comment two, "Your willingness to attempt tough problems makes you a strong student." The student sits precariously in the uncomfortable psychological state of disequilibrium ("Why can't I figure out this problem?"). The teacher's comment solves the implicit question. The student response to teacher comment one is "Math is too tough and I should give up." The student response to teacher comment two is "Math is tough, but I thrive on challenges; stay with it."

A student who reflexively accepts the comment, "You sure struggle with math," creates an emotional tag, what Damasio (2003, 2010) refers to as a "somatic marker." This somatic marker may then initiate a self-perpetuating pessimistic outlook. The student subsequently responds to tough math problems as immense obstacles. A student who reflexively accepts the comment, "Your willingness to attempt tough problems makes you a strong student," would also create an emotional tag, but in this case it generates a self-perpetuating optimistic outlook and response to tough math problems as engaging challenges.

Applying Goldberg's conjecture to the first teacher's remark, "You sure struggle with math," the comment triggers the right hemisphere's impetuous acceptance of a solution to the state of disequilibrium, "I'm weak at math as so I might as well reserve my mental resources and not even try." The right hemisphere's solution, "give up," generates a response disposition in the left hemisphere. Subsequent similar situations, difficult math questions, trigger the left hemisphere's activation of this *new* effective response. Goldberg's supposition explains, from a cognitive point of view, the spontaneous accommodation of a personal schema. When this happens to a profound degree, we can refer to it as a life-changing event.

Conclusion

We should pay meticulous attention to the things we say to students, especially when they are struggling or experiencing elevated emotions. We must be vigilant with our comments and examine our practice to find ways that enhance the positive impact of these critical moments. We would do well to add alert sensitivity to our pedagogical repertoire.

We can now intentionally create these life-changing events. Armed with the knowledge of the conditions that activate these moments, creatively constructive teachers may now intentionally trigger these remarkable moments to build positive mindsets.

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Student Teacher Field Supervisors Articulate Their Roles

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Abstract

The importance of field supervision of student teacher candidates is well-recognized. However, the role of the supervisor is often unarticulated and ambiguous, left to the field supervisor and the candidate to delineate and define. The individual practices of field supervisors are often idiosyncratic representations of the goals of the specific teacher preparation program, or simply based on personal knowledge and experience. What are those supervisory practices, and are there differences based on the supervisors' professional backgrounds? Based on survey responses from field supervisors at one university, this qualitative investigation suggests supervisors' professional backgrounds and affiliations with teacher preparation programs do influence how supervisors assist new teachers develop as professionals. Former teachers tend to focus on practical and concrete aspects of teaching while university faculty and former teacher-administrators strive to connect classroom teaching to state mandates and teacher preparation program-identified curricular concerns. Field supervisors represent teacher preparation programs in schools and classrooms, but teacher preparation program faculty may not be fully aware of how they are being represented and what lessons supervisors are sharing with candidates and cooperating teachers.

Student Teacher Field Supervisors Articulate Their Role

University field supervisors help student teachers mediate theory and practice, yet little is known about how supervisors themselves make this connection, and it is clear that their ideologies vary greatly and may lack congruence with the teacher education program. Such variance complicates efforts to establish any causal relationship between teacher preparation programs and candidate success once certified. This is an ongoing study of the interactions among candidates, supervisors, and cooperating teachers and how these interactions align with goals and assumptions of policy makers and faculty regarding what "highly qualified" teachers know and do. There is a need for reliable instruments to collect data and find correlations between candidate preparation and student teaching performance.

There are many assumptions about the role of the supervisor yet these assumptions are neither consistent within the literature nor are they based upon a broad understanding of how supervisors themselves interpret their responsibilities. According to the National Research Council (2010), the primary reason for field supervision is to ensure that student teachers apply the knowledge they have learned from their university preparation to classrooms in which they are placed. For example, the teacher preparation program itself may expect supervisors to encourage reflective practice and offer critique and feedback in regard to student teachers' practices while creating a supportive environment for the student teacher (Bates, Ramirez, & Drits, 2009). Alternately, the standards-based rigor of many evaluation tools is having an impact on the degree to which supervisors are able to draw from the "teachable moments" within

classrooms. The often narrow restrictions of many standards-based checklists force supervisors to evaluate teaching using defined criteria in ways that reinforce the notion of teaching as the culmination of a set of patterns and responses. This view has limited the teaching and modeling of the process that we value for our teacher candidates, which involves paying attention to the students as individual learners with unique views, learning needs, and perspectives on the world, and helping our teacher candidates to become critical thinkers with a multicultural awareness (Bates & Burbank, 2008). Student teachers prioritize practical, hands-on knowledge they gain from the classroom experiences and their cooperating teacher, as well as the support they receive from their supervisor, while minimizing ways in which understanding gained from educational theory increases the depth of their classroom practice (Caires & Almeida, 2007). In addition, many cooperating K-12 teachers dismiss the value of a strong theoretical background (Fernandez & Erbilgin, 2009), which supports candidates' inability in some cases to analyze and solve complex situations. The field supervisor is challenged with balancing the requirements of the teacher preparation program and the priorities of candidates and K-12 classrooms.

University-based teacher preparation programs rely on supervisors to mentor student teachers as they synthesize the theoretical and philosophical bases of educational practice and pedagogy with the realities of classroom structures and school, district, state, and federal mandates. As a result, the role of the supervisor becomes even more crucial to teacher development. By surveying and interviewing field supervisors regarding their habits and logic for any actions related to the student teaching placement, the researchers see correlations between their approach and their professional experience, as well as some connections to the goals and philosophy of the teacher preparation program.

The researchers in this study surveyed the field supervisors at a comprehensive university of 10,000 students to discover: 1) how supervisors interpret their roles; 2) how supervisors enact their responsibilities; 3) how supervisors understand and align their practices with the program mandates; and, 4) how supervisors assess and evaluate their own performance. The data collected will contribute to improving their Teacher Certification Program (TCP) design and alignment, and provide valuable insight into determining an effective supervision model.

Although there is occasional mention of supervisors' affiliation with the university (National Research Council, 2010), there is minimal discussion of other relationships. When collaboration is discussed, the focus is on the candidate or cooperating teacher and not on the teaching program (Bates, et al., 2009). Therefore, the alignment of supervision with preparation program content is unlikely because supervisors rarely participate in meaningful professional development activities, instead relying upon personal experience and generally focusing on documentation procedures and administrative deadlines. In addition, little is known about supervisors' education and professional expertise or their mentoring ability (National Research Council, 2010). An inquiry into their actual practice will contribute to the dearth of literature and perhaps a greater integration of supervisors into the teacher preparation program.

Literature Review

A review of literature shows two cogent areas of research study: (a) teacher preparation and (b) candidate supervision, which will be discussed separately but within which there is unavoidable overlap. Teacher preparation research focuses more on the evaluation and measurement of student teachers' specific standards, knowledge, and skills. The candidate supervision research focuses more on the candidate, the supervisor's role, the candidate's

relationship with the cooperating teacher and supervisor, and pedagogical best practices.

Teacher Preparation

An entire chapter (Clift & Brady, 2006) in the landmark report *Studying Teacher Education: The Report of the AERA Panel on Research and Teacher Education* (Cochran-Smith & Zeichner, Eds., 2006) is a review of over a hundred empirical studies of congruence between methods courses and field experience. Several parts are pertinent to this study including identifying the researchers' relationship with the participants, the importance of collaborating with disinterested parties and describing the demographics of the participants.

One analysis of teacher preparation (Grossman, Hammernessa, & McDonald, 2009) recommended reorganizing the curriculum around a set of core practices and then helping novices develop professional knowledge and skill, as well as an emerging professional identity around these practices. The practices of teaching would provide the basis of the professional curriculum, while the knowledge and skill required to enact these practices constitute the undergirding framework. This vision has a different emphasis from programs with a more idealistic approach, in which philosophical values or social goals are at the center. With a set of practices identified as the outcomes of foundations and methods course, field work becomes an opportunity to experiment with such practices. When they are attempting such practices, pre-service teachers benefit from feedback from their cooperating teachers and university supervisors already proficient in the complex nature of the practice itself. This relationship will also require that university faculty learn about and access pre-service teachers' experiences in the field. This may demand that faculty at times teach in the context of K-12.

Results of another study (Scheeler, Bruno, Grubb, & Seavey, 2009) suggest that using immediate feedback to promote the acquisition of evidence-based teaching skills is an effective and efficient technique for teacher educators to use. Using evidence-based practice is important but can be exceedingly difficult, especially when the person who has the most to gain from the change (classroom student) is not the person who is asked to do it (teacher candidate). If teachers experience difficulty changing behavior when they are in-service teachers in school settings, it is essential to make sure that they continue to use the evidence-based techniques they learn in university classrooms in the next setting in order to decrease the need to change. In order to do this, teacher educators may need to make curriculum modifications to ensure that the ability to make generalizations is included in coursework and fieldwork. However, a positive effect of this modification could be that teacher educators will be modeling an evidence-based practice for the pre-service teachers to use with their own students who have the most to gain from the change. A second implication of this study is that teacher educators and school district personnel should be encouraged to collaborate more so there can be a smooth transition from one setting to the next. If teacher educators are aware of practices used and valued in schools, they can use this knowledge in their teaching through examples, case studies, etc. If school administrators are aware of specific evidence-based practices that are being taught in university settings, they are in a better position to provide in-class performance feedback to sustain new learning. A seamless continuation of evidence-based teaching techniques from one setting to the next should result in positive consequences for students, teachers, and school administrators.

The impact of *No Child Left Behind* (NCLB) legislation on education is far-reaching. In addition to defining standards of performance for children and teachers in K-12 schools, teacher education programs are equally responsible for documenting their teacher candidates' abilities to

meet the criteria from a range of evaluation standards. On the positive side, the NCLB standards have challenged colleges of education to identify "success" in their students' performance through demonstrable measures related to instruction, classroom climate, professionalism, and curriculum development. Whereas previous evidence of success may have been in the form of anecdotal narrations and portfolio documentation, current measures are designed to specify and enumerate performance against relatively defined criteria (Bates & Burbank, 2008). This process has provided a guide for teacher education programs to use when supervising student teachers in the field and ensures attention to issues of classroom and student diversity.

One positive outcome of the attention to standards was an increased focus on student assessment in the content of the feedback, with less focus on isolated issues of pedagogy or management. Additionally, for a supervisor, the structure and guidelines of evaluation criteria provide a framework for providing fairly specific feedback. However, supervisor feedback in final evaluations resulted in less recognition of the individuality of the student teacher, but instead focused on global evaluation criteria, regardless of particular situations or learning needs. These outcomes suggest a need for additional attention in teacher education on the preparation and support of supervisors for the challenge of working in today's political climate. Teacher preparation programs must also recognize that developmental differences across supervisors will impact the degree to which they are bound by fairly structured evaluation tools. For the supervisors in this study, the formalized standards of the midterm and final evaluations offered a safety net or safeguard when providing summative feedback, thereby reinforcing teacher candidates' trust in and reliance upon standardized measures that appear to supersede the nuanced needs of students and classrooms. A range of evaluation and feedback strategies must be used to find the balance in preparing student teachers in this situation of high accountability. The supervisor's role has value as it addresses both the reality of the teaching experience and the individuality of the student teacher's learning needs. It is the responsibility of teacher preparation programs to ensure that these strategies are explored and occur in supervision to the benefit of programs and student teachers.

According to Marzano (2011), expertise does not happen by chance; it requires deliberate practice. For teacher candidates, this involves a common language of instruction, a focus on specific strategies, tracking teacher progress, and opportunities to observe and discuss expertise, all of which can occur in the university classroom and be extended into supervision.

Candidate Supervision

Within the community of supervisors, the assessment dialogue can focus on two aspects: making explicit the tacit knowledge embedded in judgments on professional competence in teaching; and "sharing" supervisory practices (Tang, 2008). Supervisors can engage in professional dialogue by sharing ways in which they form judgments on performances with given pieces of evidence (e.g. video-taped lessons, lesson plans and other artifacts of teaching). The facets of judgments include their interpretation of assessment criteria, inference of competence from evidence of student-teachers' teaching performance, appraisal of holistic richness of performance with consideration of contextual variation, comparison of performance with criteria, and so on. Making explicit the tacit knowledge embedded in these facets of judgments helps construct shared notions of quality among supervisors, which might address, to a certain extent, the consistency concern in summative assessment. Besides making explicit their judgments, supervisors can also exchange views on how post-observation conferences can be

structured to facilitate learning.

Feedback on newly acquired skills should be immediate rather than delayed as well as specific, positive, and when needed, corrective (Scheeler, 2008). Providing immediate feedback is particularly useful because it stops the learner from practicing errors and provides information so the learner can correctly perform the skill in the very next learning trial, thus making it an effective as well as efficient technique. In a finite time frame, usually one semester for a specific college course, more efficient learning allows for more time to practice newly acquired skills. Supervisors should also provide feedback that is positive, focuses on specific teaching behaviors, and provides clear and concise directions for desired behavior change. If supervisors use immediate feedback with pre-service teachers, the result is more efficient acquisition of new behaviors as well as having the benefit of more careful and efficient supervision.

On the whole, student teachers' assertions indicate that the most prized features are related to the way supervisors' act and interact with their trainees in terms of involvement, proximity, respect and support ensured. The importance of those aspects remains firm since the beginning to the end of the practicum when it comes to the cooperating teacher, and grows in insignificance in the case of the university supervisor (Caires & Almeida, 2007). In particular, the university supervisor's (inter)personal characteristics, influences considerably the student teachers' valuing of the supervisor from the beginning to the end of the teaching practice, increasing more than 50% in terms of its initial prevalence. The conjecture about these expressive differences lead the researchers to two conclusions: First, that, from the beginning, the more time spent (currently and alongside the teaching practice) in the company of the cooperating teacher leads student teachers to believe that the time spent is a critical element for the supervision relationship to succeed. Contrastingly, in terms of time spent with the university supervisor, that might be perceived as a secondary aspect, once the contact with him/her is (and will be) more sporadic. In that sense, it may give rise to the expectation of a more distant and impersonal relationship, more formal and task oriented. The second assumption implies that the growing contact and familiarity with the university supervisor increases the student teachers' awareness and/or susceptibility to the influence of the university supervisor's (inter)personal characteristics, and to greater praise and significance in terms of the student teachers' guidance and back-up. Whereas the comments about the university supervisor mainly allude to the academic's scientific competence and expertise, the comments related to the cooperating teacher mainly focus on the exemplary way he/she carried out the numerous challenges enclosed by the teaching profession (high enthusiasm, sense of professionalism, creativity, innovation), the deep knowledge and experience regarding the schools' concrete realities and the large accomplishments resulting from his/her professional performance.

In one study (Oh, Ankers, Llamas & Tomyoy, 2005), teachers reported that student teaching helped them the most in terms of classroom management skills, followed by teaching techniques. The personal aspect of teaching as defined by their confidence level in classroom teaching increased significantly with higher levels of supervision. It may be possible that this increase in confidence may have an effect on the other aspects of teaching that were measured. Among those who had student teaching, the amount of direct supervision they received during student teaching was significantly associated with the teachers' desires to remain in teaching. There was a direct relationship between the amount of supervision received and the percentages of teachers that indicated they received help through student teaching in personal/professional aspects as well as in the areas of classroom teaching. This seems to imply that the more supervision is provided, the more effective the student teaching program would be. Although

teaching skills were not measured, teachers in this study seem to indicate a strong relationship between the frequency of supervision during student teaching and various aspects of classroom teaching. The greatest increase in the percent occurred between weekly and bimonthly/monthly supervision, which may suggest that all credentialing programs consider providing a minimum of weekly supervision, according to the study's researchers.

The university supervisor and cooperating teachers in another study (Fernandez & Erbilgin, 2009) demonstrated different approaches to the supervision of the student teachers. The university supervisor engaged in analysis of conference communications and practices aligned with educative supervision. The supervisor tended to use open-ended questioning related to observed classroom experiences and delved into the student teachers' thinking, particularly related to mathematics pedagogy and mathematics, in order to help them learn from experiences in the student teachers' classrooms. The supervisor helped them connect ideas from their mathematics education program to their classroom practice. On the other hand, the cooperating teachers tended toward a more evaluative supervision approach. Their evaluations (i.e., assessing communications) were primarily positive and affirmed to the student teachers what the cooperating teachers thought was being done well. At times, they gave direct suggestions in areas they judged the student teachers could do differently. The student teachers in this study liked their cooperating teachers' supervision approaches (i.e., primarily positive evaluations). In addition, the student teachers appreciated when their supervisor engaged them in reflection by asking them open-ended questions and by forming discourse communities where the student teachers are at the center of the sense making process for their teaching practice. The researchers think that assessments and suggestions made by supervisors may be valuable for student teachers' growth. However, depending on how and to what extent these types of communications are used, the researchers feel such supervision might be one of the contributing factors for student teachers completing their student teaching experience thinking that they do not have any areas to improve. The researchers suggest that student teachers should be members of discourse communities where they actively, critically, and collaboratively examine their teaching practices. From this perspective, the researchers believe that educative supervision might be an effective supervision approach to educate reflective teachers who strive to grow continuously and do not view student teaching as an end point to their professional development.

Teacher education programs may begin revamping what seems to be a defective system by producing teachers who, at the end of their teacher training, are prepared to meet the continual challenge of working with today's students (Kent and Simpson, 2009). Teacher education candidates should be provided with a comprehensive induction program that emphasizes, through various field experiences, methods of exemplary practice for meeting the needs of all students, which includes those who are behaviorally or academically challenging. Providing committed teacher candidates with prospects for intense reflection along with university supervisors' active participation will likely produce novice teachers who are better prepared when first entering the classroom. Also, it is to be expected that candidates who are involved in a professional learning community of candidates like themselves, facilitated by dedicated university supervisors, will remain dedicated to demonstrating consistent, high-quality educational practices and instructional methods on a long-term basis.

Methodology and Design

Context

The university in this study has a unique role in teacher preparation. It is in the top 10 institutions of higher education nationwide in producing teacher candidates, graduating 500 candidates a year. However, less than 10% of the student teachers are placed in the valley surrounding the university due to the limited size of the school districts. The remaining candidates student-teach in school districts located around six centers in the state. Student teaching occurs in the last quarter of the candidate's program and no other classes may be taken concurrently while student teaching. Thus, many students return to their home town to complete student teaching. The field supervisors live and work in the same communities, and rarely come to the main university campus or know the university faculty who teach the courses. This situation leads to lack of communication and collaboration between faculty who prepare the candidates and field supervisors.

The 24 field supervisors live and work in the same communities, rarely come to the main university campus and may not know the university faculty who teach the courses or be familiar with the foundations and methods courses. Most work part time with contracts for each term; a few have yearly contracts and may teach as well as supervise; three are tenure-track faculty who serve as regional contacts in addition to teaching some courses. The research team members conducting this study are faculty, one serving as the Director of the Field Experiences, which is responsible for employing and managing the 24 field supervisors, and one as an instructor of foundations courses in the professional education program. Thus the study could be considered a descriptive self-study with rigorous methods to prevent bias and protect anonymity.

Participants

The teacher candidates are placed and supervised by 24 field supervisors who were invited to participate in an anonymous online Qualtrics survey about their perceptions and role in supervision, beginning with an informed consent agreement. The researchers used university email addresses to provide a link to the Qualtrics survey. Seventeen participants responded to the survey. Participants were sent two reminder emails to respond to the survey, which remained available for about a month.

Instruments and Data Collection

The survey instrument, entitled *Field Supervisor Study Questionnaire Survey* (Appendix A), had 14 multiple-choice demographic questions about the participants' education and experience, and 18 open-ended questions about their role as a field supervisor. The responses were coded for anonymity.

Data Analysis

Responses from the field supervisors were downloaded, disaggregated, and analyzed for commonalities and relationship to the topics. The responses were then categorized into topics and categories: Demographic Summary and Summary of Responses to Questions, which will be summarized and discussed in the Results and Conclusions. The Demographic Summary

compared the supervisors' educational specialization and experience with their rank in the university system. The topics for the Summary of Responses to Questions are as follows:

1. Changing role of supervision
2. Components in role of supervision role
3. Relationship with candidates
4. Relationship with cooperating teachers
5. Relationship with university faculty
6. How to determine success as a supervisor
7.

Results and Conclusions

Demographic Summary

The field supervisors' undergraduate degrees were fairly evenly divided between elementary and secondary content areas. The majority of advanced degrees were in administration, followed by curriculum and instruction.

Table 1

Specialty and Rank

Specialty Area and Degree	Tenure Track (n=2)	Lecturer (annual) (n=6)	Adjunct (quarter) (n=9)	Total (n=17)
Elementary	0	3	2	5
Secondary	0	2	1	3
Both E & S	2	1	6	9
Administration	1	5	2	8
Curriculum and Instruction	0	0	5	5
Content Area	1	1	2	4

The tenure-track supervisors had fewer years in K-12 and more years in higher education teaching and supervision than did the adjunct supervisors. The mean number of years in K-12 teaching was 15 years, and the mean for administration was 10 years. The mean number of years in higher education supervision was 9 years.

Table 2

Experience and Rank

Years of K-12 and University Experience	Tenure Track (n=2)	Lecturer (annual) (n=6)	Adjunct (quarter) (n=9)	Total (n=17)
Mean years of K-12 teaching	15	19	13	15
Mean years of K-12 administration	3 (n=1)	10 (n=5)	10 (n=5)	10 (n=11)
Mean years of university teaching	12	6 (n=4)	5 (n=6)	6 (n=12)
Mean # candidates taught	10	2 (n=2)	3 (n=4)	3 (n=8)
Mean years of university supervision	10	9	8	9
Mean # of candidates supervised	10	8	7	7

Summary of Responses to Questions about Role of Supervision

The responses to the open-ended questions involving the supervisors' role are categorized into six general topics with individual responses grouped by commonality and relationship to the topics as shown below. The summary of responses is followed by a question that was posed and some of the respondents' quotations related to the topic stated.

Together the comments suggest a range of concerns about their role in the context of the teacher preparation sequence if not in the context of the teacher preparation program's goals. Because responses were voluntarily expressed, the content reveals what is of most concern, and the omission of some topics also reveals the degree of interest or value that the supervisors place on their roles that may differ from the perspectives of the stakeholders.

1. Changing role of supervision
    a. Requirements have changed dramatically so must make adjustments.
    b. Communication with cooperating teacher is critical to candidate success.
    c. Be a better listener instead of the expert with the answers.
    d. Student teachers must be more accountable and responsible than before.
    e. Supervisor has a more positive effect on student teacher preparation.
    f. Engaging with and being a valued resource for candidates is important.
    g. Must teach candidates about classroom management and assessment.

Question #1: How do you view your role as a university field supervisor?

A. "I see the role of the field supervisor as twofold: to supervise and to evaluate. Supervision is supporting the teacher candidate improve classroom teaching and student learning in the classroom. Evaluation is summative, where the supervisor has to make judgments of the candidate's competence and ability for teaching, student learning, disposition, and all aspects of being a professional teacher."
B. "The field supervisor is the liaison for the university, the student, and the school district. It is our role to work with the students and prepare them for the teaching profession. It is our role to work with the school district in ensuring that we adhere to their guidelines and be proactive in dealing with negative situations. Finally, it is our role to ensure that the students are positive role models for the university during their student teaching experience."

2. Components in role of supervision role
    a. Supervise and observe.
    b. Evaluate and recommend.
    c. Consult and solve problems.
    d. Mentor and encourage.
    e. Set clear expectations for performance.
    f. Facilitate candidate growth to meet goals.
    g. Provide a realistic picture of what is required of teachers.
    h. Improve teaching and learning.
    i. Share a passion for teaching.
    j. Build relationships with schools.

Question #1: How do you view your role as a university field supervisor?

A. "I am the facilitator of success for student teachers."
B. "Observe and give feedback. Share expertise from years of supervising teachers in the public school system. Support university and state criteria. Demand excellence-demand professionalism. Help 'weed out' those not capable to meet criteria/requirements."

3. Relationship with candidates
    a. Treat candidates as individuals with respect and professionalism.
    b. Develop a rapport and build trust; get to know candidates personally.
    c. Be an advocate for candidate; demonstrate understanding and support.
    d. Communicate often providing honest feedback with suggestions for improvement.
    e. Encourage introspection and reflection and allow time for sharing.
    f. Focus on continual improvement while validating experiences, ideas and efforts.
    g. Model passion, positive attitude and willingness to listen with patience.
    h. Be accessible, approachable and personally committed to candidate success.

Question #3: In your role as a field supervisor, how do you bond with the candidates?

A. "I spend time getting to know each of my candidates. I want to know a little of their educational background, their family life, and where they would like to teach. I also like to find out where they see themselves in 5 years and what their post-graduate plans are. I communicate a lot with my candidates as well."
B. "Age, experience in the classroom and as an administrator at both the building and district level allows me to speak with a degree of wisdom and understanding as I relate to my teacher candidates. Most of them appreciate my years of

experience as a teacher and a principal as I know what it is like form a practical sense and not a theoretical and book sense of the realities of a classroom."

Question #12: How do you think your candidates would describe you as a supervisor?

A. "I would hope that they first will say that I have a passion for teaching and student learning. I would like them to say that I am honest in my feedback to them. I would like them to say that I supported them and helped them grow as professional teachers. Finally, I would like them to say that they could easily talk to me and that I am a professional."

B. "According to my evaluations, most of my student teachers think I am knowledgeable and very supportive. They say I put them at ease, am very patient and offer a lot of good suggestions."

4. Relationship with cooperating teachers
    a. Communication with cooperating teachers is critical to candidate success.
    b. Make personal contact, discuss expectations, set goals and communicate weekly.
    c. Be accessible and approachable; treat them with respect and honor input.
    d. Form a partnership to help candidate be successful.
    e. Ensure positive outcome in the case of a weak or unsuccessful candidate.

Question #5: Describe your communication and professional contact with the K-12 Cooperating Teachers.

A. "I make myself available to mentors as well in the same way as I do for students. I give them respect and honor since we are guests in the classrooms. I partner with them in deciding upon a student's strengths and weaknesses each visit."

B. "The contact with the cooperating teachers is very minimal unless there is a problem. Usually I ask the teachers as well as the building administrators how things are going with the student teacher and in the majority of instances; they are pleased to have the teacher candidate in their building."

5. Relationship with university faculty
    a. Minimal contact or interaction with faculty.
    b. Hope faculty view supervisors as professional, hard-working, and committed to improving teacher quality and candidate success.
    c. Hope faculty respect supervisor knowledge and professional skills.

Question #14: How do you think the university faculty sees you?

A. "I would like the university faculty to see me as a professional teacher who believes that teaching is the world's most important work. I work to put the strongest teacher candidate in the classrooms as representatives of CWU and the teaching profession."

B. "I am based at a Center, so not sure…Probably as a non-entity. It would be very interesting if you asked how the supervisors view the university faculty."

6. How to determine success as a supervisor
    a. Candidates successfully and effectively complete student teaching.
    b. Effectively assist struggling candidates to become successful.
    c. Assist in creating dynamic and caring teachers.
    d. Feedback received from candidates and cooperating teacher.
    e. Candidates are hired after graduation.

Question 15: How do you know if you have accomplished your purposes and succeeded as a field supervisor?

A. "I know I have been successful as a supervisor when the candidate successfully and effectively implements the teaching cycle and is able to participate in other professional activities, and is able to have a life. I know because I hear it from the Cooperating Teacher and administrator. I also know that I am successful as a field supervisor when I am able to help a struggling candidate to improve and reach their goal as a teacher."
B. "If someone walking by the classroom glanced into the room and thought they were seeing and hearing the regular classroom teacher, then I have done my job. If the students sitting at the desks in that classroom are engaged in their learning, and if the student teacher is excited about his/her lesson, then I have done my job. If I have helped to create a dynamic and caring teacher, then I have done my job."

Supervisors' personal responses and these threads of commonalities support what was found in the literature review. Communication and building rapport with both candidates and cooperating teachers are crucial components for candidate success. Generally, field supervisors highly value their role in supporting teacher candidates success during student teaching and feel they offer something unique being practitioners that university faculty do not.

Discussion and Implications for Practice

The majority of field supervisors are practitioners in this case study who retired from public schools as teachers and administrators with a clinical rather than theoretical or research background, and their approach differs from university faculty. Their philosophy is based on personal experience rather than current research on best practices. Most of the field supervisors see their role as a mentor, consultant and facilitator, and forming a positive, supportive relationship with the candidate appears to supersede all other concerns as that theme was reiterated throughout the responses. They feel they have been successful as a supervisor if the candidate is successful in student teaching, graduates and is hired. Their relationship with faculty is ambiguous; they are not sure how faculty members view their efforts, and they want to be respected as professionals. Some supervisors do not feel faculty members are adequately preparing candidates for the classroom. They see themselves as partners with cooperating teachers. The supervisors' emphasis is on the candidates' need for dispositions and skills for classroom survival for improving instructional practice, rather than theoretical constructs, which they believe candidates learned in their university courses.

Conclusions

The significance of these findings corroborates some of the previous research on field supervision as well as providing suggestions for program improvement and continuity between faculty and supervisors within the university. In an informal survey of our colleagues from 12 universities in our state, we found commonalities in their approach to field supervision. The majority of the other universities' field supervisors are composed of adjunct, non-tenure track faculty or lecturers, and typically they are retired professionals from the public schools. This study considered how teacher preparation programs, as represented by student teacher supervisors, support both teachers' and supervisors' on-going, reflective practices and professional growth. The qualitative evidence gathered in this study has direct bearing on how teacher preparation programs can more effectively utilize the skills, knowledge, and expertise

supervisors bring to the education process. Clearly there is a need for greater collaboration between faculty in the Teacher Preparation Program and the field supervisors. More specifically, retired teacher administrators may need encouragement to reframe their own reflective practices to better consider, weigh, and balance the (at times conflicting) requirements of the TPP with expectations of the teacher candidates. Ultimately, improving teacher preparation requires that we reflect upon, assess, and evaluate the success of every element of the education, training, and indoctrination process.

Given the national concern for quality teacher preparation, the researchers are in the process of collaborating with several other regional comprehensive universities in other states that are conducting similar studies in order to identify any widespread trends and to see if the conclusions of this study are applicable elsewhere. This phase of the inquiry will prompt discussion of the same topics with the intent to assist other teacher preparation programs trying to align field supervision with the program curriculum.

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Appendix A: Field Supervisor Study Questionnaire Survey

Introduction

The purpose of this survey is to ascertain how you interpret your role as a university field supervisor for student teachers and what that role looks like in the schools. There is very little research available in the review of literature that discusses the role of the university supervisor. We would like to contribute to the field of knowledge as well as establish consensus for program improvement and data for external evaluation. Thank you for taking time to assist us by completing the survey and submitting it via Qualtrics. You will be sent a summary of the results.

Dr. Jan Byers-Kirsch and Dr. Naomi Jeffery Petersen

Gender: Male Female
Undergraduate Degree Specialty: Elementary Secondary Both
Graduate Degree: Administration Curriculum and Instruction Academic Area
University Contract: Tenure-Track Lecturer/Supervisor (yearly) Supervisor (quarterly)
Course load: Full-time (annually) Part-time (quarterly)
Candidates Taught Quarterly: 1-10 11-20 21-30 31-40 <40
Candidates Supervised Quarterly: 1-5 6-10 11-15 <15
Years in University Teaching: 1-5 6-10 11-20 <20
Years in University Supervising: 1-5 5-10 15 or more
Years in K-12 Teaching: 1-5 5-10 15 or more
Years in K-12 Administration: 1-5 5-10 15 or more

1. How do you view your role as a university field supervisor?
2. If you have taught university courses, what are they and how do they impact your role as a field supervisor?
3. In your role as a field supervisor, how do you bond with the candidates?
4. Describe your communication and professional contact with the candidates.
5. Describe your communication and professional contact with the K-12 Cooperating Teachers.
6. Describe how you work with anyone else in the schools in order to support the candidates and Cooperating Teachers.
7. How many times a quarter do you visit your student teachers, and how many visits do you feel is an effective number?
8. Describe your visits with candidates in the schools.
9. Why would you decide to make an additional visit with a student teacher?
10. How do additional visits impact your goals as a supervisor?
11. Describe the activities, including advising and follow up, accomplished in these additional visits.
12. How do think your candidates would describe you as a supervisor?
13. How do you think the K-12 Cooperating Teachers see you as a supervisor?
14. How do you think university faculty sees you?

15. What allows you to feel you have accomplished your purposes and succeeded as a field supervisor?
16. How have your philosophy and role changed since you first became a field supervisor?

Physical Activity during Full-Day and Half-Day Kindergarten

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University of Victoria, BC

Abstract

The aim of this study was to compare the physical activity levels of children during full-day and half-day kindergarten. Of the 47 children who participated in this study, 22 (girls = 50%) attended full-day kindergarten and 25 (girls = 40%) attended half-days. Actigraph activity monitors were used to assess physical activity and sedentary behavior of the children. We found that children were more active during full-day kindergarten. The rates of light-intensity physical activity were significantly higher during full-day kindergarten. However, levels of moderate-to-vigorous physical activity (MVPA) were quite low, and efforts to promote MVPA would be beneficial.

Physical activity is any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above a basal level (Caspersen, Powell, & Christenson, 1985). However, most guidelines for physical activity focus on a sub-set of physical activity referred to as moderate-to-vigorous physical activity or MVPA. For children, moderate-intensity physical activity equates with activities that are at least four times the intensity of rest (Trost, Loprinzi, Moore, & Pfeiffer, 2011). Brisk walking is indicative of this intensity of physical activity among children (Mattocks et al., 2007). Both the *Activity Guidelines for Americans* (U.S. Department of Health and Human Services, 2008b) and the *Canadian Physical Activity Guidelines* (Canadian Society for Exercise Physiology, 2011) recommend that children accumulate at least 60 minutes of MVPA per day.

It has also been recognized that a lack of physical activity, or sedentary behavior, is a separate and independent predictor of health risk (Ekelund et al., 2006; Wong & Leatherdale, 2009). As a result, reducing sedentary behaviors such as watching television and using the computer or playing video games have become a priority. Limiting recreational screen time to no more than two hours per day and reducing sedentary (motorized) transport is recommended in both Canada and the USA (American Academy of Pediatrics, 2006; Tremblay et al., 2011). The recently published Canadian sedentary behavior guidelines also recommend limiting extended sitting and reducing time spent indoors throughout the day (Tremblay et al.).

There is strong evidence that people who are physically active "have higher levels of health-related fitness and a lower risk profile for developing a number of disabling medical conditions than do people who are inactive" (U.S. Department of Health and Human Services, 2008a, E-22). For children and youth, the major benefits of physical activity are improved: cardiorespiratory and muscular fitness, cardiovascular and metabolic health biomarkers, bone health, body composition, and mental health (Janssen & LeBlanc, 2010; U.S. Department of Health and Human Services, 2008a). These benefits are largely associated with participation in MVPA (U.S. Department of Health and Human Services, 2008a); however, light-intensity physical activity is also associated with healthier body composition and weight status among children (Kwon, Janz, Burns, & Levy, 2011; Stone, Rowlands, Middlebrooke, Jawis, & Eston, 2009).

Despite the noted health benefits of physical activity, levels of physical activity among children are low (Active Healthy Kids Canada, 2010) and have been declining over the past several decades (Knuth & Hallal, 2009). Presently, only 9% of boys and 4% of girls are meeting the Canadian guideline of 60 minutes of MVPA daily (Colley et al., 2011). Most boys and girls, particularly young children, are not in a position to control access to physical activity opportunities. The physical and social environments in which they spend time have a powerful influence on their participation in healthful behaviors (Dooris et al., 2007); including their physical activity behaviors (Bower et al., 2008; Dowda, Pate, Trost, Almeida, & Sirard, 2004; Finn, Johannsen, & Specker, 2002; Pate, Pfeiffer, Trost, Ziegler, & Dowda, 2004). It is therefore important that parents, care-providers, and teachers provide access to environments that foster physical activity and encourage children to be active.

Implementation of Full-Day Kindergarten in BC

In 2008 the Province of British Columbia committed to assess the feasibility of implementing full school day kindergarten for five-year-olds (The Honourable Steven L. Point, 2008). The government committed $365 million over three years to implement full-day kindergarten for all eligible children by September 2011 (Ministry of Education, n.d.). Starting in 2010, the BC Ministry of Education began a two-year process of phasing in access. The aim was to have up to 50% enrolment in full-day kindergarten in the first wave (i.e. the 2010-11 school year) and complete access in 2011-12. During the first wave, where approximately 50% of the children were in half-day kindergarten and 50% in full-day; the BC Principals' and Vice-Principals Association sponsored a research project examining teachers', administrators', and parents' perceptions of the first year of 'full-day K' (BC Principals' and Vice-Principals' Association, 2011). Teachers' perceived there was a "gift of time" that allowed extension and enhancement of the children's school experiences. Opportunities for active play were mentioned frequently, as one administrator commented:

> There are definitely more play times in the day and I see teachers changing the way that they structure the day. Students are getting more time for gross motor skill development and play outside more during the day and in the gym. Teachers tend to take more time to reinforce skills. The number of field trips has increased, even if this only looks like a nature walk. (p.69)

Parents were also supportive of the emphasis of the full-day programs, including the "active physical play activities" (p.16).

There is considerable evidence that children who experience full-day kindergarten demonstrate higher end-of-year academic and social development compared with children who experience half-day kindergarten (e.g. Lee, Burkam, Ready, Honigman, & Meisels, 2006; Votruba-Drzal, Li-Grining, & Maldonado-Carreno, 2008). A recent synthesis of the research evidence demonstrated that compared to half-day kindergarten, full-day kindergarten was associated positively with academic achievement, self-confidence, and children's ability to work/play with others (Cooper, Allen, Patall, & Dent, 2010). These positive benefits exist irrespective of children's academic backgrounds or the features of their schools (Lee et al., 2006). However, outcomes in the physical domain have received virtually no attention.

Only one study has examined outcomes of full-day kindergarten compared with half-day kindergarten in the physical domain. Markovic and Bogdanovic (2010) assessed changes in balance, upper and lower body strength, speed, and object control (i.e. rolling a ball) of 118 kindergarten children in the Republic of Serbia. Both boys and girls in the full-day kindergarten (n = 69) showed significantly greater levels of lower body strength, speed, and balance (boys only) compared with the half-day kindergarten group.

Given the importance of physical activity for children's health and well being, the demonstrated positive academic and social benefits of full-day kindergarten, and the lack of research on the impact of full-day kindergarten on the physical domain; the aim of this study was to examine the physical activity levels of children during full-day and half-day kindergarten. As children were at school for different lengths of time; we examined the rates of moderate-vigorous physical activity, light-intensity physical activity, and sedentary behavior per minute of time at school. In concert with the testimonies of BC teachers about a 'gift of time' we hypothesized that the level of physical activity would be higher during full-day kindergarten. Further, we explored whether children in half-day kindergarten were more or less active in their half-day at home compared with their half-day at school.

Method

Participants

Kindergarten children (5 – 6 years-of-age) were recruited from six schools in one school district on Vancouver Island, British Columbia, Canada. Three of these schools offered full-day kindergarten and three offered half-day kindergarten. Approval for this study was granted by the University Human Research Ethics Board and the school district. Written informed consent was obtained from parents and children provided assent. Parents of 106 children consented to their child's participation in this study. Fifty-nine of these children did not meet the minimum wear time criteria for the activity monitor, therefore the final sample was n = 47. Of these, 22 (girls = 50%) attended full-day kindergarten and 25 (girls = 40%) attended half-days.

Measurement of Physical Activity

The GT1M Actigraph activity monitor (Actigraph, LLC; Fort Walton Beach, FL) was used to quantify physical activity every 15 seconds. The device is small, lightweight, and unobtrusive. It detects normal human motion in a single vertical axis. The Actigraph monitor provides valid assessments of physical activity of young children (Trost et al., 2011; Trost, Pate, Freedson, Sallis, & Taylor, 2000). The monitors were attached to adjustable elasticized bands and worn over a hip. The children were asked to wear the monitor for seven days from 8am to 8pm; and the minimum criterion for inclusion in present study was 80% wear time between 8:00am and 4:00pm, or a total of at least 6.4hours, for at least 4 of the 5 school days.

To compare participation in physical activity for full-day and half-day kindergarten, we examined the rates of physical activity and sedentary behavior per minute of time at school. More specifically, eight hours were included in the analysis for full-day kindergarten (i.e. 8:00am - 4:00pm); and four hours for half-day kindergarten (i.e. morning kindergarten: 8:00am - 12:00am, afternoon kindergarten: 12:01pm - 4:00pm). These times included some time for commuting to and from school. For morning half-day students, out-of-school wear time was the four afternoon hours; and the reverse applied for the afternoon half-day students.

Data Treatment and Analysis

Data from the activity monitors were uploaded to the KineSoft software program (Esliger & Finlay, 2010) to determine the total number of minutes spent in sedentary, light, and moderate to vigorous physical activity (MVPA). Age-specific cutoffs corresponding to activity intensity were applied using metabolic equivalents (METs). Sedentary activity was defined as less than 1.5 METs, light activity between ≥ 1.5 and <4 METs and MVPA as ≥4 METs as established by Trost et al. (2011). We also examined the amount of physical activity performed at ≥ 3METs, as this has been used as a more liberal measure of moderate-intensity physical activity in several previous studies of physical activity in children (Freedson, Pober, & Janz, 2005; Nettlefold et al., 2011; Puyau, Adolph, Vohra, & Butte, 2002).

A multivariate analysis of variance (MANOVA) was used to examine the dependent measures: light activity, MVPA, and sedentary behavior with kindergarten type (i.e. full-day vs. half-day) as the factor. A univariate analysis was also conducted to examine the proportion of physical activity classified as ≥ 3 METs i.e. three times the energy cost of rest. A second MANOVA was conducted comparing in-school vs. out-of-school activity for the half-day kindergarten children only. Means and standard deviations were also computed for the dependent measures. Overall daily physical activity and sedentary behavior of full-day and half-day kindergarten children was also examined using a MANOVA. All analyses were performed using SPSS® 19 for Windows (SPSS Inc., 2010).

Results

The rates per minute of sedentary behavior, light activity, MVPA, and moderate physical activity at ≥ 3 METs for half-day and full-day kindergarten children are shown in Table 1. The MANOVA showed a significant overall effect for full-day vs. half-day as suggested by Wilk's lambda (Neal & King, 1969) of .833 with F (2, 44) = 4.396, p = .018. Results of univariate F tests for each dependent variable are presented in Table 1. Compared with half-day participants, there was significantly greater rate of participation in light-intensity physical activity and a significantly lower rate of sedentary behavior among full-day participants. There was no difference in MVPA at 4 METs; however at ≥ 3 METs full-day children participated in physical activity at a significantly higher rate $F(1,46) = 8.93$, p = .005. On average, full-day participants were sedentary for 324.0 min, participated in light-intensity physical activity for 151.7 min, and MVPA (≥ 4 METs) for 4.3 min of the school day. At ≥ 3 METs, children in full-day kindergarten participated in approximately 48 minutes of physical activity during the school day.

The second MANOVA examined whether children in half-day kindergarten were more or less active during the four hours in-school compared to four hours out-of-school. The MANOVA showed a significant overall effect as suggested by Wilk's lambda of .834 with F (2, 47) = 4.674, p = .014. Descriptive statistics and the results of univariate F tests for each dependent variable are presented in Table 2. Children had higher rates of light-intensity activity and lower levels of sedentary behavior, out-of-school. There was no difference in MVPA measured as ≥ 4 METs;

Table 1

Rate per minute of physical activity and sedentary behavior for half-day and full-day kindergarten students

	Full-day (n = 22)		Half-day (n = 25)		
	M	*SD*	*M*	*SD*	*p*
Sedentary (< 1.5 METs)	0.675	0.054	0.719	0.053	.006
Light activity (≥ 1.5 <4 METs)	0.316	0.053	0.271	0.050	.004
MVPA (≥ 4 METs)	0.009	0.004	0.010	0.019	.869
≥ 3 METs	0.101	0.027	0.075	0.033	.005

however children were significantly more active out of school at ≥ 3 METs (p = .026). Overall daily (8 hours in-school and out-of-school) physical activity and sedentary behavior did not differ between full-day and half-day students; Wilk's lambda = .961, F (2, 44) = 0.883, p = .421.

Table 2

Physical activity and sedentary behavior in- and out-of-school for half-day kindergarten students

	In-School		Out-of-school		
	M	*SD*	*M*	*SD*	*p*
Sedentary (< 1.5 METs)	0.719	0.053	0.668	0.068	.005
Light activity (≥ 1.5 <4 METs)	0.271	0.050	0.322	0.067	.003
MVPA (≥ 4 METs)	0.010	0.019	0.009	0.007	.894
≥ 3 METs	0.075	0.033	0.096	0.034	.026

Discussion

The aim of this study was to compare children's rate of physical activity and sedentary behavior during full-day and half-day kindergarten. We found that children were more active during full-day kindergarten than half-day kindergarten. The rates of light-intensity physical activity and moderate physical activity when it was defined as ≥ 3 METs were significantly

higher during full-day kindergarten. Conversely children were more sedentary during half-day kindergarten. Children in full-day and half-day kindergarten accumulated approximately 48 minutes and 18 minutes of physical activity respectively during their time at school, when the definition of moderate was more liberal (3 METs or greater). A little over 2½ hours of light-intensity physical activity (≥ 1.5 and <4 METs) was accumulated by children in full-day kindergarten at school. These results are both significant and meaningful. Both higher levels of light-intensity physical activity and lower levels of sedentary behavior have been associated with positive health benefits for children (Kwon et al., 2011; Tremblay et al., 2011).

However, when a more stringent definition was used (≥ 4 METs) the rates of MVPA were not significantly different between full-day and half-day kindergarten and the level of MVPA for both groups was quite low. Full-day children were accumulating slightly over 4 minutes and half-day just over 2 minutes of MVPA at school. Similarly, half-day children accrued only 2 minutes of MVPA out-of-school using this definition. The Canadian guidelines for physical activity for children aged 5 – 11 years recommend a minimum of 60 minutes of MVPA per day. Moderate-intensity physical activity elicits a cardiovascular response; that is, a higher heart rate (McManus, 2007) and a behavioral indicator of MVPA at 4 METs is brisk walking; but can also include running, jumping, hopping, skipping, climbing, or other activities that use large muscle groups. It is clear from our results that the children accrued very little MVPA at intensities of 4 METs or greater. The health benefits of participation at higher intensities are above and beyond those for light-intensity physical activity; particularly in terms of enhanced cardiorespiratory fitness and bone health (U.S. Department of Health and Human Services, 2008a). Fostering MVPA is an important goal for healthy child development. Given the length of time children spend at school each day, facilitation of higher rates of MVPA at greater than 4 METs would be very beneficial.

We also explored whether children in half-day kindergarten were more or less active in their half-day at home compared with their half-day at school. The findings clearly show that children were less active and more sedentary at school. Half-day kindergarten children were less active at school than the full-day kindergarten children and also less active at school than at home. These findings intimate that teachers of half-day kindergarten may be experiencing a cramped curriculum and thus physical activity and gross motor development was a lower priority. As Cooper et al. (2010) suggested, a major advantage of full-day kindergarten is less hurried instruction. It would seem that full-day kindergarten also afforded more opportunities for physical activity. Interestingly, when the children's total daily physical activity was considered irrespective of their context (i.e. at school or at home); there were no differences in physical activity and sedentary behaviour between the groups. This suggests that the half-day kindergarten children were 'making up' for their inactivity at school by being more active when not at school.

Our findings are consistent with teachers' perceptions that full-day kindergarten provided a 'gift of time' and administrators' perceptions that children were more active in full-day kindergarten (BC Principals' and Vice-Principals' Association, 2011). Previous research has shown that teachers of full-day kindergarten classes report spending only about one-third more time on 'instruction' than those who teach half-day classes (Lee et al., 2006). The remaining time is used to diversify and extend children's experiences. Some of the teachers of full-day kindergarten in our study informally reported including more physical activity during the school day. For example, at one of the three full-day kindergarten schools, children participated in a 'kilometre club'. All children walked ½ kilometre with their teacher after morning recess and

another ½ kilometre after lunch. This is the type of activity that would fall in the 3 – 4 MET range i.e. slightly below the 'brisk walk' threshold; but it would contribute to the higher overall rates of physical activity among full-day kindergarten children.

This study was limited to one school district in British Columbia and a sample of children whose parents agreed that their children's physical activity could be monitored for one week. Therefore these findings should be treated as preliminary. As full-day kindergarten is now available for all five-year-olds in the province of British Columbia; we cannot repeat or expand on these findings. However, we cautiously suggest that in the first year of implementation, children in full-day kindergarten participated in light-moderate intensity physical activity at a significantly higher rate than half-day kindergarten children; and conversely they were less sedentary. In an era where children are experiencing record low levels of physical activity and record high levels of overweight and obesity it is important that schools strive to maintain these higher levels of physical activity during full-day kindergarten. It is also important that children participate in MVPA that elevates their heart rates and breathing rates as these activities afford additional health benefits.

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Acknowledgement

This research was funded in part by a University of Victoria SSHRC Internal Research Grant.

Becoming the Cultural "Other": Pre-service teachers conducting ethnographic projects while studying abroad

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Abstract

In the summer of 2011 a group of pre-service teachers from Western Oregon University joined a study-abroad program in Argentina. During their approximate two-month stay, pre-service students had the opportunity to take intensive coursework in Spanish, as well enroll in credit-bearing courses leading to an ESOL endorsement (English for Speakers of Other Languages). One of the ESOL courses offered during the program was "Culture and Community in ESOL/Bilingual Classrooms." This article is written by five of the students who participated in this course, in collaboration with their professor. In particular, the article focuses on an ethnographic course project.

Background

In Oregon, teachers working with high populations of English language learners are required (or encouraged) to add an ESOL or Bilingual/ESOL endorsement to their teaching licenses. To obtain the endorsement, candidates must complete university coursework, participate in a supervised practicum experience, and pass a standardized exam. Western Oregon University (WOU) offers the ESOL and Bilingual/ESOL program to both pre-service and in-service teacher candidates. Courses in the program focus on four key areas: 1) history, current policy and practice; 2) culture; 3) language and language acquisition; and 4) instruction and assessment.

The overarching goal of the Bilingual/ESOL program at WOU is to help candidates become *culturally and linguistically responsive* teachers. As Gay and Kirkland (2003) point out, culturally responsive teaching involves "using the cultures, experiences and perspectives of students as filters through which to teach them academic knowledge and skills" (p. 181). Similarly, Lucas and Villegas (2011) argue that an important quality of culturally responsive teachers is the development of *sociocultural consciousness*, which entails "an understanding that language, culture, and identity are deeply connected, and[...] an awareness of the sociopolitical dimensions of language use and language education" (pp. 56-57). WOU's ESOL study-abroad program grew out of the desire to deepen our candidates' skills in these areas. The second language and cultural environment in Argentina provides the ideal context for discussion, investigation and self-reflection on cultural systems through a critical perspective of "otherness" (Smolcic, 2011).

The course "Culture and Community in ESOL/Bilingual Classrooms" focuses on the interrelatedness among language, culture and learning, sociopolitical factors and school practices that affect the academic achievement of English language learners, and culturally relevant practices that foster meaningful learning in the classroom and that build strong partnerships between families, schools and communities. Course topics include principles of multicultural education (Nieto, 2003), parent involvement in schools (Ada, 1999), research on "funds of

knowledge" (González et al., 2005), and issues related to language, discourse and power (Cummins, 2001; Fillmore, 2000). To acquire a broader perspective on the country and its people, topics related to social, political, cultural and historical issues in Argentina (e.g., human rights and education) are explored through guest lectures, visits to schools, museums and cultural sites, movies and other activities.

To capitalize on the immersion experience afforded by the Argentinean context, students complete an ethnographic project. They learn how to utilize qualitative techniques such as participant observation, field notes and interviews to investigate local cultures and make cross-cultural comparisons. The objective is to help them to make thoughtful observations without quick leaps of judgment, to provide detailed descriptions based on situated experiences, to examine their own perspectives and learn about other ways of being (Borg, 2010; Dantas-Whitney, 2010a; Frank, 1999). As Roberts et al. (2001) describe, ethnographic projects encourage students to question their own assumptions about how they construct meanings, and ultimately develop autonomy and flexibility.

Theoretical Perspectives: Sociocultural, Reflective and Critical Approaches to Pedagogy

Sociocultural, reflective and critical approaches to learning recognize that teaching is a complex, dynamic and situated process, as opposed to simply a collection of technical skills (Dantas-Whitney, 2010b). Teachers must take into consideration the resources, constraints and challenges of their local settings to create an environment where learners can interact and collaborate to build new understandings.

Sociocultural approaches acknowledge that learners' experiences, skills and beliefs are important sources of learning. Learners are creators of their own knowledge; they learn by constructing new meanings based on prior experiences. From a sociocultural perspective, the learning process is viewed as an internal process of invention and reflection, rather than as a passive process of accumulation. Learners are not viewed as "empty vessels" who need to be filled with knowledge; rather, they are viewed as active seekers and creators of meaning. As Cummins (2006) states, "prior knowledge, skills, beliefs, and concepts significantly influence what learners notice about their environment and how they organize and interpret it" (p. 56). Therefore, classroom activities should be designed to help learners gain access to their experiences and beliefs so they can reshape their existing knowledge in light of new course content. Teachers should take advantage of students' "funds of knowledge" (González et al., 2005), the knowledge and skill sets available in the households and communities of students, to contextualize language and to design meaningful curricula and class activities. This includes using students' home and heritage languages as resources for learning an additional language.

Contrary to the modern conception that every individual has a fixed and essential identity, sociocultural approaches emphasize the multiple and changing nature of identities, shaped by the contexts and situations in which the individual operates. This dynamic notion of identity is critical for language learning, since language is "the place where our sense of ourselves, our subjectivity, is constructed" (Weedon, cited in Norton Peirce, 1995, p. 15). Norton Peirce (1995) argues that our theory of language learning must regard learners as "having a complex social identity [because] it is through language that a person negotiates a sense of self within and across different sites at different points in time, and it is through language that a person gains access to—or is denied access to—powerful social networks that give learners the opportunity to speak" (p. 13). Cummins (2006) points out that *identity investment* is an essential component of

learning, and proposes educational activities which inspire students to examine actively the themes that characterize their identity(ies) in the world. The concept of identity investment has important implications for teacher education. Students' identities are deeply influenced by the patterns of interaction and the power relations they experience in the classroom, at school, and in society. Therefore, teachers need to provide all students, and particularly those from marginalized groups, with opportunities to develop positive identities that are linked to competence in academic areas. Cummins and Early (2011) explain:

> Educators have considerable power to affect student identity construction in positive (and unfortunately, in negative) ways. Teachers' instructional choices within the classroom play a huge role in determining the extent to which students will emerge from an identity cocoon defined by their assumed limitations (e.g., 'ESL student') to an interpersonal space defined by their talents and accomplishments, both linguistic and intellectual. For this to happen, teachers must 'see through' the institutional labels to the potential within (p. xvi).

A critical and reflective orientation to education views teaching and learning processes as potential tools for student empowerment and liberation. It advocates a "transformative relationship between students and teacher, students and learning, and students and society" (Shor, 1993, p. 27). As Pennycook puts it, a critical reflective practice "seeks to understand and critique the historical and sociopolitical context of schooling and to develop pedagogical practices that aim not only to change the nature of schooling, but also the wider society" (cited in Crookes & Lehner, 1998, p. 319). To this end, critical educators suggest classroom practices which promote dialogue, empowerment and critical reflection (Freire, 1970; Rose, 2011). A critical orientation is particularly relevant to second language education because language learners do not share the linguistic or the cultural practices of the dominant community (Auerbach, 2000). Issues of access and power relations must be considered in second language research and in the classroom. As Norton and Toohey (2001) remark, second language educators "need to pay close attention to how communities and their practices are structured in order to examine how this structuring facilitates or constrains learners' access to the linguistic resources of their communities" (p. 312).

Ethnography as a Tool for Learning and Reflection

Gay and Kirkland (2003) remind us that teacher candidates need structured and guided opportunities to engage in critical consciousness and personal reflection. They point out that reflective tasks in teacher education often lead to generic accounts of "newly found awareness" without deep consideration of "the implications and consequences of this knowledge for changing personal and professional behaviors" (p. 184). To overcome this challenge, they recommend using concrete situations and specific contexts as catalysts for reflection. "Real-life experiences make the learning activities more genuine and authentic, and lessen the likelihood that students will escape the intellectual, emotional, psychological, moral, and pedagogical challenges inherent in reflection and critical consciousness" (p. 186).

Ethnographic projects have the potential to provide teacher candidates with concrete situations and real-life experiences needed for meaningful personal reflection. Through a systematic process of conscious observation, detailed description and intensive analysis,

candidates start building understandings about the contexts and communities they are studying. Ethnography is by definition situated and contextualized. The goal is to embrace complexity, rather than to simplify reality (Blommaert & Jie, 2010). While conducting their ethnographic projects, candidates adopt an emic, or participant-informed perspective, taking into consideration the subjective views of the participants in the research process. At the same time, they experience what it means to be "different" from the majority of the people in a society (Smolcic, 2011). As Blommaert and Jie (2010) describe, ethnography is often a "critical and counter-hegemonic" (p. 10) enterprise because of its potential to challenge established views and to question accepted norms and expectations.

Roberts, Bryam, Barro, Jordan and Street (2001) report on ethnographic projects conducted by university students during a period of residence abroad. They describe four categories of learning derived from projects such as these:

1. *Local social and cultural knowledge*. This involves developing an understanding of one's own and others' particular cultural practices in local contexts.
2. *Processes of interrogation and relativisation*. This involves developing in students the habit of constantly interrogating the source of their knowledge and so questioning their own assumptions about how they construct meanings, values and attitudes. This, in turn, leads to developing the habit of relativising, of seeing one's own and others' worlds as socially constructed and not natural, normative and universal.
3. *Observation, social interaction and analytical skills*. This involves developing a number of skills out of ethnographic methodology and the opportunities for interaction created by the demands of the ethnographic project.
4. *Personal development*. This involves developing initiative, autonomy, self-confidence and flexibility. (Roberts et al., 2001, p. 42-43)

Good teachers are constantly reflecting on their practices, taking into consideration the constraints of their individual contexts and the particular needs of their students. They "assess the local needs, observe their teaching acts, evaluate their outcomes, identify problems, and find solutions. Such a continual cycle of observation, reflection and action must be firmly planted in ground reality" (Kumaravadivelu, 2012, p. 13). Ethnography is a useful tool for teachers because it helps them observe their own classrooms more effectively, interpret classroom events from multiple perspectives, and create a basis for informed action. Ethnography helps teachers become reflective practioners. As Frank (1999) points out, "an ethnographic perspective provides a lens to understand […] particular patterns of classroom life which often become invisible because they become so regular, patterned, and ordinary" (p. 3).

The Ethnographic Project in Argentina

One of the main assignments of the "Culture and Community in ESOL/Bilingual Classrooms" course in Argentina was an ethnographic project. Because of the short and intensive nature of the course (40 hours in 3 weeks), the students couldn't conduct a long-term ethnographic study. Nevertheless, the class learned ethnographic techniques for data collection (e.g., participant observations, field notes, interviews, photographs) and analysis (e.g., rich description, thematic patterning, building emerging theories). The students were encouraged to choose topics for their investigation based on their interests. They conducted their observations in settings they were used

to frequenting such as their host families' homes, cafés, restaurants, and parks. They each conducted three or four interviews with members of their host families, their Spanish teachers, as well as other local acquaintances. At the end of the course, they wrote a paper discussing their purpose and rationale for the project, their methodology and analysis, and their conclusions. They presented the project to the class, and at the end, they wrote a reflection based on what they learned and the implications for their future teaching.

The team examined each other's papers and reflections and identified recurring themes within and across documents. In the following analysis, we discuss these salient themes.

Frustration and discomfort leading to awareness

For many of us, the choice of research question came out of a sense of frustration or uneasiness with some of the cultural practices we were experiencing. Many of the behaviors and actions we were observing seemed odd, or even rude, to us. Little by little, we became aware that we were using our own cultural lenses to interpret these behaviors. The ethnographic project became an opportunity to dispel our biases and preconceived assumptions:

> Chelsea:
> This particular café was larger than most. It was packed. Even the seating outside was full despite the cold wind. It took the waitress nearly ten minutes to greet us and get our drink order. It took an additional ten to actually get the drinks. As we were sitting around the table complaining about the wait, I began to think to myself; surely other customers must be annoyed with this "horrible" service. That did not seem to be the case. Everyone seemed to be at peace and very relaxed. It looked as though everyone was in deep conversation with the other people at their table. This is when I had a cultural awareness moment, not only about the Argentinean culture but my culture as well.

> Maggie:
> When I first arrived I was a bit uncomfortable being so close to others, especially those I didn't know. It was interesting to me how Argentineans interacted and greeted each other in different locations… A similar experience occurred just the other day in my Spanish class. I had misunderstood [the teacher's] correction and when she came back around she pointed it out. She placed her hand on my shoulder, with her body very close. I almost moved away at first because in the U.S. teachers never make physical contact.

Cross-cultural comparisons

As we examined our papers and shared our reflections, we noticed that all of us connected what we were observing and learning to our existing knowledge and previous experiences. Many times our choice of research topic was elicited by the cross-cultural comparisons we were constantly making. This allowed us to establish personal relevance for our research:

> Haley:
> Upon my arrival into Argentina, I noticed a variety of social groups and was

curious as to any patterns of these social groups. At home, there are various social groups that I am a part of (with family, friends and boyfriend) and I was curious to find out the patterns and frequency of these groups in the Argentinean culture.

Jessica:
An adjustment that was difficult at first to make was eating dinner no earlier than 9:00 PM. At my home in Oregon I always have dinner on the table no later than 7:00 PM. Lunch around 12:00 PM and dinner no sooner than 9:00 PM? I thought to myself, "Don't these people get hungry between meals?" After a few days of walking home from class and observing the behaviors of people, I realized an interesting occurrence. Between these times people flood the streets… and seem to concentrate around cafés and bars. I decided I wanted to explore this topic a little more in-depth so that I can better understand the culture here and be a more active participant in it.

Lindsay:
I have a dog at home and she is extremely spoiled. She gets fed four times a day at the same time every day, can go outside or come inside as she pleases and receives a ton of love and attention every day. So after seeing all these stray dogs running around on their own, I wondered how they survived. After looking more closely I realized that none of these dogs look starved or sad, but that they actually looked content and some even had clothes on. I have slowly learned through observation how these dogs survive.

Understanding students' cultures

García (2002) points out that "we may all possess the thinking skills… but if our experiences and mental representations of these experiences differ, the results of our thinking will differ. Herein is the basis for recognizing that diversity in experience is diversity in thinking" (p. 243). Through our class readings and discussions, we came to understand that our students' past experiences determine who they are and how they think and learn. In order to teach them effectively, we need to tap into their prior knowledge. The ethnographic project brought this realization to light:

Lindsay:
This reminded me how complicated culture is and as a future teacher it is going to be near impossible to understand every student's identity, but it is my responsibility and my opportunity to try and learn as much as I can from them.

Haley:
This process of ethnography will be valuable in the classroom to learn about the backgrounds and culture of our students. It is so vital that we make this effort to understand our students' cultures. In doing this we can successfully teach our students by make meaningful connections from their education to their own lives.

Teachers as learners

Perhaps the most important benefit of the ethnographic project was that it encouraged us to adopt the role of *teachers as learners*. "When teachers shed their role of teacher and expert and, instead, take on a new role as learner, they can come to know their students and the families of their students in new and distinct ways" (Lopez, 2006, para. 2). Being able to check on our assumptions and to observe without making generalizations and value judgments is a skill that we will take with us when interacting with our future students and their families:

> Haley:
> I developed more cultural observation skills – the ability to observe without bias or assuming social norms before I take the time to observe.
>
> Chelsea:
> The most important thing I learned was just because one culture may do something completely different than what I'm used to, it does not mean that it is wrong, or that my way is right. It is just a different lifestyle.
>
> Maggie:
> I realized that my culture and other cultures aren't going to do all things the same, but [I need to] know why I do things and also be open-minded to new "ways of life."

Implications

Lucas and Villegas' (2011) framework for culturally and linguistically responsive teacher education outlines important qualities teachers must develop in order to effectively serve students from diverse backgrounds. These qualities include attitudes and beliefs (i.e., "orientations" such as sociolinguistic and sociocultural consciousness, value of diversity, and desire to advocate for students and families), as well as knowledge and skills (i.e., knowing the students you are serving, and applying key principles of second language learning in the classroom). The framework highlights the need for teacher education programs to provide opportunities for candidates to understand their students' experiences and backgrounds, and to become aware of their own assumptions and perceptions regarding students' languages and cultures.

The development of sociocultural consciousness is a life-long journey, and cannot be accomplished through one assignment, or even one class (Dantas-Whitney, Mize, & Waldschmidt, 2009). Teacher education programs should provide multiple co-curricular opportunities for students that emphasize a reflective and culturally-minded inclusive education which prepares them for teaching and problem-solving in authentic ways. However, co-curricular assignments can be potentially damaging if an effort is not made to discuss and understand the underlying factors that influence what is being observed. As Pang (1994) points out, "teachers need a chance to talk about what they have observed so that their encounters with other cultures do not become 'zoo' experiences […]. Many cultural traditions are rooted in deep values, but these values may not be obvious because of differences in dress and behaviors" (p. 291). Co-curricular assignments must go beyond superficial contact with members of diverse communities and offer teacher candidates meaningful opportunities to learn the perspectives of

those who are culturally different from themselves. Additionally, the assignments must be accompanied by readings, discussions, and guided reflection to help candidates dispel stereotypes, learn about individual differences, clarify beliefs, acknowledge privileges, and build empathy.

Final Thoughts

This close examination of the ethnographic project has reinforced to us the importance of grounding our reflections on specific contexts and concrete experiences. From a sociocultural perspective, teaching and learning processes are by definition localized. When teachers develop an ethnographic stance, they seek to learn about their students' multifaceted realities and cultural practices, and begin to utilize them as resources for learning in the classroom.

This project has helped us to understand that all students, families, and classrooms are unique, and that there is no "one size fits all" solution to issues related to teaching and learning. Most importantly, it has made us aware that our personal histories, our perspectives, and our attitudes can impact the way we teach. Just like López-Robertson, Long and Turner-Nash (2010) have described, we began to realize "how easily bias is manifested when, by positioning our own culture as *normal*, we position other cultures as *not normal*" (p. 100). This realization was captured in Jessica's reflection below:

> Having this experience has put me in the position of being the cultural "other," and has allowed me to step back and look at culture in new ways.

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SPRING 2012 VOLUME 10 NUMBER 1