

A NARRATIVE INQUIRY INTO PARENT ENGAGEMENT IN THE MATHEMATICS  
CURRICULUM

A Thesis Submitted to the  
College of Graduate Studies and Research  
in Partial Fulfillment of the Requirements  
for the Degree of Master of Education  
Department of Curriculum Studies  
University of Saskatchewan  
Saskatoon, Saskatchewan  
Canada

By

Claire McTavish

© Copyright Claire McTavish August 2012. All rights reserved.

### **Permission to Use**

In presenting this thesis in partial fulfillment of the requirements for a Postgraduate degree from the University of Saskatchewan, I agree that the Libraries of this University may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purposes may be granted by the professor or professors who supervised my thesis work or, in their absence, by the Head of the Program or the Dean of the College in which my thesis work was done. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of Saskatchewan in any scholarly use which may be made of any material in my thesis. Requests for permission to copy or to make other use of material in this thesis in whole or part should be addressed to:

Head of the Department of Curriculum Studies

University of Saskatchewan

Saskatoon, Saskatchewan S7N 0X1

## Dedication

*For my Dad who taught me how to work hard  
and how to love with all my heart.*

## **Abstract**

This thesis is a narrative inquiry into the role of parents in the teaching and learning of mathematics. Over several months, I worked alongside four parent participants to plan a math night for an elementary school. Through our research conversations and our experiences with the math night, I inquired into parents' role both on and off the school landscape, their views about math curriculum, their relationships with teachers, and the knowledge they have to share about their children in relation to mathematics. As a participant in this research, I share my personal experiences, stories and happenings of my life as a student, teacher, and researcher both before and during this research as well as reflecting on future practices of parent engagement as a teacher. I used the taped conversations from our focus group conversations and my own field notes to apply this research to existing literature. I use Debbie Pushor's definitions of involvement and engagement to help differentiate between the roles that parents play in the teaching and learning of mathematics. To more specifically define parent engagement, Joseph Schwab's four curricular commonplaces – learner, teacher, subject matter and milieu are used as a framework to identify with what and with whom parents are engaged. As parents engage in varying degrees and with varying interests, teachers need tools to work with them. Too often, especially when parents are perceived as being “over engaged”, teachers respond negatively to parent engagement in mathematics. I explore ways that teachers can work with parents by listening and acknowledging to them that they have been heard.

## Acknowledgments

Thank you to all of my colleagues, friends and family who have supported me in this journey. Without you, I would not be who I am today. I would like to acknowledge and express my heartfelt appreciation to:

Sally, Kate, Natalie, and Mustafa – for your time and for sharing your stories and opinions with me. Your wisdom and knowledge has opened my eyes to new and exciting possibilities for working with parents.

Dr. Debbie Pushor – for being my thesis supervisor. I am more grateful to you than I could ever express. Thank you for your patience, expertise and guidance throughout this process. The confidence you gave me in your positive, thoughtful, thorough responses of my work were invaluable. I cannot even imagine having a better experience and it is because of you.

Dr. Egan Chernoff and Dr. Janet McVittie – for being my committee members and for your guidance in the completion of this thesis. I am truly thankful for the time and effort you put into helping me accomplish this goal.

Dr. Catherine Hands – for being my external examiner. Your thoughtful questions, comments and insights were much appreciated.

Greater Saskatoon Catholic Schools – for giving me the incredible gift of time to devote to this work.

Mom – for loving me, for being my first teacher, for always taking care of me, and for being a wonderful grandmother.

Etienne – for your patience and care in teaching me to write my first essay.

Robert – for being a living embodiment of the determination I required to reach my goals.

Donna and Alex – for all the love and support you have given me throughout the years and for being magnificent grandparents.

Adam – for being my transcriber: doing the job that I did not want to do.

Carson – for being you, and for teaching me how it feels to be a parent.

Paul – for being my best friend and husband, for your unconditional, unwavering love, patience and support. I love you not only for who you are, but for who I am when I'm with you.

## Contents

<b><u>CHAPTER 1- INTRODUCTION.....</u></b>	<b><u>4</u></b>
<b>NARRATIVE BEGINNINGS .....</b>	<b>4</b>
CONCEPTUALIZATIONS OF PARENT INVOLVEMENT AND PARENT ENGAGEMENT .....	8
RESEARCH PUZZLE .....	10
<b>LITERATURE REVIEW .....</b>	<b>11</b>
NEW MATH.....	11
MATH REFORM .....	12
CURRICULUM .....	13
MATH WARS.....	14
<b>POSITIONING OF PARENTS IN RELATION TO THE SASKATCHEWAN MATH CURRICULUM.....</b>	<b>16</b>
REFERENCES TO “PARENTS” IN THE SASKATCHEWAN CURRICULUM DOCUMENT .....	18
Indicators.....	19
Homework.....	20
ABSENCE OF “PARENTS” IN THE SELECTION OF A CURRICULUM RESOURCE .....	21
EDUCATORS AS “GUEST HOSTS” .....	22
<b>WHY PARENT ENGAGEMENT? .....</b>	<b>23</b>
<b>METHODOLOGY .....</b>	<b>31</b>
NARRATIVE INQUIRY .....	31
RESEARCH DESIGN .....	35
School .....	36
Participant recruitment.....	37
Participants.....	37
Collection of field text.....	38
From field texts to research texts. ....	39
<b>ETHICS.....</b>	<b>41</b>
PROCEDURAL ETHICS.....	41
RELATIONAL ETHICS .....	42
<b>LOOKING FORWARD.....</b>	<b>42</b>
<b><u>CHAPTER 2- BEGINNING THE RESEARCH: AN EXPERIENCE OF POSSIBILITIES</u></b>	<b><u>44</u></b>
<b>MEETING THE PARTICIPANTS .....</b>	<b>44</b>
<b>OPENING MY EYES: A CHANGE IN PERSPECTIVE ABOUT PARENTS .....</b>	<b>47</b>
<b>LET’S TALK ABOUT MATH .....</b>	<b>50</b>
<b>“I AM DONE!” .....</b>	<b>51</b>
THE POWER STRUGGLE: CHANGING THE STORY.....	53
MOVING FORWARD AS A RESEARCHER.....	56
<b>THE MATH WARS HAVE COME TO WESTERN CANADA .....</b>	<b>56</b>
MATH WARS: FROM THE PERSPECTIVE OF THE PARENT PARTICIPANTS .....	59
FROM CRISIS TO OPPORTUNITY: CHANGING THE STORY .....	61
<b><u>CHAPTER 3 - EXPERIENCES OF INVOLVEMENT AND ENGAGEMENT.....</u></b>	<b><u>67</u></b>

<b>LEO JOHNSON SCHOOL FAMILY MATH NIGHT .....</b>	<b>67</b>
<b>INVOLVEMENT OR ENGAGEMENT? .....</b>	<b>69</b>
<b>ENGAGED WITH WHOM? ENGAGED WITH WHAT? .....</b>	<b>71</b>
<b>ACCEPTING PARENT CHOICES ABOUT INVOLVEMENT AND ENGAGEMENT.....</b>	<b>74</b>
<b>BENEFITS OF INVOLVEMENT .....</b>	<b>77</b>
<b>BENEFITS OF PARENT ENGAGEMENT .....</b>	<b>80</b>
<b>OUR RESEARCH EXPERIENCE OF PARENT ENGAGEMENT .....</b>	<b>82</b>
PLANNING THE MATH NIGHT .....	83
A CONVERSATION ABOUT ASSESSMENT .....	84
A CONVERSATION ABOUT HOMEWORK .....	86
A CONVERSATION ABOUT THE BENEFITS OF ENGAGEMENT .....	87
<b>ENGAGING PARENTS IN THE MATH CURRICULUM COMMONPLACES: SUBJECT MATTER AND MILIEU ...</b>	<b>89</b>
SCHOOL DIVISION MATH NIGHT #1 .....	89
An exercise in listening.....	90
A response to parent voice.....	91
INVITATION.....	91
SCHOOL DIVISION MATH NIGHT #2 .....	93
<b>EXPANDING PARENT ENGAGEMENT IN THE MATH CURRICULUM COMMONPLACES .....</b>	<b>95</b>
DISPELLING THE NEED TO HOVER .....	97
PARENT ENGAGEMENT IN CURRICULUM: CHANGING THE STORY WITH DANIEL .....	99
PARENT ENGAGEMENT IN CURRICULUM: CHANGING THE STORY OF PARENT VOICE .....	101
 <b>CHAPTER 4 - LEARNING TO ENGAGE PARENTS .....</b>	 <b>104</b>
<b>TRIAL AND ERROR .....</b>	<b>105</b>
LACK OF TEACHER EDUCATION .....	107
FEAR OF PARENTS .....	108
REFLECTING CRITICALLY ON BELIEFS .....	108
DRAWING ON PARENT KNOWLEDGE.....	109
RUNNING: A METAPHOR FOR LEARNING TO ENGAGE PARENTS .....	110
<b>HUMBLE BEGINNING: LEARNING TO TALK AND LISTEN .....</b>	<b>112</b>
COMMUNICATION.....	113
MATH NEWS.....	115
TWO-WAY COMMUNICATION .....	121
CHALLENGING SITUATIONS: CHANGING THE STORY .....	122
LIVING IN RELATIONSHIP .....	124
<b>ACCOUNTABILITY AND RESPONSIBILITY.....</b>	<b>125</b>
<b>ACTING OUT OF A SENSE OF RESPONSIBILITY: WELCOMING PARENTS ONTO THE SCHOOL LANDSCAPE</b>	<b>128</b>
.....	
DROP-OFF AND PICK-UP .....	128
SCHOOL EVENTS.....	131
CLASSROOM EVENTS .....	132
<b>ACTING OUT OF A SENSE OF RESPONSIBILITY .....</b>	<b>134</b>
POSSIBILITIES FOR SHARING DECISIONS AND SHARING KNOWLEDGE.....	134
HAVING A PLAN: THE 'BUSINESS' OF PARENT ENGAGEMENT.....	137

<b><u>CHAPTER 5 - THE CHALLENGE OF PARENT ENGAGEMENT .....</u></b>	<b>140</b>
<b>A METAPHOR OF LEARNING TO MAKE COFFEE .....</b>	<b>140</b>
<b>SO WHAT? NOW WHAT?: PERSONALLY .....</b>	<b>144</b>
<b>SO WHAT? NOW WHAT?: FOR PARENT PARTICIPANTS .....</b>	<b>147</b>
<b>SO WHAT? NOW WHAT?: MOVING BEYOND THE PERSONAL AND THE PARTICULAR.....</b>	<b>148</b>
<b>SO WHAT? NOW WHAT?: FUTURE RESEARCH POSSIBILITIES .....</b>	<b>151</b>
<b>FINAL THOUGHTS.....</b>	<b>152</b>
<b><u>REFERENCES.....</u></b>	<b>153</b>



## Chapter 1- Introduction

### Narrative Beginnings

As I hold my six month old son, Carson, in my arms and gaze down at his peaceful sleeping face, my thoughts wander to the future. I try to envision what it will be like as my son grows from a baby to a toddler and eventually goes to school. How will this make me feel? What kind of emotions will I experience? I suspect they will be the same ones I am feeling now of caring, worry and wanting the best for my child. After nurturing my child through his early years of development what kind of “engagement” (Pushor & Ruitenberg, 2005), if any, will I have in my child’s schooling?

With a sigh of satisfaction, I gently lay my son down in his crib and watch his soother fall out of his mouth as his signal to me that he is fast asleep. This is just one of the subtle nuances that only my husband and I, as parents, know about our son. Every day I watch him learning about new textures and tastes of foods, balance and the mechanics of crawling, and all of the sights, sounds and smells around him. As I watch him, I am gaining knowledge on how he learns. Because of this knowledge, I want to be an engaged parent, playing an integral part in his schooling. “Engagement implies enabling parents to take their place alongside educators in the schooling of their children, fitting together their knowledge of children, of teaching and learning, with teacher’s knowledge” (Pushor & Ruitenberg, 2005, p. 15). Using my parent knowledge alongside educators who are experts in teaching reading strategies, chemistry experiments and patterns in math, together we can provide Carson with a rich schooling experience.

Switching gears from future parent to teacher, I can't help but reflect on the interactions that I have had with parents<sup>1</sup> in relation to their children's learning. Have I as an educator sought to engage parents, keeping in mind the knowledge that they hold about their children? In helping schools implement the new math curriculum, one of my responsibilities as the math support teacher for my school division has been to present parent information nights. In the past few years, as a teacher this has been one of my main interactions with parents. Such presentations are one of the key ways that our school division has tried to include parents in the transition to a new math curriculum in Saskatchewan. Has what I have been doing valued parents and the role that they play in their children's education?

Last year, a colleague and I hosted a typical parent math night in the evening, with childcare provided by some older students. The school provided juice, coffee and a few snacks on a side table in the library. Our presentation consisted of a PowerPoint presentation by me, and a coordinator from my school division, in which we gave parents information on the new math curriculum, the resource being used in classrooms, and the constructivist approach to teaching mathematics. As parents came into the library they sat at tables with other parents and were asked to make shapes with tangram pieces. This seemed to be a fairly good icebreaker activity as it opened up conversation between parents about their own math experiences. At the beginning of the presentation, we offered time for parents to talk to each other at their tables about why they were there and what questions they had about the math curriculum. Staff members were

---

<sup>1</sup> The term parent is used frequently throughout this document. Although there are many individuals within a family who contribute to the lives of children, I consciously use the term parent to represent the unique role of the individual/s "who have more responsibility than others in the family for the care and well-being of the family members (Pushor, 2011, p. 226). My use of this term is inclusive of any individual who fills this caregiving role for a child "regardless of their non/biological relationship to the child" (p. 226).

dispersed at tables around the room. I made a point to circulate or sit in on one conversation, depending on the size of the group, to hear their thoughts and concerns. Most often all of the parents' questions and concerns were addressed during the presentation but they were invited to ask questions at the end if there was something that wasn't addressed. As part of the presentation, parents took part in a mathematics lesson using manipulatives, in which they were involved in an interactive way with one other. Throughout the presentation, I shared my suggestions for ways parents could help students at home.

For the most part, I considered these parent math nights a success. I had imparted my teacher knowledge, parent questions were answered, and I thought that most people left with a better understanding of what was going on in their child's math learning and how they could help their children at home. Now, as a parent myself and having immersed myself in readings on parent engagement, I think back to parent math nights, such as the one I describe above, and I see them in a different light. They appear to me now as brief, narrowly defined, and unidirectional parent-teacher interactions (Lopez & Stoelting, 2010, p. 22). I see a math night that was planned by me to include what I thought the parents needed to know and do to serve the agenda of the curriculum, the schools and the teachers. I "positioned [the parents] as recipients of this knowledge, which implie[d] they are unknowing, or less knowing, than educators" (Pushor, 2010a, p. 6). The parents were given information about the mathematics program being taught in the school but they were not asked to give any information about their children or their insights into their children's learning of mathematics. They were not viewed as partners; rather they were simply positioned to serve the agenda of the school (Pushor & Murphy, 2004). As educators, we wanted parents to better understand the mathematics program so the ways in which they helped their children at home with their homework would reinforce the teaching we were doing at

school. We wanted them to better help us do our job as teachers of mathematics. The structure of our parent math nights did not lend itself to creating a meaningful partnership; rather it worked to maintain the gap between parents and schools, positioning teachers as the holders of curriculum knowledge and parents as supporters of teachers in this important work. The problem with how we involved parents is that it “maintain[ed] the hierarchical structure of schools, where school personnel maintain power and authority, and the focus remain[ed] on what parents [could] do for the school” (Pushor & Ruitenberg, 2005, p. 12). This one way relationship between schools and parents impedes the opportunity to work together in a collaborative way that honors what parents know about children, teaching and learning.

As I continued to give these presentations throughout the school year, I became more and more uncomfortable with them. My “understandings of parental involvement [were] dictated by school norms, which ultimately define[d] the roles and expectations for parents at the expense of parental insights and perceptions” (Lopez & Stoelting, 2010, p. 23). I decided that although my presentations seemed to reflect the norm for everyone else, since they were the age-old routine of the educator imparting their knowledge to the parents, they required an “interruption.” Pushor (2010a) defines an interruption as “a thoughtful, deliberate act to break in on well-known and well-rehearsed stories of school and of parents’ positioning in relation to schools, to put new stories in their place – stories that arise from different assumptions and beliefs” (p. 6). I believe it is time to let go of what is comfortable and replace it with practices that, although they may be unfamiliar for both teachers and parents, will have a more positive impact on student learning and on families. One way to let go was to invite parents to be full members of a team to work together to plan a parent math night for a school as I did within the context of this research. Four parents volunteered to plan the math night with me.

## **Conceptualizations of Parent Involvement and Parent Engagement**

Although, typically, the terms parent involvement and parent engagement are used interchangeably in literature about parents and education, Pushor and Ruitenberg (2005) distinguished between the two to demonstrate the different roles that parents may play on the school landscape.

Parents who are “involved” serve the school’s agenda by doing the things educators ask or expect them to do – volunteering at school, parenting in positive ways, and supporting and assisting their children at home with their schoolwork – while knowledge, voice and decision-making continue to rest with the educators (Pushor, 2001)... Engagement implies enabling parents to take their place alongside educators in the schooling of their children, fitting together their knowledge of children, of teaching and learning, with teachers’ knowledge. With parent engagement, possibilities are created for the structure of schooling to be flattened, power and authority to be shared by educators and parents, and the agenda being served to be mutually determined and mutually beneficial. (pp. 12-13)

As I think about my own role as a parent, I hope that as well as being an involved parent, I will be an engaged parent. For example, as an involved parent, I may volunteer in the library to decrease the time teachers spend checking in books, attend a field trip to reduce the number of children that the teacher has to supervise, or use multiplication flashcards at home with my son so that the teacher can spend less time in class having students practice their multiplication tables. These acts of involvement are well intentioned and beneficial to schools and to students. Teachers certainly are well deserving of this type of support. At the same time, it should be clear

that involvement is just that – support for the teacher and the school, their work and their general goal of teaching the curriculum. However, as an engaged parent, I would like to have the opportunity to share my knowledge with the school about my child’s personality, learning style, strengths and weaknesses; contribute to the learning of students by sharing relevant life experiences with them; and be a part of decision making at the school with respect to discipline plans, homework policies, curriculum implementations and resource selections. I would like to do this all in a setting in which in which I feel safe, valued and trusted.

Listening to parents and asking them what they want and need positions them as partners in education and builds a relationship of trust. As partners, the parents’ and the school’s focus is on mutually determined goals that are beneficial to all (Hands & Hubbard, 2011; Pushor & Ruitenberg, 2005). This focus brings parents and educators together in a relationship of equitable power and decision making. I feel that to do this, there must be more informal opportunities for parents and teachers to build relationships and friendships with each other. In my experiences as a teacher, time spent with parents has been very limited and often regulated by a bell signaling the beginning and end of the allotted time together during a parent-teacher interview. This is not a partnership; it is a relationship of authority in which the school dictates the lengths (and typically also the types) of interactions that occur between parents and teachers. Trusting relationships are built over time by sharing experiences, asking questions of one another, listening to one another’s experiences, and working toward common goals that benefit the school, the parents and the students.

As I thought about my return to my role as a division-level math support teacher at the end of my maternity leave, I envisioned content and agendas of parent math nights being dependent on parent input and designed based on a site-to-site need. I planned to make it “central

to [my] work to interrupt the taken-for-grantedness of hierarchical and unidirectional school structures, which continue to silence and marginalize parents and families” (Pushor, 2010a, p. 14). I looked forward to building relationships, making new friends, and working collaboratively with parents. In talking with parents and planning parent math nights based on their needs, I intended for there to be a shift in authority from the schools as the holders and providers of knowledge to a shared knowledge and authority between parents and schools.

### **Research Puzzle**

It was this desire to interrupt the taken-for-grantedness of current practices around mathematics nights for parents that shaped my research. I was interested in inquiring into how parents’ engagement in planning, implementing and participating in a math night influenced their role as parents on and off the school landscape as well as their experiences with their children in mathematics. I was curious about how parents’ views on the math curriculum would be affected after being engaged meaningfully in a group, made up of parents and a teacher, that discussed the teaching and learning of math. I wondered how parents would story their experiences of doing mathematics with their children, their sense of their own skills in doing math and their relationships with teachers. I was interested in the knowledge they have to share about their children, reaching out to students and parents in the school, and mathematics. From their stories, I hoped to develop a deeper understanding of what may be possible in schools to engage parents in the teaching and learning of mathematics.

## Literature Review

### New Math

Since 2007, Saskatchewan has been in the process of implementing a new math curriculum. Because of this change in curriculum I often hear references made by parents and teachers about the new math. While this is a new math curriculum in Saskatchewan, the term “new math”(Kilpatrick, 2012) was first used in the United States in the 1960s to describe a vigorous, “excessive” (Schoenfeld, 2004, p. 257) math curriculum that focused more on the abstract nature of math rather than its practical uses (Van de Walle & Folk, 2005). The 1960s new math curriculum was implemented to meet the call to keep up with the Soviet Union after the launch of Sputnik. It was written to meet the needs of political and economic forces, leaving out the voices of teachers and parents, and not foregrounding the needs of students to use math in their daily lives. Implementation was a disaster; teachers were unprepared to teach this excessive curriculum and parents were alienated from being able to help their children in math. In thinking about a parent’s role in math curriculum, Schoenfeld (2004) warned that in any changes to the math curriculum “if parents feel disenfranchised because they do not feel competent to help their children and they do not recognize what is in the curriculum as being of significant value ... they will ultimately demand change” (p. 257). And demand change they did. By the 1970s the new math was out and the teaching and learning of mathematics returned ‘back to the basics’ – learning skills and procedures – with a focus on arithmetic, algebra and geometry. During the 1970s, teachers and parents may have been more comfortable with a back to basics, “traditional” approach to mathematics, but students’ mathematics skills were not improving. In an effort to improve student learning, the focus in the 1980s shifted to having students develop problem



solving skills, but these changes were “superficial ... taken to mean having students solve simple word problems instead of (or in addition to) performing computations” (p. 258). This trivial shift did little to improve student learning; American students were performing poorly in international math studies (Restivo & Sloan, 2007). It was obvious that there was a need for more changes to math education.

### **Math Reform**

It is generally agreed that the math “reform” movement originated in 1989 when the National Council of Teachers of Mathematics (NCTM) published the *Curriculum and Evaluation Standards for School Mathematics (Standards)*. The *Standards*, along with the 1992 *Mathematics Framework for California Public Schools, Kindergarten through Grade 12 (Framework)* published by the California Department of Education, have been a mainstay in the reform approach (Becker & Jacob, 1998; NCTM, 1989; 1995; 2000; Russell & Chernoff, in press). Math educators, led by the NCTM, shifted the focus from the rote learning and memorization of a traditionalist approach to learning mathematics to a math curriculum that focused on understanding and application. This focus on understanding and application in mathematics has come to be known as reform math. The goals for students in the NCTM documents state that all students should: learn to value mathematics, become confident in the ability to do mathematics, become mathematical problem solvers, learn to communicate mathematics, and learn to reason mathematically (NCTM, 1989; Van de Walle & Folk 2005).

After the publication of the *Standards* (NCTM, 1989), teaching and learning mathematics had a broader meaning. It was no longer the acquisition of math content and skills but rather the ability to think and communicate about mathematics and to reason mathematically. NCTM members were no longer thinking about mathematics only as content that must be memorized but

rather as curriculum in which students strive for a deep understanding of the math they learn and its applications. The definition of math and, along with it, math curriculum were changing.

## **Curriculum**

Curriculum is not an easy term to define. What is curriculum? Is it what is written in curriculum documents and textbooks? Is it what teachers choose to teach? Is it what students learn? Joseph Schwab (1973), a well-known curriculum theorist, conceptualized curriculum as having four equal commonplaces: the subject matter – knowledge of the content; the learner – knowledge of what he/she knows and how he/she learns; the teacher – knowledge of his/her abilities and teaching methodologies; and the milieu – experience with the community, which could include classroom, school, family, or broader groupings such as religion or socio-economic class.

In Schwab's use of the term milieus to describe community, it is important to note that community is a complex term with many meanings. Steiner (2002) describes community as both physical places and social processes. In thinking of the milieus or communities that Schwab intends to be an integral part of curriculum making, we can think of them as nested Chinese boxes (Schwab, 1973). For example in terms of physical places, community may be the classroom, the school, the home, the neighborhood, the city or town in which students live. Communities as social processes may include the relationship between a student and teacher, a parent and teacher, a parent and child, a parent with another parent, a parent with other community members, and political influences in the community. Included within the social community as well is the media - newspapers, news broadcasts, websites and Internet message boards - which permeate many of the social processes.

Using Schwab's conceptualization of curriculum, prior to the publication of the 1989 *Standards*, the focus of math curriculum had been mostly on the subject matter. The content of the math that was taught was found in written curriculum documents and textbooks that were used. After the NCTM reform, their documents represented three of Schwab's curricular commonplaces. Within the subject matter of mathematics, their emphasis was placed on the learner – what he/she understands, values, reasons, and can communicate, and on the teacher–his/her skill level in teaching math and the teaching methodologies that he/she uses (Schoen, Fey, Hirsch & Coxford, 1999). In reform math, teachers were being asked to act more as facilitators of learning rather than the holders of knowledge. What was lacking, in terms of Schwab's notion of four equal curricular commonplaces, however, was an emphasis on the experience and knowledge of an integral part of the milieu – parents (Pushor, 2009). Historically, when changes have been made to the math curriculum, “parents have not been recognized as significant contributors to the mathematics education of their children” (Peressini, 1998, p. 569). In my experiences, I have placed parents on the sidelines of education, having them stop by momentarily for parent-teacher interviews or math information nights, only to move them aside again and get back to my ‘real teaching.’ If we are to follow Schwab's notion of curriculum, with milieu as an essential piece of curriculum conceptualization, it seems beneficial to include parent voice in math reform – to bring parents and educators together to each make contributions to decision-making about the teaching and learning of math.

### **Math Wars**

As with the new math in the 1960s, not everyone was supportive of the curriculum changes presented by the NCTM in the 1990s and continuing on to the present day. Some parents rallied themselves along with mathematicians in organizations such as Mathematically

Correct and Honest Open Logical Decisions to oppose math reform. They communicated with the press, protested openly about the new “fuzzy math,” (“Mathematically Correct,” n.d., Fuzzy Math), and created websites to inform as many people as they could about the harms and dangers of the new math (which was really the new new math). These websites and others like them became central hubs for numerous documents and articles supporting a return back to basics. In some states, those opposing reform were successful in their mission. In 1997, in California, the *Framework* (1992) was rewritten by four Stanford University mathematics professors in only four weeks (Russell & Chernoff, in press). Their revisions reflected their allegiance to teaching math traditionally. In one section of their *Framework* document, they placed emphasis on memorization and automaticity of multiplication facts from one to ten in place of the original intent of the 1992 Framework in which students were intended to understand the properties and relationships within the multiplication to assist them in memorizing the facts (Becker & Jacob, 1998; Russell & Chernoff, in press). “Some schools and school systems in Massachusetts, Georgia, and Maryland have returned to the basics ... Perhaps most important, mighty California pioneered a return to the basics with a revision of its math standards starting in 1997, and has tightened its list of approved textbooks in recent years, a victory for parents' groups there” (Vickers, 2006). This conflict has come to be referred to as the “math wars” (Schoenfield, 2004). The math wars rage on as educators and parents continue to seek a winner and a loser, arguing between the two extremes of a traditional back to basics curriculum and a reform curriculum focused on developing meaning and students’ understanding of mathematics.

As we begin a new century it must be admitted that the vision of the NCTM *Standards* has not been realized. In Canada, as in the United States, change [towards math reform] is visible, albeit slow and incremental. Controversy continues between advocates of reform

and those favouring a more traditional approach to mathematics teaching. Vocal groups of parents and mathematicians who have acquired political clout are becoming more and more influential in calling for a return to the “basics.” But, despite the slow pace of change in long-held beliefs about school mathematics, the revolution continues. This is not a pendulum that we can permit to swing backwards. (Van de Walle & Folk, 2005, p. 14)

Ten years later, aligned with reform mathematics, the current math curriculum changes in Saskatchewan strive to move away from procedural learning toward the understanding of math and the ability to solve problems. Since “school reforms are most likely to be successful when there are strong and positive relationships between teachers, students, parents and the community” (Bryk & Scheinder, as cited in Sheldon, Epstein, & Galindo, 2010, p. 31), I feel that it is important to engage parents throughout these changes. I wondered if the voice of parents had been considered in the Saskatchewan curriculum. Had they had a place to share their knowledge about learning math? Had they, too, felt disfranchised and demanded a return back to basics? Saskatchewan (and the rest of Canada) has not been immune to the math wars. During the process of this research, as I will discuss in more detail throughout the rest of this document, a group called WISE Math (“WISE Math, n.d.) organized itself to lead the fight “back to the basics,” igniting math wars in Western Canada.

### **Positioning of Parents in Relation to the Saskatchewan Math Curriculum**

For the past four years, my role within my school division has been to help teachers implement new math curriculum, mandated by Saskatchewan Learning, with the support of the *Math Makes Sense* (2007) resource. When I began this role, I did not know, as I do now, that

creating an authentic partnership between parents and teachers is important to the implementation of the new math curriculum and to student learning of mathematics. “The more the relationship between families and the school is a real partnership, the more student achievement increases” (Henderson, Mapp, Johnson, & Davies, 2007, p. 3). In examining the math curriculum and my past practice of facilitating Parent Math Nights, I realized the voice of parents and families had not been as present as I think is desirable. I see now that when current curriculum and practices are modified, we have the opportunity for the relationship between parents and schools to grow.

Math curriculum documents at all elementary grade levels have been re-written by the Saskatchewan Ministry of Education<sup>2</sup> in the last five years. This curriculum renewal has been in response to the Saskatchewan government agreeing to implement the curriculum framework of the Western and Northern Canadian Protocol (WNCP) (Western and Northern Canadian Protocol, 2006), a common curriculum framework developed for the western Canadian provinces and territories. As part of the development of the curriculum framework for kindergarten to grade nine, stakeholders were asked to review the draft and respond to a web-based survey. Of 3378 individual responses, only three were from parents, the rest being mostly from teachers and administrators (McAskill, Holmes & Pelton, 2005). I applaud the consultation group for inviting parents to participate in the survey, however only three responses is clearly not very much input.

How much effort was put into inviting parents to contribute their input at this level? With only three responses, I wonder how parents were invited to provide input. I wonder which parents received invitations. I wonder if the invitations were issued multiple times or in multiple

---

<sup>2</sup> Since the Saskatchewan Party was elected to the provincial government in 2007, Saskatchewan Learning has been renamed the Saskatchewan Ministry of Education.

ways. I wonder if they were issued to parents through their children's teachers – individuals with whom the parents had at least some level of relationship (Pushor & Ruitenberg, 2005). The positioning of parents in the past has left them out of curriculum development so they would have no reason to feel that their input was important or that it would have any impact on the curriculum. For me, as a parent, if I was asked to review an unfamiliar curriculum without any guidance, I doubt I would respond without being given a personal invitation from my child's teacher and a rationale as to why my opinion was needed and valued.

No matter, surely within the adoption of the WNCP to the Saskatchewan curriculum, parents would have been consulted to compensate for the lack of parent voice at the WNCP level. Unfortunately, this does not appear to be the case. In the Saskatchewan curriculum's acknowledgments to contributors, the long list includes teachers, school board members, Elders, and university professors; there is no mention of any parents or parent group (Saskatchewan Ministry of Education, 2008). In the writing of the provincial curriculum, which teachers are now required to follow in terms of the content that will be taught at each grade level, as well as in the instructional approach to be used, parents and families of students were not consulted.

### **References to “Parents” in the Saskatchewan Curriculum Document**

Recognizing that parents had no input in decision-making regarding the development of the curriculum, I examined curriculum documents to determine how parents had been positioned within the curriculum document. In the Grade 8 Saskatchewan math curriculum, as one example, there is no real mention of parents. There is a few times where the word “community” is used where, I suppose, family could be assumed, but parents or families are not positioned as a major influence for students in the learning of mathematics. For example, the Grade 8 curriculum guide states, “Through the study of mathematics, students learn to become reflective and positively

contributing members of their community” (Saskatchewan Ministry of Education, 2008, p. 6). The only time the word parent is used in this document is in describing the changes in the teaching and learning of mathematics from covering math content to students discovering math content. “Mathematics is a dynamic and logic-based language that students need to explore and make sense of for themselves. For many teachers, parents, and former students this is a marked change from the way mathematics was taught to them” (Saskatchewan Ministry of Education, 2008, p. 10). My translation of this statement: Teachers, tread carefully because many parents are not going to understand what we are doing! The same assumptions made in the past about educators and parents being pitted against each other are being reiterated in the Saskatchewan curriculum documents (Lawrence-Lightfoot, 2003; Perissini, 1998). Unfortunately, as in the past, this does little to create a sense of partnership between parents and educators. As a teacher reading this document, I would feel not only apprehensive about a math curriculum which is foreign to me but also worried about the antagonist representation of the parents and how they may react to the curriculum changes.

### **Indicators.**

In the Saskatchewan curriculum there are lists of learning indicators which are examples of ways in which students can demonstrate their learning. They focus on the students’ learning and, sometimes, the application of their learning in real world situations. There are a few times in the learning indicators where students are asked to find examples of mathematics “relevant to self, community or family,” however they do not appear to be intended to engage families in their child’s curriculum.



## **Homework.**

The role of homework is another section in the curriculum document. This section addresses the type of homework that is beneficial to students in their learning for deeper understanding. Included in this section is a discussion of the discouraged use of drill and practice (perhaps subtly implying that this is what parents will want to do at home), a description of the characteristics of good math homework, a detailed example of the style of homework that should be assigned, and a section on feedback and reflection on homework for both students and teachers. It amazes me that the curriculum includes a full page on the role of homework with not one mention of parents and families. HOME work. They will be doing it at home! How was the parents' role left out of this section? In virtually excluding the role of parents from the curriculum guide, parents are once again being implicitly positioned on the periphery of their own children's learning.

Including a section in the curriculum guide about the role of homework implies that teachers will be assigning students tasks to complete outside of school hours. Teachers set the agenda for students during the school day (in school and in their classes) and then they set the agenda for students in the evening or on weekends as well by assigning them homework. This is most often done without any consultation with parents or any kind of negotiation with them, even though it is the family's time they are scheduling. For some students this may monopolize their time and take away from other activities deemed important by the family, quality time spent with family, or sleep. Whatever the amount or style of homework assigned, I think it is important as a teacher to be open to discussing its role and place with parents and how it is influencing their home life.

## **Absence of “Parents” in the Selection of a Curriculum Resource**

With the implementation of a new curriculum came the selection of a resource for use within our school division. As I helped plan the Grade 9 resource selection, we brought superintendents, principals, coordinators and classroom teachers together to choose a resource that would be best for student learning. Whom did we forget? The parents. I have to be honest that the thought to invite parents to the resource selection did not cross my mind. Why not invite parents to share their thoughts and perspectives as parents? Their role would have been different than that of the teachers and other members involved in choosing a resource in that they are not educated as teachers, but their views would have been invaluable in the selection process. Parents could have been asked such questions as: What is working for you in the current resource your child has in math? What are you finding difficult? What would help you, if you could ask for something new or different? Thinking about your role in helping your child with homework, how might you find working with these particular resources? Which resource do you think would appeal most to your child? Why? It would have been especially insightful to have the opinions of parents of students whose classrooms piloted the resources since they would have already seen firsthand what and how their children were learning, listened to their children talk about the new math program, and may have worked with their child using the resources. This would have provided a rich opportunity for parents to share their parent knowledge and perspectives.

I think the exclusion of parents in this process was partly due to an oversight but also due to the fear of a backlash from parents about the change. As a school division, we wanted to present a united front of coordinators, administrators and teachers, having carefully chosen a resource that we felt was best for students. Without even asking them, we assumed that parents would not like the changes that were occurring in curriculum renewal. “Parents are often cast as

antagonists, being seen as doing, or not doing, things that interfere with the quest of the protagonist to enhance learning” (Pushor & Murphy, 2004, p. 3). We positioned the parents as antagonists to the changes. We did not consider them to be the partners in education that they are. We did not acknowledge that parents had something different to offer; something that was valuable and complementary to teacher knowledge. If the parents had been treated in the same way as the teachers, and put into a trusting position of helping to choose a resource, it would have been the beginning of working through the changes in curriculum together. We are instead just now trying to engage parents after decisions have been made. We will have to try to rebuild the connection, the relationship and the trust to move forward.

### **Educators as “Guest Hosts”**

In all of the decisions regarding curriculum that I’ve described above, I see one major flaw: educators did not position themselves as “guest hosts” (Pushor, 2007). As people working in schools, we are both guests in a community, which has its own history, culture and members (Hands & Hubbard, 2011) and we are hosts who welcome others into the school. As guests, we have a responsibility to be respectful and aware of the parents and community members with whom we want to build meaningful relationships. As hosts, we seek opportunities to wholeheartedly welcome others who come to the school, to make them feel comfortable with a warm smile or an introduction to another parent, and to engage with them in sincere dialogue about teaching and learning. “Educators as guests ask what they can learn from parents and community members about their children and about teaching and learning, rather than positioning themselves as people with expert knowledge to share” (Pushor, 2007, pp. 5-6). In the future, the WNCP, the Saskatchewan Ministry of Education, school divisions, schools, and teachers all have the potential of benefitting by positioning themselves as guest hosts. For some, it is too late until

a new curriculum comes out but, at the school and classroom level, educators are positioned to make immediate changes that will improve student learning and the relationships within our communities and schools. Teachers can still take the opportunity to act as guest hosts by asking parents what they know about the math curriculum, math resources, their child's learning, and their child's use of strategies from observing them at home or interacting with them during homework time.

Opening the door to parent input will create space for parents on the school landscape. Henderson et al (2007), in their book *Beyond the Bake Sale*, quoted a parent as saying, "My school asks for parents' participation and advice all the time. It seems like the school lets the parents make the decisions, and that makes the parents become more involved. We feel like we're really a part of it. At the meetings, it's just like a family. Issues are being discussed, parents talk about what we feel is best for our child or for the school as a whole" (p. 57). My hope is that through sharing my research, in which four parents and I designed a math night, the genuine relationship of trust and partnership that we developed can serve as an example of the relationships that are possible between parents and schools.

### **Why Parent Engagement?**

For me, and I think for most, being a teacher is more than a job, it is a career. Each year, I carefully plan units of study, lesson plans, classroom discipline policies, classroom schedules, and daily routines so that I can provide the best schooling experience possible for my students. Not until recently, when I read the overwhelming evidence in support of parent involvement<sup>3</sup> did

---

<sup>3</sup> Regardless of the fact that I, like Pushor, differentiate between the meaning of the terms involvement and engagement, they are typically used interchangeably in the literature. In these

I realize how fully it enriches the lives of my students. There have been hundreds of studies done in the area of parent involvement and mathematics. In a meta-analysis of 80 studies done on parent involvement, Henderson and Mapp (2002) concluded that there is “a positive and convincing relationship between family involvement and benefits for students, including improved academic achievement. This relationship holds across families of all economic, racial/ethnic, and educational backgrounds and for students at all ages” (p. 24). A 2005 meta-analysis on parent involvement of 41 urban schools echoes the same results. “Results indicate a significant relationship between parental involvement overall and academic achievement... This relationship held for White and minority children and also for boys and girls” (Jeynes, 2005, p. 237). It has been proven time and again that parent engagement benefits students, so why is it that we as teachers tend to ignore it? Shouldn't my thoughtful planning include research into the exemplary practices of parent engagement? How do I engage families? What types of things can I be doing as a teacher that will actually make a difference? Most importantly, what are the things that parents are already doing that are having a significant impact on my students that I as a teacher may not even be recognizing?

Joyce Epstein (1995), a well-known researcher in the field of parent involvement, has created a framework of six types of parent involvement which includes:

Type 1 Parenting – help all families establish home environments to support children as students.

Type 2 Communicating – Design effective forms of school-to-home and home-to-school communications about school programs and children's progress.

---

references, both terms refer to the meaningful engagement of parents in their children's teaching and learning.

Type 3 Volunteering – Recruit and organize parent help and support.

Type 4 Learning at Home – Provide information and ideas to families about how to help students at home with homework and other curriculum related activities, decisions, and planning.

Type 5 Decision making – Include parents in school decisions, developing parent leaders and representatives.

Type 6 Collaboration with the community – Identify and integrate resources and services from the community to strengthen school programs, family practices, and student learning and development. (p.704)

It is important to note that the purpose of Epstein’s framework is to determine how parent involvement can serve the agenda of the school. “Strong partnership programs with activities for [Epstein’s] six types of involvement focused on specific academic and nonacademic goals have helped schools reduce student behavior problems, improve student attendance, and increase students’ report card grades and standardized achievement test scores (Sheldon et al., 2010). In Epstein’s model, and others similar to hers existing in the field, the parents' role is to support the schools in realizing their goal of improved student achievement through the positive parenting they do at home, through their home support of and assistance with their children's schoolwork, and through the volunteer work they do at school. The strong partnerships mentioned above boast results of helping *schools* achieve their goals but there is no mention of any benefits for the families. The schools’ view seems to be one of “seek[ing] to determine what parents can do for teachers, rather than what schools can do for families” (Cairney & Munsie, 1992, p. 5). (Pushor, 2001, p. 22) The schools and the teachers are determining what is important and how time both at school and at home should be spent. This differs from the importance that Pushor (2001) puts

on parent engagement in which teachers and parents share ideas and knowledge, have mutually determined goals and mutually benefit from the relationship.

In working with parents, it is important to be open to differing parental beliefs and expectations about their role in schools. As educators, we should be careful not to assume that parents are not positively affecting their children's learning in a significant way just because they are not engaged in ways that are visible to the school. Each culture, each family, each parent defines engagement in its own way, one which may not conform to the expectations and beliefs of the school (Lopez & Stoelting, 2010). When I think about students I have taught, I can bring to mind instances of parents who were highly involved in the school and yet their children were not necessarily the best behaved or the highest achievers. On the other hand, I have had many respectful, hard-working students over the years whose parents I have never even met, who did not appear to help with homework, and who never raised any funds for the school. I wondered, 'What is it that their parents were doing that contributed to the success of their schooling?'

Jeynes (2005) studied the type of parental involvement that was most influential on student success. He found that it was not the obvious actions of parents that one might find in Epstein's (1995) framework, such as helping with homework, communicating with teachers, and attending school events that were most influential. Rather it was the subtle ways that parents created an "educationally oriented ambience" (p. 262), which made the most difference. Parents created this ambience when they were loving and supportive while at the same time maintaining a certain level of discipline and holding high expectations for achievement. Each family is engaged with their children in its own way and as educators we must be respectful of the differences of each family while still seeking to find ways to thoughtfully and deliberately invite families to engage in the schooling of their children.

The more I read about parent involvement/engagement with schools, the more the same words keep popping up on the pages: trust, respect, relationships, partnerships (Epstein, 2010; Henderson & Mapp, 2002; Pushor & Murphy, 2004; Pushor & Ruitenberg, 2005; Sheldon et al, 2010). These are important qualities to note because Sheldon et al. (2010) found that “schools that perceived greater support from families for partnerships experienced higher rates of student math proficiency” (p. 43). If we want students to improve their mathematical skills, research on parent involvement emphasizes over and over again that a focus on relationships built on respect and trust are key (Allen, 2007; Henderson & Mapp, 2002; Henderson et al., 2007; Lopez et al, 2004/2005; Lopez & Stoelting, 2010; Pushor and Ruitenberg, 2005; Pushor, 2010a; Redding, Langdon, Meyer, & Sheley, 2004).

Despite the overwhelming evidence that parent engagement influences student achievement (Allen, 2007; Henderson & Mapp, 2002; Henderson et al., 2007; Jeynes, 2005; Lopez et al., 2004; Sheldon et al., 2010) it has yet to become an integral part of education. Instead of blaming parents for not becoming involved in their children’s education and therefore placing the responsibility on them (Lopez & Stoelting, 2010), we as educators must cast a critical eye inward to what we are doing (or not doing) that may be impeding a more desirable parent partnership. “Schools still struggle to engage families, and parents voice the need for greater support and opportunities for participation in their children’s learning” (Lopez et al., 2004/2005, p. 1). This has certainly been my experience in implementing the new provincial math curriculum in the past few years. As a teacher, I was adjusting to new curriculum and a whole new way of thinking about mathematics and I didn’t think about or know how to engage parents. At the same time, parents were asking how they could help their children, since what we were doing at school was so foreign to them. Often, I didn’t have any real answers.



In considering not only the achievement but also the emotional well-being of children, and their feelings and attitudes toward school, having parents and teachers work together is especially important because “a match between adult-child interaction patterns at home and school appears to be advantageous for children” (Lehrer & Shumow, 1997, p. 55). In some cases, “home practices could place children in an uncomfortable position because they are in the middle of two different teaching ‘cultures’” (Civil, Díez-Palomar, Menéndez-Gómez & Acosta-Iriqui, 2008, p. 12). The nature of the homework given to students in the new curriculum is very different from what typically has been sent home. Students will mostly be given “unique problems and tasks that help [them] to consolidate new learnings with prior knowledge, explore possible solutions, and apply learnings to new situations” (Saskatchewan Ministry of Education, 2008, p. 18). In the same way that some teachers may be struggling to embrace the new curriculum (because old habits die hard) in the classroom, it may be challenging to parents to change the way they work with their children at home. What is it that we as educators and as parents can do to create an atmosphere in which the curriculum and students will thrive?

The research has pointed me in one direction: “engagement.” As noted earlier, as opposed to involvement, engagement is about building mutually beneficial, trusting relationships between parents and educators that enhance student learning. Pushor (2007) distinguished between the two. “Involvement describes those activities in which parents are invited to serve the school’s agenda, to do the things educators deem important. Engagement, differently, describes activities which are mutually determined by educators and parents to be important for children and are lived out in a respectful and reciprocal relationship” (p. 2). Specifically, engagement focuses on children’s teaching and learning and draws on parents’ knowledge. Through my research, my intention was to engage parents in a meaningful role in the mathematics curriculum,

being mindful to respond to families' interests and needs, engage in dialogue with them and build on parent and family knowledge (Lopez, et al., 2004/2005).

Teachers and parents play significant but not identical roles (Lehrer & Shumow, 1997) in students' mathematics education. Teachers and parents come from the similar backgrounds, as they both were taught mathematics in a typical way. We were given number facts to memorize or shown a procedure and asked to replicate it in a variety of questions with different numbers. We were not asked to think or play with numbers, or to question or explain the algorithms that we were using. We were taught the most efficient way to arrive at an answer and we did not question the why, or how, or beauty of how the given procedure produced the right answer every time. Having students learn in a manner in which math is more about making meaning of patterns and relationships in mathematics than being able to quickly apply an algorithm goes against most of the previous educational experiences of both teachers and parents. These curriculum changes will be more difficult for teachers and parents, who have viewed mathematics in a particular way for their whole lives, than they will be for students.

Civil, Berbuer and Quintos (2003) defined "parents as intellectual resources and, as such, we learn as much from them as they may be learning from us. Thus our intention is to engage in an egalitarian exchange rather than a teaching by transmission model" (p. 9). It is not enough to tell parents about curriculum changes at an information night; rather it is vital that parents and teachers are in constant discourse about their experiences. "An ongoing conversation between parents and teachers about the role of each in the children's learning" (Redding et al., 2004, p. 6) as well as "structur[ing] opportunities for firsthand interaction with parents and families – opportunities that are reciprocal, dialogic, and genuine, not prescribed, routine and predictable" (Lopez & Stoelting, 2010, p. 29) are key components in working toward engaging parents.

Pushor (2010a) described reciprocal, dialogic, and genuine relationships in our lives as those in which there is a sense of mutuality and reciprocity in a multitude of ways – we both talk and listen, give and receive, teach and learn, lead and follow. These relationships are based on a trust that enables us to say what we think to each other openly, honestly, and sometime with vulnerability and uncertainty. They give us a place to be proud, celebratory, and confident in who we are and what we do, and they provide support for us to continue to take risks as we learn and grow. They are relationships arising from time and contact, from knowing one another, from having many and varied shared or common experiences. Relationships with parents and families are formed in this way. They too require this same investment of sustained time and contact. (pp. 12-13)

As I try to think back to this type of interaction with parents, the examples that I have experienced firsthand are few and far between. I am reminded of a Grade 4 parent of one of my students who came into the staff room for a cup of coffee at recess one day. We got onto the subject of her daughter learning the multiplication tables. She told me how impressed she was with the patterns that her daughter had found in the multiplication table, and the visual area representation that her daughter had drawn to figure out the answer to  $7 \times 8$  (by far the hardest multiplication fact for students to remember!). I shared in her enthusiasm and fascination at the way students were exploring multiplication since this approach was also new to me. She then expressed her fear and uncertainty about her daughter's ability to quickly know the answer to a multiplication question. "Shouldn't she be spending more time memorizing the multiplication facts? She can't very well take three minutes to draw out a diagram every time she needs to know the answer to a multiplication fact." I agreed with her and discussed my own discomfort at

first at not spending more time having students memorizing the facts. We then discussed future curriculum plans to ensure that after placing an emphasis on the understanding of multiplication that the students would be encouraged to practice a quick recall (memorization) of the multiplication facts. I think we both walked away from the conversation feeling that we had been heard, that each of us had shared our knowledge and goals with each other, and that the door was open to continue communicating about her daughter's progress. This type of interaction enables teachers to recognize or ask what is important to families and also to learn "their information, advice, and experiences with their children that will help us be more effective teachers" (Allen, 2007, p. 9). Although the conversation with this parent happened informally in a staff room, it would be beneficial for parents and teachers to come together more often in this way to "craft the learning experiences" (Hands & Hubbard, 2011) of students. It is through these types of interactions that rich and meaningful relationships between parents and teachers are formed.

## **Methodology**

### **Narrative Inquiry**

When I think about the conversation about multiplication facts that I had with the parent in the staff room, I can just as easily recall a parent bluntly saying to me, "I don't like the new math program because the students don't even have to memorize the multiplication facts anymore." The end. Some may hear this statement from a parent and use it as direct evidence to place parents as antagonists to curriculum changes when, in fact, this may not be the case. As a researcher, when I hear this statement, I think of it as a narrative sign, which needs to be investigated and interpreted to find its meaning (Clandinin & Connelly, 2000). In narrative inquiry, it is the story behind the action that matters. Through my research, using a narrative

inquiry methodology, I hoped to come to know and understand the experiences of parents in relation to their engagement in mathematics, on and off the school landscape. Such understandings will, in the future, guide my practice as an educator as well as provide an opportunity to create a trusting, reciprocal relationship with parents. As the stories of parents unfolded throughout the research, they shaped my understanding of the role that parents can play in mathematics education.

In narrative inquiry, a three-dimensional inquiry space of sociality, temporality and place exists in which the participants and the researcher move “*inward, outward, backwards, forwards and situated within place*” (Clandinin & Connelly, 2000, p. 49) throughout the research process. The parent participants and I as the researcher moved inward to our personal thoughts and feelings, outward to the social environment in which we found ourselves, forwards and backwards in time, with all of this situated in the various places in which the events we experienced or recalled occurred.

Narrative inquiry is situated in the work of John Dewey (1938) who believed that experience, which is essential to education, is both personal and social (Clandinin & Connelly, 2000). As the four parents moved inward (personal), they revealed their own feelings and attitudes about math, their hopes and expectations for their children, and their anxieties or comfort with math. Moving outward (social) to home and school environments, parents shared experiences of doing homework with their children or interactions with teachers or other parents. As a teacher and researcher, I moved inward to my own feelings, confidences and insecurities, and outward to my interactions with my students, parents, teachers as well as my own family and friends.

Another criterion of Dewey's definition of experience is continuity: the idea that each new experience is based on previous experiences and will influence future experiences (Clandinin & Connelly, 2000). In narrative inquiry the dimension of temporality was present for both the parents and me. Temporality means being awake to the idea that "[a]ny event, or thing, has a past, a present as it appears to us, and an implied future" (Clandinin & Connelly, 2000, p. 29). The parents moved backward and forward through these spaces in relation to their experiences with mathematics as past students, adults using math in their daily lives, and parents working with their children or interacting with teachers. I moved through time as a teacher in relation to my role in engaging parents in curriculum changes. We also both moved back and forth in time as our experiences of the parent math night unfolded, and as we reflected on the parent math night.

All of this was situated within a place, which in narrative inquiry "attends to the specific concrete physical and topological boundaries of inquiry landscapes" (Clandinin & Connelly, 2000, p. 51). As temporality came into play, the place was constantly changing. At times, the place may be the setting of past events such as a parent's former classroom as she thought back to her own mathematics experiences in school or a frustrated evening of homework in a living room helping her child. Place was also present where a research conversation took place in a school library. Place also presented itself in the implied future, perhaps as a parent expressed his/her desire to participate in a math lesson in his/her child's classroom at school.

The details of the stories that parents shared with me are as important as the stories themselves. In narrative inquiry, people and context matter. The time of day, the comfortable chairs for parents in a classroom, how much sleep a child got the night before, a child's confidence level, the tone of voice a teacher uses when speaking to a parent – these are all

examples of details that matter in narrative inquiry. The stories told are not universal nor are they meant to be; rather they enable us to see inside the lives of specific people at a certain time and place in their lives.

As I think about moving in the three directions of the narrative inquiry space, I am reminded of a father who pulled me over to chat after one of my parent math sessions. He wanted to know the “right” way to help his son learn how to divide. He told me about his past experiences working with his son trying to teach him to use long division the way that he had learned it in school 15 years ago. He wanted me to show him the strategies his son was using for division at school so that, in the future, he could work with his son in the same way that he was learning at school. As he moved backward and forward in time, telling me of his experiences, he also moved inward to his feelings of frustrations with past experiences as well as outward to his interactions with his son, all the while being in the present with me. I was also aware of the physical places in which all of these events had occurred – his school and home as a child, his current kitchen table at home, and the library we were in at his son’s school. As I shared with him some of the different methods that his son could use to divide, I remember feeling very excited that he was interested in knowing what his son was learning and how he could help him. I also remember thinking how difficult and perhaps unfair it is for parents who have been taught and have learned mathematics in a certain way to be told that the way that they learned it is not the way we do it anymore. I remember thinking, YES! This is what I want to do! I want more time to talk with parents, find out how they are feeling, what they are doing or want to do, and how we can work together to make math a positive and rewarding experience for everyone.

A key component in narrative inquiry is that the researcher is positioned within the landscape of research with the participants. Often researchers are able to tell their own stories in

relation to the experiences of the participants. Since I am not yet a parent of a school aged child, I have not chosen narrative inquiry as a methodology to be able to position myself as a parent alongside my participants. I have reflected on my interactions with parents as a teacher, in regard to my own experiences as a math student, as a daughter, and in my imagined future role as a parent of a school-aged child. In valuing the contributions that parents can make to their children's education, I wanted to understand their hopes, dreams and challenges as parents in relation to my own experiences. Using narrative inquiry as a methodology brought me into a world in which I work but yet to which I did not belong (Clandinin & Connelly, 2000). Through my research as I moved inward, outward, backward and forward, I revealed as much about myself as the participants revealed about themselves.

In choosing a narrative inquiry methodology, I was not intending to produce results that were representative of a larger population. In qualitative research "the goal is not to generalize to predict and control but rather to describe and learn from what people do and say within local contexts" (Freeman, deMarrais, Preissle, Roulston & St. Pierre, 2007, p. 29). In using narrative inquiry, I came to know and understand the lived experiences of a group of parents from one school in Saskatchewan to see new, different, richer possibilities for my own practice and for the practices of other educators. This will enable me to more fully engage with parents in the future as I work with them as partners in education, and to share these experiences and this knowledge with other educators.

## **Research Design**

The parent participants within this study were asked to do two things: first, to help plan, organize and implement a parent math session for their school and, second, to be a part of a focus group and participate in conversations about their experiences. We met four times as a group



after school in the school library, for approximately one hour each time, to talk about math and to plan the math night. All of these meetings were taped focus group conversations. Our conversations included topics such as how to help their children with homework, fun math nights, learning new math strategies for basic operations and ways to enhance learning and confidence of mathematics. We also came together for two hours the evening of the math night to facilitate the math night for parents and children of the school community. There were no taped conversations recorded on this evening, however I kept field notes to document the events of the evening.

### **School.**

The school in which I conducted this narrative inquiry, Leo Johnson Elementary School, is a school in which I have facilitated math parent nights previously as a Math Support Teacher for my school division. At the beginning of this research, in the fall of 2012, I also began teaching half time at this school. Before I began this research at Leo Johnson School, parents had already communicated to me that they would like to play an active role in parent math nights. I had already built some relationships, I knew there was parent interest, and engagement in the learning of mathematics because it was already a part of what this school was living out. Based on previous math presentations for parents at this school, I believed that the number of parents who wanted to engage in parent math nights would provide a large enough pool of parents to create a focus group.

I was a new staff member working at the school where I conducted my research. I “settle[d] in, live[d] and work[ed] alongside participants, and [came] to experience not only what [could] be seen and talked about directly but also the things not said and not done that shape[d] the narrative structure of [educators’ and parents’] observations and their talking” (Clandinin &

Connelly, 2000, pp. 67-68). As part of the research, it was important that I came to know the culture and subtle nuances of the school and the group of people with whom I was working. For example, in the past, what kinds of interactions had been typical between parents and teachers at this school? How did staff respond to parents playing a more active role in the schooling of their children? What feelings, attitudes and expectations did students, teachers and families have for the learning of mathematics and for parent engagement in that learning?

### **Participant recruitment.**

The participants for my research were recruited at Meet the Teacher night in September at Leo Johnson Elementary School. With ethical approval and with permission from the principal and staff, at the beginning of the evening when everyone met in the gym, I gave a brief explanation of my research and the role of the participants. I then invited anyone who was interested to come talk with me and/or leave their name and contact information if they were interested in knowing more about the research. Within three days of leaving their verbal or written indication of their interest to participate, I followed up with each one of them to arrange an individual meeting time. When I met with them, I explained the research in more detail, discussed the ethical implications, and their commitments if they chose to participate in the research. They were then asked to sign a consent form if they were interested in being a research participant.

### **Participants.**

The focus group consisted of four participants: Mustafa, Sally, Natalie and Kate. Since they were recruited for this research at Meet the Teacher night, they were individuals who were already present and comfortable on the school landscape. Given the intent of my research, I

selected parents with the comfort level, interest, and desire to organize a parent math night for other parents. Their interests matched my research interests. The parent participants represented a broad range of backgrounds in order to pull forward stories of diverse experiences. The participants represented individuals situated in different cultures and socioeconomic statuses; mothers and fathers; parents with children at a variety of ages; and parents with differing comfort levels with mathematics. Including families from varying situations enriched the conversations that we had as a group and raised different considerations regarding engaging parents in mathematics curriculum.

### **Collection of field text.**

Focus group conversations were one of my main sources for collecting field text. Participants gathered together to discuss their experiences with the planning and implementing of a math night for parents. My intent was that “the interactions among the participants [would] stimulate them to state feelings, perceptions, and beliefs that they would not express if interviewed individually” (Gall, Gall & Borg, 2007, p. 245). All conversations were taped and transcribed and participants were given an opportunity to review, change or clarify their statements to ensure their story was captured as they intended.

In narrative inquiry, “[t]he purposes and what one is exploring and finds puzzling, change as the research progresses” (Clandinin & Connelly, 2000, p. 73). My intent was not to specify a hypothesis and test it, rather it was to let people speak on their own terms, not in relation to a theory or a pre-set conceptual framework; therefore the discussion in the group was open ended. In facilitating the interview, my role was to initiate discussion by asking open questions, for example: What are some of the experiences that you have had with mathematics as a parent? As a student? How are you feeling about the new math curriculum? These types of questions

prompted participants to share their stories and to link common experiences among them.

Participants were asked to share their own stories of their experiences learning mathematics, as parents in relation to their children's mathematics learning and teaching, in working with schools in relation to curriculum implementation, and in regard to the parent math sessions.

My own personal notes, observations, and reactions were also a vital piece of my field texts. "The narrative researcher's experience is always a dual one, always the inquirer experiencing the experience and also being a part of the experience itself" (Clandinin & Connelly, 2000, p. 81). For this reason, I kept personal field notes of how the parent math sessions unfolded. These descriptive notes included observation of events, attitudes, feelings and my accompanying personal reflections. It was important for me to record not only what was said but just as importantly specific "actions, doings, and happenings, all of which [were] narrative expressions" (Clandinin & Connelly, 2000, p. 79) that occurred during the math night as well as during our conversations. These field texts were just as revealing of the experiences and feelings of the parents as the dialogue of the conversations. In these field notes, I made observations of, for example, the enthusiasm level of the group or the way that parents went about participating in an activity during a math night. Hearing parents' stories sometimes also evoked some of my own memories and feelings or a need to examine my own current practices, stories and thoughts that I recorded in my personal journal throughout my collection of field texts.

#### **From field texts to research texts.**

As I analyzed the data and moved from field texts to research texts in my narrative inquiry, I was reminded of my fourth year university Calculus class. We were given a problem and asked to navigate through it and produce a solution – a final product. I remember trying to approach a problem in a certain way using a dozen notebook pages, not knowing if my solution

was going in the right direction. Often I would find myself talking with my professor or fellow classmates to ask what they thought about what I was doing. It was not out of the ordinary to rip out a handful of pages in frustration and to start all over with a new outlook or approach.

Sometimes I would wake up in the middle of the night with a flash of brilliance, only to get stuck again. Eventually, after many hours, Doritos and Coke, tears, and lack of sleep, I would reach a solution and, at least until the next question, peace.

The process of moving from field text to research text has been much the same as my Calculus problems. I spent time reading and re-reading the field texts. Since I am very visual, I color coded and made notes in the margins of the field texts in different ways, for example according to date, context, participants and common themes that helped me think about them more clearly. I read them repeatedly to see what was standing out, what was important to the participants, looking at them from different angles, puzzling over them, and using different approaches – just like with my Calculus problems. To make sense of what I found interesting or revealing in the field texts, I would go back to the research studies that I have read or find others that were relevant. This research helped me think about things in a new way or to come to different understandings of what I was reading in the field texts. To help me navigate my own thoughts and ideas, I reflected in written form as much as possible during this process – I filled a notebook of negotiations with myself, stories that crept into my mind, research that I thought may be relevant. I also talked to others, for example, my thesis advisors and the participants, about the ideas that were coming out as important to see how they resonated with them. Just like my Calculus problems, I doubted that this would be a simple linear process and it wasn't. At times I thought I was onto something important or I started to make sense of something only to have to start all over again. Sometimes I needed more information and it was useful to return to

participants and engage in more dialogue to fully understand emerging research themes. I had many feelings of uncertainty, dissonance, tension and indecision but I believe that at the end I found peace – peace in finding “patterns, narrative threads, tensions, and themes that shape[d] field texts into research texts” (Clandinin & Connelly, 2000, p. 133); peace in deciding what is important and making sense of it by finding its significance to me, others, and in relation to other research in the field.

## **Ethics**

### **Procedural Ethics**

At the beginning of the study, I obtained informed consent from participants on an individual basis in which I fully described the research process. Their participation in this study was entirely voluntary and I gave participants the opportunity to leave the study at any time. After the research conversations were complete, I asked participants to review transcripts and make any changes or deletions. I then asked them to sign a transcript release form giving their permission for this field text to be used.

Anonymity and confidentiality of the participants throughout this process was an important ethical consideration. I offered participants the option of using a pseudonym of their choice for themselves and their family members to maintain their anonymity. Confidentiality within the group was a consideration. In a focus group setting, I needed to ask participants to assure one another that their stories and experiences would not move outside of the group without their permission. To this end, I asked participants to sign a confidentiality of group form indicating that they would not disclose information shared within the group.

## **Relational Ethics**

Narrative inquiry is a particular type of research in that it is relational. I built personal relationships with my participants and therefore I wanted to keep their feelings and concerns in mind at all times. I wanted to work with an “ethic of care” (Noddings, 2005). I tried at all times to treat the participants with the thoughtfulness and care that I would treat members of my own family. I set up our meeting place to be warm and inviting with comfortable chairs and coffee, tea, juice and snacks. I ensured that my research was not costing participants anything by offering childcare, rides, or cost for transportation to our meetings.

I also wanted to be conscious about how the participants were feeling about their participation in the study. I wanted them to feel strengthened, that they had contributed, and that their trust and their voice was being honored. I wanted them to get something out of participating; to feel that they, too, benefitted from the experience of being a part of my research just as I benefitted from having them as my participants. I was thoughtful in how I used the stories, ideas and feelings that they shared. Some things that were shared within the group were personal, such as a difficult experience with a teacher in the school or frustration as a child doing math that required extra sensitivity. Before using such a story in my research text, I considered both the benefits and the potential harm and I sought the permission of the individual who shared the story. I worked to ensure my participants felt safe, comfortable and valued at all times.

## **Looking Forward**

The following chapters are filled with storied examples to provide others an opportunity to think deeply about the role of parents in education. They include conversations from our focus group meetings, my own personal experiences and observations, stories colleagues have told me,

newspaper articles and imagined scenarios that I found were significant to me, others, and in relation to other research in the field. Chapter 2 begins with meeting the participants of this research. It then examines the existing relationships between teachers and describes the math wars that took place during this research. Chapter 3 explores the research experiences of involved and engaged parents in this narrative inquiry. It describes the complexities of the role of parents on the school landscape in relation to with whom and with what parents are engaged. Chapter 4 focuses on learning to engage parents - an area in preservice and inservice education that for teachers is lacking. It illustrates concrete examples and presents practical ideas for schools and teachers to use to engage parents. In Chapter 5, a metaphor of learning to make coffee is used to summarize the main ideas of this document. The implications of this research and future research possibilities are also presented.



## Chapter 2- Beginning the Research: An Experience of Possibilities

✂ November 23, 2011

Today is the day of our first focus group meeting to inquire into parent engagement in their children's mathematics learning. I am excited, not nervous like I thought I would be. Some of my participants' children are playing in the gym next door under the supervision of some older students and Sally, Natalie, Mustafa, Kate and I are chatting in the library. We are seated comfortably around a table with hot tea and snacks in front of us. I am smiling ear to ear because I can't wait for my participants to meet each other and I am excited to learn more about each of them. We have about an hour to get to know each other, to talk about our own and our children's math experiences and to determine what we want to do as a group to engage parents in mathematics within the school community.

### Meeting the Participants

Although I have already met each of my participants individually, they didn't know each other so I invited them to introduce themselves, to tell us a little bit about their families, their own experiences with math, and the reason they wanted to be a part of the research group.

*Hi, I am Sally<sup>4</sup>. I've got three boys. They're six, three, and one. John is six and in Grade 1 and loves math, which is kind of what sparked me on this. He thrives on math and my husband loves math, my sister in-law, everybody loves it, and my father in-law is kind of a mathematician. I really wanted to embrace it. I did not do very well in math when I was younger, and I did not like it. When I took math you got your formula if you kept plugging in the numbers exactly how it said, then you would get it. You did not understand it, you just plugged it in. I like to see that we are trying to get a little bit more hands on and making the kids really see what is happening; see the patterns and everything that they are really working on. The changes just really interest me and I*

---

<sup>4</sup> I used pseudonyms for the research participants, their children and the school. I also used pseudonyms throughout this thesis any time characters such as teachers, parents or students appear in a narrative, field journal or personal communication. I used the real names of my family members.

*was happy to see that somebody is kind of taking control and talking to parents and organizing math nights. I talked to my oldest about that and said that let's think of different ideas of what we could do, and he loved it and just thought that was great. He really likes it and I just want to embrace that and make sure that that keeps flowing through, and as well with my other two boys, I want them to be able to enjoy math as much as he does, and more than I ever did because I think math really takes you to a lot of places with university and in your life.*

*Hi, I am Natalie. I have four kids. My daughter is 18 and in Grade 12, I have a 16 year old in Grade 10, 13 year old in Grade 8, and a 7 year old in Grade 1. So I have all of the range of the spectrum. I do not speak French but my kids have gone through French immersion, so it has been a bit challenging for me with the whole math thing. They have been doing it on their own. French math and English math are so different; the language is not translatable, and so there have been some issues just for the fact that we do not speak French. My kids have also done Kumon<sup>5</sup> for about probably going on nine years now in total...it has been very good for them. But that is kind of going back to the old fashioned way of doing things. I am a bit torn actually, just seeing how Kumon has helped them to advance in their math. I am just kind of keen to see what the different perspectives are, because I have one in Grade 1; I still have a vested interest in.*

*My name is Mustafa. I am from England originally. I have four children, four girls. A 14 year old, 10, 8, and 4. Two of my girls go to school here, one in Grade 5 and one in Grade 6. I love maths. By profession I was a computer programmer so I just love maths. My fascination for maths came from my father, who basically did not even complete his high school in Pakistan because his father died when he was about 13. He had six sisters and he was the only male in the house so he had to go to work. But, he could work out long multiplication in his head and that was just fascinating to me, and I think that is where my fascination for maths came in. But, I have two sisters and a brother, and all the ladies in our family hate math, including my daughter. I do not know, I guess that was one of the reasons I joined this research, to see if I could have an input and see if something could be improved in terms of how maths is taught in school.*

*My name is Kate and I have three girls: Grade 3, Grade 1, and preschool. I joined the math group because my job involves teaching "math" related subjects, primarily to young adults. Personally, I wanted to be in the group to learn what other people's feelings are towards math and also to explore whether or not it is true that many kids, girls in particular, do not like math.*

(Taped conversation, November 23, 2011)

---

<sup>5</sup> The Kumon math program is a private, fee for service math program. Kumon is the world's largest after-school math and reading academic enrichment program ... [It] is a comprehensive program that develops the necessary skills to help children progress from counting through calculus ("Kumon," n.d., About Kumon, para. 1).

As I sat in the library reading over the transcript from that first day, I thought about the differences and similarities of the participants. In some respects, my participants had varying backgrounds and reasons for being in the group. Although I was not seeking to have a diverse group to make the findings of this research generalizable, each of our different backgrounds and experiences brought richness to our conversations. Within our group there were different cultures represented, three mothers and a father, younger and older parents, with varying ages and genders of children. Mustafa loves maths while Sally hated math in school. Natalie wanted to know more about math because her youngest son was in Grade 1 and she had difficulty helping her children because of the language barrier. Kate came to the group with a slightly different perspective of wanting to understand other people's attitudes towards math on a more global scale.

As our discussions continued that first day, it became apparent that there were more commonalities between these parents than one might think. They all, in varying ways, were working with their children in mathematics off the school landscape. Sally gave John math activities to do like games or worksheets that she printed off the Internet because he loved doing them and she wanted to encourage his positive attitude towards math. Natalie had enrolled her children in Kumon, a program in which students do daily repetitious math at home. Mustafa talked to his daughters about the math around them and how he used it in his profession as a computer programmer, and Kate thought that it would be good to have a little bit of math to do every night, just like students have for reading, because it teaches good study habits especially for when they get to university.

All of these parents were actively engaged off the school landscape. Sheldon et al. (2010) stated, "Parents socialize their children in ways that significantly affect their children's self-

perceptions of ability and achievement in math” (p. 28). It was apparent to me that these parents were comfortable with the education system, and encouraged their children to do well by having high expectations and by setting examples of learning in their own lives. All of the parents in our group were willing and able to sit down and do math or math related activities with their children. They also all displayed a positive attitude towards math and talked about the positive impact that learning math would have on their children’s futures. This parent engagement off the school landscape is not necessarily unique to our group. Henderson and Mapp (2002) found that “families of all cultural backgrounds, education, and income levels encourage their children, talk with them about school, help them plan for higher education, and keep them focused on learning and homework. In other words, all families can, and often do, have a positive influence on their children’s learning” (p. 39). The parents in our group were all doing math at home and communicating with teachers about things the parents could do at home to support teaching at school.

### **Opening My Eyes: A Change in Perspective About Parents**

What Henderson and Mapp’s (2000) study claimed about parent engagement and the willingness of all the parents in the focus group to work with their students at home contradicted my experiences as a teacher. I’ve gone whole school years without meeting or talking to certain parents. I’ve had students whom I knew always did their homework on their own without any help from their parents. Since ALL families have a positive influence on their children’s learning, what were the parents that I never saw or heard from doing to help their children? Perhaps my view of parent involvement off the school landscape was too narrowly defined. My expectation as a teacher was that parents be involved in a manner in which they “enact or

subscribe to a specific set of roles and rituals that signify appropriate involvement behavior” (Lopez & Stoelting, 2010, p. 24). I was expecting parents to do things like sign homework agendas or do homework and activities that I sent home for them to do with their children. When parents did not fulfill these “duties,” I characterized them as uncaring or unwilling to help their child. I made these characterizations without recognizing that parents may be doing a multitude of other things that have a positive influence on their child’s learning. I had “naturalized and privileged certain involvement practices, while rendering other involvement forms invisible” (Lopez & Stoelting, 2010, p. 24; Hands & Hubbard, 2011).

A few years ago, a teacher came into my classroom in frustration and told me about one of her students, Carmen. Carmen was a struggling student from a large family with parents who owned a business. The teacher was infuriated because the parents were always at work, focused on making money. They weren’t helping Carmen with her reading at home, they hadn’t helped Carmen do the family history activity that students had to share with the class, and they rarely signed her agenda book. “They just don’t care!” she told me.

This conversation left me feeling torn. I understand why the teacher was upset. She was trying to help Carmen be more successful and she felt that if the parents did these things, it would help. She was probably right. If the parents would have read with Carmen every night and helped her with her homework activities, Carmen likely would have been more successful in school. I felt badly for the parents; it seemed as though the demands of her parents’ jobs may have been competing with their desire and ability to be involved (Hands, 2009) in Carmen’s schooling. Even so, saying that these parents didn’t care about Carmen’s education, because they weren’t performing the expected tasks that schools have typically set forth for them, didn’t coincide with what I knew the research said about parent involvement. Jeynes (2005) found that

it was not homework or signing agenda books that had the most impact on student learning but rather it was the subtle ways that parents created an “educationally oriented ambience” (p. 262). These are things that as teachers we may never know about, yet things parents do all the time to create a culture of learning in their families. For example, they may watch historical documentaries, read every night before bed, measure out ingredients to cook, throw a baseball, grow a garden, take pictures, work two jobs to provide for their families, sing songs filled with poetry and meaning, or talk about their life experiences with their children. Perhaps Carmen will watch her parents’ determination to build their business over the years and become a business owner of her own one day. There are many things that parents do to influence a child’s education but, as teachers, we often do not recognize the positive influence that parents are having on learning. Instead, we often blame them when they are not involved in their children’s schooling in the typical way that we think they should be.

My thoughts return to my research participant Sally. I found her situation of particular interest because she grew up not liking math. What if she had married someone who also didn’t like math or someone who was indifferent to it, instead of someone who came from a family of people who love math and have a father who is a mathematician? Maybe in the future, Sally won’t be able to help her children with their math homework – a common experience for many parents – because she doesn’t understand it. Whether or not she is able to help them do their homework, she will still be playing a significant role in their education. Instead of accepting the culturally acceptable position to not be good at math, Sally has rejected it. Instead she is fostering a love for math in all her children. In doing so, she is influencing her children’s self-perceptions and ability to achieve in math in a positive manner that will have a lasting effect on her children’s success in learning.

## Let's Talk about Math

As we continued our discussion on the first day of our focus group meetings, I asked the group: What is it that makes people say or feel that they are not good at math?

*Sally: I just did not care. It was just, you got to a point and it was just frustrating, and I thought, "I do not want to do this, I don't even care." I had no plans on using math. If anyone asked me what I wanted to do in high school I said "bare foot and pregnant." That is all I wanted. I just never thought that I would have to use math... But, it boggles me today, because I am a waitress, how many people can't figure out ten percent, or percentages, and I say, "Slide the decimal place over." How does nobody know this? The servers, the waitresses, don't know. And even when people are paying they are looking at it like, "I don't know how you figure out this ten percent thing." It is scary.*

*Claire: You obviously have some strong skills using math in your daily life.*

*Sally: Definitely, but I think I have just picked up counting money, forward and back, by just dealing with money all the time. But to sit down, I am definitely nervous as the kids get older and they get into more difficult math.*

...

*Mustafa: My rationale for that is that in every other class, like say you take English for instance, you have reading, so there is some interest in that, there is something to be gained from reading. You read a book and you enjoy it. There is no application for maths. You are taught and there is no connection of where you are going to use that and how it is going to apply to your daily life. About a month ago my daughter was learning about area, like how to calculate area and was like, "Why do I need to do this?" Luckily enough we were just buying a house at the time so I was able to explain to her that this is a square footage of the house that we are looking at, and the one that we are selling, and these are different prices of different houses with different square footage. You want to buy a house that is smaller or larger, so there was an application and it was a bit more interesting and more meaningful for her to learn that.*

...

*Claire: I feel like the curriculum that we have now really does try to address those needs. I feel like that is a focus, to make math contextualized and to try to always have a situation instead of, "Here is a worksheet. Calculate the area of twenty different questions," Then the students don't really know what that means. For example, I would ask a question like, "This is the length and width of a backyard, and you need to plant grass, how much area do you need to cover?" So there are a lot of, I find, varied types of questions, which I am hoping will make students see the applications and where math is in their daily lives. Are we there yet that it is fully integrated? No. I don't think so. And I think that there will always be a place in math for practiced repetition of skills, and I think those skills are important for students to be able to do their multiplication tables, additions and subtraction. I think a lot of comments that I have heard [from other parents]...is*

*that we are too much application now and that students aren't able to mentally calculate or do their times tables or add in their head because it is too much getting focused on the context.*

*Natalie: That is kind of what I think...I've just seen other kids that are graduating from high school, and they just don't seem to grasp the fundamentals... [At Kumon] they said that by Grade 6 some kids don't know their fundamentals: subtractions, division, multiplication tables, and that's only been in the last maybe ten years. I am just wondering, are we too much in the application side now and not enough on the other side? ... [Kumon] becomes a way of life. They do a little package at home every day, three or four pages, two-sided, and so for my son in Grade 1 right now, it's just adding, like 2 plus 5, 3 plus 4, and it's just repetition, repetition. So he's actually extremely proficient in math, and it's just because of the repetition that he's doing. So it's almost like kind of balancing a bit.*

(Taped conversation, November 23, 2011)

We listened and we talked. Natalie leaned towards a traditional approach of learning the basics through repetition. While Mustafa and Sally both agreed that repetition is needed in math, they also thought that there needs to be more application in the classroom to make math more interesting and meaningful to students. I was glad to be able to share my teacher knowledge of the curriculum in relation to what they wanted for their children in learning math. Our conversations were rich. We brought our own experiences forward and imagined possibilities for students to learn math in the future. I felt at ease and I thought that the rest of the group felt that way too in their willingness to share their stories and opinions and to ask questions. After only a short period of time, there was a feeling of mutual respect for one another, and for our thoughts and ideas. We had come to a shared understanding of wanting application in math with a balance of students needing to know their basics skills. As a group of parents and a teacher together, we were questioning how to make math more meaningful and fun for students to build their confidence and competencies.

**“I am DONE!”**

✠ November 8, 2007



I look around anxiously at my empty Grade 7 classroom. My fingers are freezing, I am shaky and there is a sense of dread hanging over me. I am in the middle of parent teacher interviews and I am not looking forward to the next parent. The other teachers have warned me about this parent, Alexandra, that she will be negative, that she will blame me for her daughter's lack of success.

She does just that. She insults my teaching and my inability to get through to her daughter. She has a particular problem with the math curriculum and the efforts of the school to provide support to her daughter. Why isn't the school doing more to help her? Why isn't she memorizing her basic facts? How is she supposed to help her with her homework when it doesn't make any sense to her? I skirt most of her questions, wishing I had asked the principal to sit in on this interview. I explain to ears that seem not to be listening that the curriculum comes from the province, not from me and that students do still learn their basic facts. I promise to do my best to help her daughter in the next term. She is sitting across the table from me on a cold orange plastic chair, arms crossed, with a scowl on her face. I don't think she has really heard what I've said. I feel a swell of relief as the bell rings signaling the end of our 15 minute interview. I stand to indicate that it is time for her to leave.

As soon as she is out the door, I feel the hot tears of anger and frustration overflow onto my cheeks. A colleague walks in to see if I am okay. "I am DONE!" I say. So, so done. I don't have to put up with being treated this way. Teaching is not worth it. I do my best day in and day out. Who is this parent to say that I am not trying, not doing my job, and not helping her daughter? My colleague tries to console me, telling me of all the parents in my class who love me, who sat beside her at a basketball game last week and told her how good a teacher they think I am, how good a teacher she knows I am. But the power of negativity is too strong to break

through the hurt and self-doubt that this parent has caused. The power that this parent has over me at this point is incredible. She has caused me to question my professionalism, my philosophy of how math should be taught, my career path for the future, and my sense of self-worth as a person. Do parents know that they have this power and how hurtful it is to teachers when they use it in this way?

With this story in mind, I understand why teachers often speak poorly of parents. It's no wonder that teachers feel they need the safety of limited parent teacher interactions with bells signaling the beginning and end of their time together. I would suspect that most teachers have probably been hurt by at least one parent in the past and view these structures as protection.

### **The Power Struggle: Changing the Story**

As I tucked my son into bed on the night of the first focus group meeting, I thought about that hurtful encounter I had with Alexandra in contrast to the exciting, inspiring conversation I had just had with the focus group. As I settled onto the couch to watch a nightly rerun of my favorite TV show, *The Big Bang Theory*, the dialogue of the characters – brilliant but socially awkward scientists – made me wonder about the differences between these two situations I had lived out with parents.

Leonard: Howard's gonna sleep here tonight. He had a fight with his mother.

Sheldon: Did you offer him a hot beverage?

Leonard: No.

Sheldon: Leonard, social protocol states when a friend is upset, you offer them a hot beverage such as tea.

Howard: Tea does sound nice.

(“Quotefully”, n.d.)

Imagine if I had treated Alexandra as a friend – a partner. Imagine, instead of being given 15 minutes of allotted time to come speak to me about her daughter, she had been part of a group

like our focus group. As was evident by her actions at the parent teacher interview, she was clearly upset with what was going on with her daughter's schooling. She likely would have come to the meeting with the same negativity, questioning of the curriculum, and dissatisfaction with the help her daughter was getting. But, maybe she would have walked in angry, sat down in a comfortable chair, been offered a cup of tea as Sheldon Cooper's social protocol dictated, and felt valued and respected; that what she had to say was considered important by me. What if she had been given an unrestricted amount of time to meet her daughter's teacher as a member of a group of parents, and an opportunity to express her concerns in a relaxed informal setting? Other parents may have shared their struggles and successes with her. As a teacher, I would have been more open to actually listen to her concerns from her point of view. In removing the hierarchical positioning (Pushor, 2001) of educators over parents, it changes the dynamic of the conversation between teachers and parents. The conversation's focus would have become more about understanding one another and problem solving rather than blaming and exerting power over one another. It would have enabled my teacher's feelings of defensiveness to dissipate along with her parent's desire to criticize teachers or curriculum in an unproductive way.

Although not angry or upset coming into our focus group, Mustafa and Sally both had concerns about how math was being taught. They both thought that there should be more application in math related to real life.

*Sally: I guess it would be nice to see more projects, more real life applied things. Everybody at some point has to go pay rent, and have to pay bills, and know how to break it down when you are making this much money.*

*Mustafa: They don't teach anything about money in schools.*

*Sally: No not at all and that is scary...*

(Taped conversation, November 23, 2011)

In a different setting like a parent teacher interview, I may have felt criticized by these comments for not doing enough application in math or teaching my students skills that would be transferable to their lives. During this conversation, however, I did not feel like this at all. I was able to share the ways the curriculum and my teaching of it already emphasized what they thought was important, having application questions in math and using numbers in everyday life situations. What these parents wanted, schools were already doing but they didn't know about it. At the same time, the parents were able to share with me activities and ways that they interacted with their children at home that were making math meaningful to them. Mustafa and the other parents had "personal practical knowledge of their children, teaching and learning... arising from their experiences of the dynamic interaction in their homes and the varied contexts in which they spend time as families" (Pushor, 2010a, p. 8). We were able to lay their parent knowledge alongside my teacher knowledge. I realized through our conversations that we were both striving for the same outcome for students: a meaningful understanding of mathematics and how it was used in our daily lives.

In our focus group, we changed the structure in which parents and teachers interact about learning. We interrupted the typical roles of teacher as the holders of knowledge and parents as the recipients of that knowledge (Pushor, 2010a). In coming together to talk about math education, I wanted to keep at the forefront of our discussions the work of Civil, et al. (2003) who defined "parents as intellectual resources and, as such, we learn as much from them as they may be learning from us" (p. 9). It wasn't just about what I had to share with parents but what they could share with me.

## **Moving Forward as a Researcher**

I felt overwhelmed as a researcher and as a teacher thinking about what I was going to learn from these parents in this inquiry and the excitement of being able to share my knowledge with them. I was also very much looking forward to creating new experiences together as we planned a math night for the school. After much discussion about what parents wanted for their children in math learning and about our own past experiences, a few of the same ideas kept coming up.

*Claire: [The key messages that I'm hearing from you in planning our math night are] how do we build confidence in students? How do we find a balance between application but also having our skills really firmed up to be able to use in daily life? ... How can we just build that math confidence for our kids and also build the communication between parents and schools and the work that we are doing at home with our kids and the work that's being done at schools and make sure that that's all pulling in the same direction. (Taped conversation, November 23, 2011)*

I walked away from our meeting feeling eager for the next one and in anticipation of the positive impact that this group would have on the rest of school, student learning and on each member of the group as we came to know and understand each other. Finally! I felt like I was making the difference that I want to make by engaging parents in the math curriculum. My head was filled with ideas of what we would do for our school, how I could use many of the ideas that our group discussed in the division-wide parent math nights that I was planning, and the changes that I could make in my classroom.

## **The Math Wars Have Come to Western Canada**

A few days later, I opened the newspaper and felt sick to my stomach. The article read:

### **Fight For Old-Style Math Education, Group Urges**

A new group is urging parents to fight for a more traditional approach to math education in schools. Several university professors in Saskatchewan and Manitoba have banded together,

believing there really is strength in numbers, to lobby education ministers to move away from a new style of math education that eschews rote-learning.

Anna Stokke, from the University of Winnipeg, said educators in the United States recently reverted to a more traditional approach. "They went down this road in the U.S. several years ago," Stokke explained to CBC News Tuesday. "Mathematicians and scientists and parents complained loudly and now they've put those [traditional methods] back in the curriculum." The wisemath.org invites parents to sign their names to a petition calling for changes. She said if the response is strong, she and her colleagues will take the concerns to their provincial education ministers. ("Fight for old style math", 2011)

In reading this article, my thoughts kept circling back to the math wars in the United States. As Stokke referred to in the article, in the past 50 years there have been movements of parents spearheaded by educators and mathematicians that have been so influential that they dissolved attempts in California in 1960 and 1989 (Schoenfeld, 2004) to change the way mathematics were taught. In both cases, the curriculum changes – similar to those at present in Saskatchewan – were striving to move away from procedural learning towards student understanding of mathematics and their ability to solve problems. This group, WISE Math, is recreating what has happened over and over in the United States. How far will they get? How much power will they have? Is this the beginning of the end of our current math curriculum?

In 2007, I wrote about these math wars and the eventuality of them coming to Saskatchewan:

Parents are feeling uneasy with the curriculum changes occurring in their children's classrooms. Even parents who are supportive of the changes still see math in a very traditional manner. A parent once commented at a Math Information Night, "I like all this discovery stuff but when do they learn to add the real way?"... Whether parents are set in their ways, unwilling to value current research, feel inadequate about their own abilities to help their children, or just fear change, their concerns must be addressed with a positive united front by the government, administrators, and teachers or Saskatchewan

will soon face the same situation as California: parents demanding that math be changed back to the old way. (Course assignment for ECUR 819.3 Trends and Issues in Mathematics Education, July 7, 2009)

And now, it has finally happened.

Just when I was feeling as if the public and parents were starting to buy into the math curriculum that I had been working for five years to implement in my classroom, and with teachers in other classrooms in our school division, a group of math professors came forward along with the press to publicly criticize it. I felt naïve in thinking that the work that I was doing with parents could stop this from happening. I think I've always known it was coming. It was just a matter of time. Although the four core members of the WISE math group were represented as math professors in the media, from their stories, it seemed as though they were motivated to speak out because of their experiences of doing math with their children; they were banding together as parents to fight for the type of math education that they wanted for their children. The fact that they are university math professors added a complexity to their response to the math curriculum; however it seemed that they were primarily reacting in their role as parents.

In uncanny resemblance to other groups like it all over the United States, WISE Math has rallied the press, created an online website and a mission statement that anyone would believe in. Who doesn't want "to ensure that all children have the opportunity to achieve their full potential in math so that they may enjoy lives free of innumeracy, may experience the beauty in math, and so that they may have a wide range of career opportunities" ("WISE Math," homepage)? I want that for my students, but that doesn't mean that I believe in everything for which WISE Math is advocating.

A few weeks later, a colleague emailed me a similar story from the *Globe and Mail*:

Parents across Canada might be surprised to learn that the times tables are out. So are adding, subtracting and dividing. Remember when you learned to add a column of number by carrying a number over to the next column, or learned to subtract by borrowing, then practiced your skills until you could add and subtract automatically? Forget it. Today, that's known as 'drill and kill,' or even worse, 'rote learning.' And we can't have that.

...

The common methods used to add and subtract are known as standard algorithms, they are efficient and foolproof. But instead of being taught these methods, students are encouraged to find "strategies" such as breaking numbers into units of thousands, hundreds, tens and ones and working horizontally. It works, but it's not efficient. (Wente, 2011)

WHAT??? This article didn't even have it right! Some of these strategies are much more efficient than the standard algorithms, especially for doing mental math if you don't have a pencil and paper.

YES! We do still teach times tables and practice how to add and subtract!

NO! Standard algorithms are not foolproof! They are only foolproof if you either understand them or have memorized the rules properly and can remember them! How many students have struggled over the years in math because they didn't understand these standard "foolproof" algorithms? If the way we taught math in the past was so perfect, then why is it so easy to find people like Sally who say they just didn't get math and hated it?

Feeling disheartened, I decided to ask the focus group what they thought of these articles at our next meeting. I wanted to share with them what we are actually teaching in contrast to what the media were communicating. I also really wanted their input on what I could be doing at the division-wide math nights to help create a more positive public opinion about the math curriculum since the media was so blatantly only presenting one side of the argument.

### **Math Wars: From the Perspective of the Parent Participants**

*Kate: The group called WISE Math from Manitoba is suggesting that the students will not have the skills they need in math anymore once they enter university...Has the curriculum changed to*



*the point where math and other subjects that have strong mathematical foundations will be difficult for students when they enter university? Or is this group focusing on minor details of the curriculum they don't like and blowing it out of proportion?*

*Claire: They are really showing the extreme of it.... I think the curriculum is not totally fluffy concepts and not rote learning; it is in the middle.*

*Mustafa: See the balance has to be there for sure... I don't think you can discard one way and go to the other way...because I don't think it's going to work like that... I think more effort needs to be made on making it fun and letting students see the application of that thing rather than just working on a whole bunch of irrelevant math questions. Like, my kids, when they are doing multiplication and division, they are like "Why do I need to do this?" You know, there is just no interest there at all...*

...

*Claire: ...After studying the curriculum, they want them to have that conceptual learning and then there is the place for the rote after...in Grade 4, for example, they look at multiplication and how to do it and all the different ways and then by the end of Grade 4 they should do that memorization piece because they understand what multiplication is.*

...

*Kate: I guess we should have parents understand how the new math works - how it benefits the students.*

(Taped conversation, December 19, 2011)

Talking this through with the parents made me feel much better. They didn't really seem to be buying into all the negativity portrayed by the media. I hoped that other parents weren't either. I was still really worried about the power of WISE Math, the misconceptions in the media and the influence that they could have on the government to change the curriculum without really having given it a chance.

*Claire: ...without getting the word out and getting people talking about what the curriculum actually is...if people yell loud enough, [the curriculum] could get ousted. Which I really don't want, because I really believe in it - a balanced approach.*

*Sally: Give it some more time too. I mean, and let the parents in on it so that there's not so much resistance of that change, 'I don't know what it is, I don't get it, and I don't know why you're switching it. Teach them my way'.*

*Mustafa: The thing with articles like this is that it conforms the view of the people that don't really particularly have a view, and then they read this and then they form their view.*

(Taped conversation, December 19, 2011)

The media attention made the work that our group was doing even more meaningful. Whatever it was that we were going to do for the parent night, hopefully it would open up a dialogue with more parents about the curriculum and let them see how math is actually being taught in schools as opposed to what the media was portraying. We would at the very least be offering an opportunity for parents to come and understand the math curriculum first hand and come to their own conclusions.

### **From Crisis to Opportunity: Changing the Story**

As our focus group meetings progressed over the next few months, the media continued to criticize the math curriculum. In March 2012, the front page of *Maclean's* magazine pictured a frustrated mother and daughter doing math homework painted with the title: *Education in Crisis: Why is it your job to teach your kid math?* The same four university professors that had founded WISE Math were the main focus of the article.

"I don't have a problem with alternate strategies," Stokke says. "But I fear they're learning so many, that in the end they're not mastering any."

...

To sort out the discord, some boards are hiring cadres of costly numeracy consultants to facilitate workshops for families and teachers, and developing online tools for parents to access. In many districts, families are left to grapple with the mess themselves. Either way, more parents are starting to speak out about the increasing amount of time, money and stress required to teach their kids what they should be able to master at school, "Kids spend six hours a day there – I think the schools should be able to teach math to children themselves," says Stokke. "It's completely wrong-headed. And the moment you say parents should play a significant role in public education, you have a two-tiered system." (Reynolds, 2012, pp. 45-46.)

Stokke argued that the new curriculum is creating a two-tiered system – but doesn't a two-tiered system already exist? Since having parents involved in schooling has a positive effect on student achievement (Allen, 2007; Epstein, 1995; Henderson & Mapp, 2002; Henderson et al

2007; Jeynes, 2005; Lopez et al, 2004; Sheldon et al, 2010), students with parents who play a more active role seem to have an advantage over those who choose a more passive role (Hoover-Dempsey et al., 2005). Currently there are many upper-middle-class parents, like the four originators of WISE Math, who view and carry out their parental roles in schooling differently than many working-class parents. Lareau (2000) compared the involvement of upper-middle-class parents to working-class parents of first and second grade students. She found that the working-class parents were less involved, characterizing their relationships with the school by “separation” while characterizing the relationships of upper-middle-class parents with the school by “interconnectedness.” She found that it wasn’t that parents from working-class families did not have the same desire for their children to be successful or have the same opportunities for parent involvement as upper-middle-class parents, but they lacked the resources that the upper-middle-class parents had such as education, status and income to help their children in school (Hoover-Dempsey et al., 2005). It was not that working-middle class parents were unwilling to help their children but they lacked the “competence and confidence.”

There seems to be a difference in the advantages that students of upper-middle-class parents have as compared to students with lower-working-class parents, specifically in relation to homework and typical relationships between parents and teachers. Class differences can easily create disadvantages at school for lower class children (Vatterott, 2009). “In the worst case scenario, homework [and the support they have to complete it] helps the privileged succeed academically, and homework causes the less privileged to fail academically” (Vatterott, 2009, p. 38). Noguera (2011) found that teachers tend to approach low-income parents with hostility, blaming them for children’s academic failures and therefore evading accountability. At the same time, affluent families tend to be recognized as equal partners in the educational process, their

concerns are responded to promptly, as schools ensure they remain accountable to these parents. It is possible that Stokke and her supporters are speaking out because they are losing their sense of “interconnectedness” and their ability to help their children succeed academically by helping them with homework as they had in the past. Knowing from past experiences that they have been treated as equitable partners to whom schools are accountable, Stokke and WISE Math, upper-middle class parents are rallying for a change. I wonder if Stokke and the parents who support WISE Math – who could be parents from any class trying to help their children succeed academically – are not really unhappy with the math curriculum but rather are struggling to define their parental roles in relation to the math curriculum. For example, parents may be having difficulty helping their children with math homework because of a math curriculum with which they are not comfortable.

Mustafa and Sally spoke of the difficulty parents have when they aren’t sure of the way math is being taught at school. They can no longer help their children exactly the same way they had been taught, feeling “confident” and “competent” in their skills to support their children, because they are unsure of the new teaching and learning strategies being employed. As Stokke was trying to navigate unfamiliar new methods of teaching math, she recognized that it was difficult for her – taking an “increasing amount of time, money and stress” to teach her kids at home. If it was difficult for her, I wonder, as did Stokke, about parents without the education, status and social capital (Bourdieu, 1977; Swidler, 1986) to understand a new and different math curriculum. How might teachers and parents work together so that parents feel comfortable helping their children at home with math?

Noguera (2011) found that “a significant portion of teachers don’t work with low-income parents to encourage learning at home” (p.1). However, because of the curriculum changes,

school divisions are putting money and resources towards “facilitating workshops for families and teachers, developing tools for parents to access” (Reynolds, 2012, p. 46). These are workshops and tools for ALL parents to access. They provide resources that perhaps have been lacking in the past and that build confidence and competence for parents to help their children in math. In this case, as evident by the support for WISE Math, it is not only low-income parents that desire support for learning at home; it is parents from all different classes.

Because of the curriculum changes, a position such as mine, a teacher on assignment for math support, has been put in place for our division. Since I began in 2007, a focus of my work has been to talk with parents about curriculum and to engage them in the work of schools. This has been a positive and rewarding experience for parents, students and teachers. My focus has been to invite parent voice and to listen to parents. As educators, we are accountable to all parents, we welcome them into schools and we strive to build trusting relationships. It is important, then, that we listen to what parents have to say about student learning.

This is not always easy because, as teachers and parents, we exist in a school system that has conditioned us to act in certain ways. We often feel the need for there to be a winner and a loser in discussions about student learning. In western Canada, WISE Math, a group originated by four parents who are university professors, is fighting for a return to ‘traditional’ mathematics, mathematics that they were likely very successful at as students. They have the right to be heard and their “social class position influences the resources which they can bring to these ‘battles’ with their natural enemy [teachers]. The higher parents’ social class, the more social resources they can draw on in making their claims” (Lareau, 2000, p.159). The message from WISE Math is being heard on the radio, in the newspaper, on television, at hockey rinks, at music lessons and in schools across Western Canada. It is important to consider however, the

voice of the parents that do not have these same resources as the upper-middle-class parents. Theirs is equally important. Because of the already existing gap in student success between high and low socioeconomic status students (Saskatchewan Ministry of Education, n.d.) it is important to bring to the forefront of our work the needs of low-income families. Noguera (2011) brings attention to this issue:

Low-income parents need help to advocate effectively for their children, the population more vulnerable to dropping out. These families already struggle with scarce time and resources to devote to their children's education; this is compounded by cultural and language barriers, and inexperience or negative experiences navigating the school system. (p. 1)

It is possible that lower-working class parents would agree with a return back to a 'traditional' approach to teaching math, but it is also possible that they would support the current curriculum. These parents have a right to an equal voice. How can they overcome barriers such as time, language barriers, or past negative experiences to be served by schools in the same way that other parents are being served? If they had more resources to do so, would they choose a more active role on the school landscape?

In 2009, as the United States economy became increasingly unstable after the failure of their banking and financial systems, President Obama encouraged the public to "discover great opportunity in the midst of great crisis" (Associated Press, 2009; Grumet, 2009). Perhaps *Maclean's* interpretation of "Education in Crisis" is not a crisis at all but rather a moment to discover great opportunity. The curriculum changes are an opportunity for schools and parents to come together, to look at possibilities for how parents are or can be engaged in the learning of mathematics. It is an opportunity to interrupt the well-rehearsed stories of schools (Pushor,

2010a) and replace them with new practices in which parents and educators work as partners. Instead of blaming parents for the lack of success of students or making assumptions about parents' abilities to be a positive influence on their children's education, we have the opportunity to come together and listen to and understand one another. The title of *Maclean's* article "Why is it your job to teach your kid math?" is flawed in that it may not be parent's job to teach their kids math but parents have the right to play a significant role in public education – not the role of a teacher but the role of a parent. The changes in the teaching and learning of mathematics are causing educators to ask, What is the parent's role in education? What types of ways do parents want to be engaged? The curriculum changes in math may be the spark that ignites schools and school divisions to ask these questions and to meaningfully engage parents in education.

## Chapter 3 - Experiences of Involvement and Engagement

### Leo Johnson School Family Math Night

✦ January 25, 2012

My mind and heart are both racing. Parents, children and grandparents are coming through the door with anticipation for the fun the math night promises to hold. Once they've all come into the gym, I quickly estimate that there are over a hundred people here! I am running numbers through my head, hoping there will be enough supplies at all of the stations, hoping that there are enough stations so that parents and students will not have to wait to do the math activities that our focus group planned. I look over at the group and smile excitedly at Kate, Natalie, Sally and Mustafa, and their kids. Our plans, our vision for the Leo Johnson family math night, are actually working! We've pulled it all together!

I glance around the gym and at the smiling excited faces and see all the work that has gone into this night. Tables and chairs are set up for parents, posters have been hung to call attention to the different stations, coffee, juice and cookies are set up on a table at the back of the gym. The number of people that have come is testimony to the work that has been put into inviting families through emails, flyers, phone calls and personal invitations in the hallways of the school. There are stations set up throughout the school with all different kinds of math activities for students and parents to do together. Some of the stations are playing math war with cards, budgeting, estimation races, calculating the area of living rooms, making patterned bracelets with fruit loops, a candy jar guess using volume, and Smart Board games with ten frames. The focus group and I spent an afternoon choosing activities, discussing their relevance to curriculum, whether or not kids would like them and what kind of discussions would arise from them between parents and students or perhaps between parents and other parents.



In the newsletter invitation to the math night, we had invited parents to email questions ahead of time to do with curriculum because of all the media attention the math curriculum was receiving but, surprisingly, there weren't any. Because there were no questions, I begin the evening with an introduction of the focus group parents, acknowledging their input and collaboration in putting this night together, and I invite parents and students to walk around and participate in the different math stations.

I move from station to station relieving the parents from the focus group from the activities they had chosen to run so that they could participate in the stations with their own kids. I see parents and kids interacting, talking about math, but also just having fun doing math. The parents don't seem worried about curriculum or how things are being taught; they are just here to have fun with their kids. Everyone seems to be having a great time. Some of the more popular stations are 'How long does it take to eat a chocolate Kiss?' and making patterned bracelets with fruit loops. At any event, anything involving food is always popular but all the stations are busy. Parents are sitting and talking to their kids about math: about budgets and how they would disperse extra money at the end of the month or about how to find the area of a living room.

While I am at one of the stations, a grandfather approaches me with a lot of questions about the math curriculum and about what he can do to learn the new way that math is being taught so he can help his granddaughter. He has a lot of curriculum questions – the types of questions I expected from parents – questions we will be talking about during our division math night. I don't feel as if I can properly answer his questions in a quick conversation so I invite him to the school division math nights that are coming up in the next few weeks. I also promise to send him some resources via his granddaughter's teacher that will give him information on the strategies his granddaughter is learning at school.

Near the end of the evening, we invite everyone back to the gym to have cookies and juice and coffee and to visit with each other. People don't stay as long as I wish they would but I think the evening as a whole has provided a chance for parents and students to come together and enjoy math. I am elated at the success of the math night. So many people attended and everything ran smoothly! I read the feedback forms left on the tables that say, "Fun!", "Have more math nights!"

The feedback received from the parents that helped plan the night was also very positive.

*Natalie: It was fun watching the parents interact with the kids actually, helping them to pattern, giving them some suggestions and then watching them do it. They were all very engaged and then a few said, at my station, "Oh, we can do this at home, we can try this."*

*Mustafa: And that's what I was telling everyone at my table, now you can go home and measure your living room and the kids were like, "Yeah." You could see their eyes light up.*

(Taped conversation, February 14, 2012)

### **Involvement or Engagement?**

I'm sitting in my guest bedroom, now covered in journal articles, transcripts and field notes. Somehow my cat has found a corner of the bed that is not covered in paper to curl up on and take a nap. As I read and reread my field texts, transcripts and thoughts about the discussions that I've had over the last six months working with the focus group of parents, I wonder if I did what I hoped to do. Did I interrupt the taken-for-granted practices of current mathematic nights for parents (Pushor, 2010a)? Did our math night engage parents? Did the work of our focus group influence the participants or other parents' views of themselves as partners with the school?

At our last focus group meeting, I asked the participants if they thought what we had done together would be characterized as *involvement* or *engagement*. As defined earlier, and as I

defined it that day to the parent participants, Pushor (2005) characterizes an *involved* parent as one who serves the agenda of the school, for example, by attending information nights, volunteering to chaperone school field trips or baking cookies. This differs from an engaged parent who has a reciprocal relationship with educators and has an opportunity to share his or her knowledge with the school; to be part of the decision making in regards to student learning, for example, regarding decisions about curriculum or resources, school goals or homework policies.

*Kate: I think this was, this was engaging, definitely...*

*Mustafa: Are you talking from our perspective of the group, or from math night?*

*Claire: Both. I guess?*

*Mustafa: I think the math night would fall under involvement for the other parents, but for us as a group I think it would fall under engagement.*

...

*Natalie: I've done lots of volunteering, like bake sales and being room parent, but that's really volunteering, I mean like going on field trips, so this is probably the most engaging thing I've ever done. You know, school-wise. So for me on that continuum it would be way more on the engagement side.*

(Taped conversation, February 14, 2012)

I was unsure of how I felt about the focus group's descriptions. I was excited that the parents felt our meetings and discussions had engaged them but Mustafa thought that the parents that attended the math night had only been involved. Had my ability to engage parents only reached those in our focus group? Was there something else that we could have done to make the math night more engaging? We invited parents to email questions about the curriculum, we provided an opportunity for them to ask questions, for us to come together and discuss curriculum, for parents to share their knowledge in regards to the teaching and learning of mathematics. There seemed to be no interest in this type of exchange, except for the one grandfather with whom I talked. With all the attention in the media, I expected that more parents

at the math night would want to talk about curriculum. Kate, as she described what she thought of the family math night, was also surprised by the lack of interest in the math curriculum.

*Kate: I thought it was definitely a fun atmosphere. I thought there would be more people interested in the math program and the math curriculum like your [division math] nights ... Nobody asked me anything ... They were more interested in what was going on with the stations and that the kids were engaging and having fun ... I expected there might be some questions about this new curriculum.*

(Taped conversation, February 14, 2012)

### **Engaged With Whom? Engaged With What?**

I began to think more deeply about parent engagement. Parent engagement enhanced student learning. Did that mean that parents had to be engaged with teachers? The parents that attended the math night weren't engaging with teachers but they were engaging with their children and perhaps the mathematics as they went from station to station participating in the Leo family math night. I wondered if there could be engagement without a relationship between educators and schools? As I thought about all the different ways parents engaged that enhanced student learning I wondered with whom parents could be engaged? And, with what were parents engaged?

Joseph Schwab (1973) described curriculum as being made up of four commonplaces of equal importance: the learners, the teachers, the subject matter, and the milieu. Schwab's four curriculum commonplaces provide a framework to think about engagement and to answer the questions: With whom are parents engaged? With what are parents engaged?

In using Schwab's thinking as a framework, at times parents were engaged with learners, teachers, subject matter and milieus. Parents *engaged with learners* do math with their children (either on or off the school landscape) using their knowledge of what the learner "already knows, what [s/he] is ready to learn, what will come easy, what will be difficult, what aspirations and

anxieties which may affect leaning must be taken into account ... [It includes] an intimate knowledge of the children under consideration – knowledge achieved by direct contact with them” (Schwab, 1973, p. 502). Parents *engaged with teachers* relates to parents being in relationship with the teachers. This includes holding knowledge about “their personalities, characters, and prevailing moods ... [and] what biases they bring with them (p. 504). *Parent engagement with milieus* includes a variety of possibilities. As discussed earlier, milieus include all forms of community both physical and social; schools and classrooms, neighborhood and community, family, relationships between teachers, students, parents and social networks as the political influence and media presence which permeates the various types of communities. As I use the term milieus throughout the rest of this document, and the parents who are engaged with milieus, I am referring mostly to the political and media aspect of milieu – the parents who were reading the newspaper articles about the teaching and learning of mathematics, commenting on the online message boards and discussing in their social circles what the politicians and the media were reporting about the math curriculum.

In reflecting upon the different types of engagement that I witnessed as a researcher and as a teacher over the last six months, I saw parents who were engaged with students, engaged with teachers, engaged with mathematics and engaged with the milieus. The parents whom I worked with in the focus group were engaged with me, the teacher. Many of the parents that attended the Leo family math night were engaged with their children and the subject matter as they interacted with their children doing math. I met parents who were engaged with the subject matter - the math curriculum. These were parents like Sally and Mustafa who wanted to learn the math curriculum so that they could help their children. These were also parents who disliked the math curriculum and wanted a return back to basics. Parents who were engaged with milieus

were those that were engaged with the school and community, engaged with other parents in talking about math as in our focus group. They were also the parents who were voicing their opinions about math in the media and on online message boards. As I reread our research transcript and how I characterized parent engagement to the focus group as “building relationships with educators and making shared decisions about student learning,” I realized I had described it too narrowly. As I thought about with whom and with what parents could be engaged, it helped me to identify the different possibilities for parent engagement. Not all parents will respond to these different engagement opportunities in the same way. Kate and I expected parents to come to the Leo Johnson family math night and be engaged with the subject matter and milieu – to ask questions about the topics being discussed in the media like estimation and memorization of basic facts. We expected that there would be parents who were questioning, or had questions about, the subject matter – the content of the math being taught. Instead, most of the parents who came were there to engage with their children in doing math.

As I reflected on the diversity of “with whom” and “with what” parents engage and the choices parents make, Pushor’s (2007) words came to mind:

Writing a new story of schools, though translating conscious and explicit beliefs and assumptions about parents and practices that truly welcome parents onto school landscapes and into processes of schooling, will be messy and sometimes even difficult work. There will not be uniformity in what opportunities parents want or in their responses to opportunities offered. The complexity and multiplicity within parents’ voices will challenge educators to create opportunities for diverse parents to be engaged in diverse ways. Not all parents will be able to or will want to accept these invitations – and that is okay. If educators stand alongside parents, remembering their role as guest

hosts, together they will create rich opportunities that enhance schooling experiences and success for children, their parents and for educators themselves. (p. 7)

Had I as an educator been a guest host (Pushor, 2007)? Had I welcomed families to the school while being mindful that I was a guest in their community? Had I created opportunities for diverse parents to be engaged in diverse ways? Had I accepted the role that parents wanted to play in their children's schooling without judgment? Whether parents chose to be engaged with students, teachers, subject matter or milieu, or some combination of these commonplaces, had I recognized their role in student learning?

### **Accepting Parent Choices About Involvement and Engagement**

As I began this journey as a researcher and as a teacher, I believed that there was a hierarchy in Pushor's and Ruitenberg's (2005) differentiation of *involvement* and *engagement*. I believed that parents who chose to be engaged on the school landscape – if the school provided the opportunity – were somehow better parents than those who were only *involved*. I caught myself judging the parents who were involved on the school landscape, but were not *engaged*, as lesser. I assumed the role of parents on the school landscape must look a certain way and that parents who were engaged on the school landscape cared more about their children's education than those who chose to be involved. "It is important to realize that each parent's concept of involvement [and engagement] is different. Therefore parental involvement [and engagement] activity may be closely aligned to parental beliefs, and not necessarily to the beliefs and expectations set forth by the school" (Lopez & Stoelting, 2010, p. 27).

While I still believe there is a need for more opportunities for parent engagement in schools, because many schools do not offer these types of interactions frequently enough and because it is parent engagement which enhances student achievement and other educational

outcomes, I was feeling humbled in the realization that I was judging parents for the role that they wanted on the school landscape. Some parents will choose to be involved and others *engaged* and, within each of these, parents will commit varying degrees of time and with varying interests. As educators, it will be beneficial to provide a wide variety of opportunities for parents to find a place on the school landscape that fits for them. There are many variables at play that influence a parent's role in schooling - what the parent wants, what the teacher offers, and how the child responds.

Thinking back over the last six months, I identified parents who were *involved* in their children's schooling and those who were engaged. It is important to distinguish between the goals of parent involvement and parent engagement. Engagement enhances student achievement (Allen, 2007; Epstein, 1995; Henderson & Mapp, 2002; Henderson et al 2007; Jeynes, 2005; Lopez et al, 2004; Sheldon et al, 2010); research in the field demonstrates that involvement does not have this same effect on achievement (Jeynes, 2005; 2010). This does not mean that involvement is a bad thing, but the two are different. Parent involvement plays other important roles in schools. It contributes to school climate, to building relationships between parents and teachers, to a sense of welcoming and hospitality on the school landscape. As parents and educators, it is important to determine what we want, and why – and then work towards that goal.

Many possibilities exist in schools to invite parents onto the school landscape. As educators, it is important that we are mindful of the differing beliefs parents have about their role in their children's schooling. In my research, I came to see how important it is to invite parents to live out their beliefs about their roles without judgment.



However, typically, parents have been conditioned to play a more passive role, expected to leave the decision making to teachers about what students learn, ways that parents can support student learning at home, and how to respond to concerns about student achievement (Hoover-Dempsey et al., 2005). Historically, teachers have been seen to be the holders of knowledge about student learning and parents have been accepting of that. Parents and teachers have both been complicit in perpetuating these typical roles by year after year living out this same taken-for-granted story of school (Pushor, 2001). Because of this, ritualized encounters (Lawrence-Lightfoot, 2003) like meet the teacher night, teacher parent conferences and phone calls home when a student is struggling have been perpetuated for decades.

If our goal is to engage parents, it is important to accept parents' beliefs about their role in student learning and, at the same time, present them with new possibilities which move beyond the typical ritualized encounters they now experience. Providing a variety of opportunities for engagement may make room for different parents on the school landscape or for parents to play a role different than the one they are currently living out. This may open possibilities for parents to think differently about their role. For example, Natalie told us that she had been involved for many years at her children's school - volunteering for bake sales and being a room parent. When the opportunity for engagement came along - to be a part of a group of parents who were going to discuss their experiences with math in relation to schools and help plan a math night for students - she decided she wanted to participate. She characterized it as "the most engaging thing I've done." Will she choose to do something like this again? Maybe. Maybe not. What is important however is that she, and other parents have the choice to be engaged or involved instead of defaulting to a role of being an involved parent - a role to which teachers and parents have both become accustomed - because of lack of choice.

## **Benefits of Involvement**

As a teacher at the school where I was conducting my research, I saw daily acts of *parent involvement*. Parents came to read in classrooms, there was a bake sale every month, a carnival, bingo night, and a family Christmas night. All of these special events were hosted by parents and all of them required parent volunteers to make them happen. As I lived on the landscape of the school, I developed a deeper appreciation for the work that was being done in our school by parents. The main focus of these events and of the involvement of these parents was to raise money for the school, provide help to teachers or to provide community events that were fun for students and families. After the school carnival, the chair of our School Community Council sent this email to the people who had helped volunteer:

*...My husband asked me what our goal was for this event and I told him that we wanted to host an affordable carnival where our families could come and just have some fun. I think that by the look on all the happy faces as the kids 'cashed in' their tokens for prizes or when they get to play a fun game and win a prize... it makes the long day and the many hours of preparing all worth it! Seeing the huge turnout of kids having fun with their parents was so great!! Hannah will be adding up the numbers and should have a total of how we did this weekend. I must say I am very curious. Regardless of the profit I will say that it was a huge success.*

*Thank you to everyone for your time and commitment to Leo Johnson School and our kids!!  
Have a great weekend,*

*Jackie*

(Personal communication, April 20, 2012)

Although I characterize the parent organizers and volunteers, and the parents who attended these events, as being *involved*, I now have a deeper respect for their intentions. During the planning of the family math night, I relied on parent volunteers like Jackie, the chair of our School Community Council, to organize the juice and cookies, get information out to parents about the event and help with set up and clean up.

Mustafa described the parents who came to the math night as being involved, not engaged. Based on the definition that I had given him which restricted parent engagement to being engaged with teachers, he was right. I hadn't yet thought about with what and with whom parents could be engaged. Most of the parents who attended the math night were engaged with their children and with the subject matter.

The Leo Johnson family math night did not end up being an opportunity for parents and teachers to engage – to make shared decisions or to each share their different knowledge with one another. It did, however, provide an informal opportunity for parents and teachers to interact, in the context of the mathematics curriculum. It opened the possibility for parents and teachers to develop relationships which invite subject matter conversations, for teachers to see parents as knowledgeable about mathematics and about teaching mathematics to their children, and for parents to learn new ways of interacting with their children in ways that support mathematical thinking. As these relationships grow over time, extending beyond the math night, I feel the possibility for parents to become engaged with teachers in curricular conversations, in subject matter, or in decision-making about teaching and learning in math will present itself more frequently.

Parents and teachers build relationships through their contact with one another whether parents are involved or engaged on the school landscape. As these relationships develop, parents may move back and forth between being involved and engaged. It is possible for a parent to be engaged with a teacher without being involved and for a parent to be involved and not spend any time with a teacher. Whether parents' and teachers' lives intersect through involvement or engagement, they are building relationships. As relationships deepen, and parents and teachers

are open to sharing more intimate thoughts and experiences with one another, the relationship moves from parent involvement to engagement.

In Chapter 1, I argued that there needed to be more frequent informal opportunities for parents and teachers to build relationships and friendships with each other because trusting relationships are built over time. These trusting relationships are the foundation for teachers to be comfortable and confident in opening up curriculum to parents and to working alongside parents, eventually being able to share teacher and parent knowledge in equitable ways in discussions regarding student learning. In my instance, because parents were volunteering at the school or attending school events, we were able to get to know one another in informal settings. Jackie and several other parents and I visited with each other every week while they were volunteering in the library. We weren't having discussions about curriculum or student learning or making school goals; we were getting to know each other on a personal level. It was Natalie's comment during our last focus group conversation that made me think about parent *involvement* as one form of opportunity to build relationships.

*Natalie: ... what I've done in the past is made myself available to teachers and offered to help with whatever it is that they want me to do ... Not my own agenda, but whatever I can do to supplement them, or help out because I don't work full time so I do have that time to give. And I've done that for 12 years and it's always been really great relationships.*

(Taped conversation, February 14, 2012)

I noticed right away that Natalie didn't say that the work she had done in the school had a really big impact on student learning or really helped the teacher out. In volunteering in her children's classes, she developed "really great relationships" with the teachers. Natalie's volunteer work at the school would definitely be characterized as *involvement* since she was

carrying out the agenda of the teacher and it was also likely that she personally was not benefitting from her time in the classroom BUT she was developing relationships with teachers.

Parent involvement is one way for parents and teachers to build trusting relationships, provide fun community opportunities, raise money for schools, or make a class trip run smoothly. Natalie seemed to like her role as an involved parent. She was happy to have the teachers set the agenda for what they needed help with and do whatever work she could that would help the teacher's classroom and the school run more smoothly. Parent involvement is beneficial to students, parents, schools and communities because it creates a positive school climate where students and parents feel comfortable, it provides resources to schools, it assists teachers in their work and it provides opportunities for relationship building between all community members, including teachers and parents.

### **Benefits of Parent Engagement**

It is important to consider however that some parents, like Natalie, were living out these roles of involved parents because it was what is expected of them. They continued to do the typical things that parents did in the past because the possibility of being part of the decision-making in schools was not available to them. I question how frequently schools provide parents the opportunity to be engaged with teachers or subject matter. How are teachers inviting parents to live in mutually beneficial relationships with teachers and schools? How are we providing them the confidence, skills and resources to engage with their children? How are we inviting them to share in the decision-making about student learning? When and where are we listening to parents' opinions about subject matter, such as their knowledge about math?

For Mustafa, although he had been active on the school landscape at other schools in previous years, he had never had the opportunity to talk about math education. He had been engaged with his daughters and the subject matter at home as he worked with them in math but he had never been engaged with teachers and other parents on the school landscape in the context of the subject matter.

*Mustafa: I thought it was a good experience to sit down and talk to other people about their views on math, I think it's a good thing. I think it should be something that goes on continuously because it is an improvement in a positive way ... Maybe they should discuss it in the community council meeting, or there should be a sub-committee, or people who are interested in math, or a math fanatic club or something...*

*Claire: Why have you enjoyed talking about [math] and with other people?*

*Mustafa: Because I have never been to anything like that before, in any other schools that I have been to or that my kids have been to.*

(Taped conversation, February 14, 2012)

It was this lack of parent voice that originally made me as a researcher and a teacher want to come together with parents to talk about math. I wanted to hear what they had to say as parents and what they saw as the needs for the school to support math learning. I wanted to listen to what they had to say to inform my practices as a teacher. . I wanted to collaborate with them and plan a school wide math event that would positively impact the school as opposed to the other math nights that I had planned, either in isolation or with other teachers throughout my years as a math support teacher for our school division. I wanted to create authentic partnerships in which I worked together with parents (Auerbach, 2010) I thought it was the math night that was going to be the most influential work of my research – the event that would engage parents because we had tailored it to their site needs. Although the math night was successful, it was the meetings with the focus group that revealed the most possibilities for parent *engagement*.

As our focus group met over several months, our relationships grew. We saw each other at our meetings but also in the halls at school and at other school events. We became friends, asking how each other's families were doing and what we were doing for the weekend. We also developed a strong working relationship as we made decisions about the content and set up of the math night. As we planned the math night and chose activities, we were able to lay parent knowledge alongside teacher knowledge (Pushor & Murphy, 2004). As we worked together, discussions arose: discussions about our goals for the family math night, increasing positive attitudes towards math, curriculum and even assessment.

### **Our Research Experience of Parent Engagement**

Our task as a group was simple: to meet three or four times throughout the school year, to talk about math and to plan a math night for the school. This research revealed what is possible when parents and teachers have time to talk to each other about math: for parents to engage with teachers, subject matter and with other parents. What happened with our group was that with little to no agenda, many important topics emerged. We discussed curriculum approaches and controversial media attention as described in Chapter 2, math curriculum content, activities students may enjoy, homework, assessment and future possibilities for engaging more parents. These are all topics that are beneficial for parents and teachers to negotiate. The conversations of our group give a concrete example of what these discussions may look like for educators and parents who are perhaps nervous or uncertain about beginning meaningful dialogue with one another.

## Planning the Math Night

Our third focus group meeting was spent planning the Leo Johnson family math night.

Based on our goal for the night, we were looking for activities that would be fun and would help students to see the applications in math around them.

*Sally: I think [the goal for the math night] is just having fun with math and seeing different ways that they can apply math instead of everybody just saying, "I am never going to use math."*

I had a few books filled with descriptions of activities for family math nights that we were flipping through and commenting on to each other as we searched for activities to have at stations for parents and students.

*Kate: Patterns? We could do patterning.*

*Claire Yes, we could do a patterning station.*

*Kate: Because I don't know how much patterning would have been in the 1970 curriculum [like there is now].*

*Natalie: [They could make] cereal chains ... and then you end up with a fruit loops chain to take home ... you could do color, color sequences.*

*(Pause as we read and flip through pages of activities)*

...

*Claire: [This activity is teaching] time and estimation. In the grade two math curriculum they would try to find activities that would take a minute or 30 seconds and have that as a reference ... so they use non-standard measures of time.*

*Sally: I like that idea.*

*Kate: Like when they're younger, putting everything in terms of how long "Dora" was?*

*Claire: Yes, exactly like that.*

(Taped conversation, January 10, 2012)

We continued on, choosing, discussing and either accepting or rejecting activities for the math night using parent knowledge and teacher knowledge together. During this conversation, I



shared some new aspects of the curriculum with the parents like patterning, which is not something that most people typically think of when they think of math but is actually the foundation of all mathematics. We also discussed estimation strategies – a topic that was highly criticized by the media. I was able to dispel a lot of the misconceptions in the media about curriculum.

*Kate: [Being part of this group] really shifted my opinion of why everybody is so negative in the paper, and then when you have a chance to ask anything you want to know [I thought] "Oh. Let's have fun with this math, this is great."... It made me realize that it probably is a lot of sensationalism of the media. (Taped conversation, February 14, 2012)*

I was also able to listen to parents' perspectives about curriculum and how their children would relate to it. Natalie was especially excited about incorporating food into the patterning activity because she knew her children enjoyed activities like this, especially if they could take something home with them.

### **A Conversation about Assessment**

Several times throughout the conversations with the focus group, as we shared teacher knowledge and parent knowledge, the topic of assessment came up. Previously, I would have placed assessment in the knowledge domain of teachers but throughout these conversations I came to see the knowledge that parents also had in this domain.

*Kate: Maybe there is an activity that can show how feedback has changed from our traditional system to the new math ... Because we've kind of been talking about, in general, how when we were in school feedback was "X" or "check mark" and that was your only feedback, so we maybe could do an activity where it would be something you had to do and it's more than just right and wrong... because I think that a lot of people are missing how much feedback [the students] are getting ... from the new math program. (Taped conversation, January 10, 2012)*

*Claire ...There is a move towards assessing things without [a mark]. I put a mark on something maybe once every month for my Grade 7 students, everything else is circles or stars, or this is correct. I think often in the past it has been like, "I got 27 out of 50 on my math homework," and kids want to do that, they want to check it off and count it up and see how many they got right,*

*instead of, "Well this is the process I used and I really understood this process. I made an addition error four times in my multiplication, but that doesn't mean that I didn't understand multiplication; I just made an error that I should have been more careful with." I really try to give more descriptive feedback in math ...*

*Sally:... when John does workbooks at home, I'll do the same thing, I'll just circle it, if he's done it wrong then I say, "Can you just go back and look?" And he goes back and he sees right away, "Oh yeah, I just added wrong or subtracted wrong. " He picks up on it on his own and he knows that he's done it. I'm not grading him. I say, "You got them all, way to go," and it doesn't matter that you didn't get them all the first time. It's when you go back and check over, and you fixed your mistake and you knew what you did.*

*Mustafa: I mean, in real life you do have to check, like when you're doing the cash in a store, you have to check it two or three times, and it's not always going to be right.*

(Taped conversation, November 23, 2012)

I would never have guessed that we would discuss assessment as in depth as we did. We were discussing (without naming it) hot topics in educational assessment right now: assessment for learning, "the use of information about student progress to support and improve student learning and inform instructional practices" (Saskatchewan Ministry of Education, 2008, p. 36) and assessment as learning "which involves student reflection on and monitoring of her/his own progress"(p. 36). Sally described having John go back and look at the questions he got wrong – assessment as learning - even though he is only in Grade 1. Kate thought that more parents should know about the assessment for learning that was going on in schools – giving more descriptive feedback so that learning can take place instead of just marking questions down as wrong or right and adding up points. I felt humbled in what knowledge I previously thought parents had about education. Parents were using these assessment practices at home, something I had never imagined them doing before. I felt encouraged and supported in the increased amount of time that I was spending integrating these assessment practices into my classroom.

## A Conversation about Homework

As a teacher, homework is often a topic that is discussed with parents. It was a topic that came up several times during our focus group meetings. We discussed the tools and resources parents need to help their children do homework, how much if any homework should be assigned, and the time which was sometimes lacking for parents to do homework with their children.

*Mustafa: A couple of weeks ago my daughter in Grade 5 she came home and she was doing two digit multiplication, and she was just getting so frustrated, and I work evenings but I was home that evening so I spent like two and a half hours with her, and now she can do like 6 digit multiplication, because she got it, but she wasn't getting it, and it took me two and a half hours, and then when she kept doing it and doing it, and then she goes, "Oh yeah I get it now." Now she's doing six-digit multiplication. (Taped conversation, November 23, 2011)*

*Sally: And so gratifying. You wonder, though, with all that in the past ten years, and I mean a lot of this we do have to rely on the parents doing it at home ...we are busy for sure. I am working at nights, I've got an hour to say hi, get homework done, food on the table and get out the door. I mean in that time I am not doing that much homework.*

...

*Mustafa: Some people think that they shouldn't be bringing homework, because they are doing, why they go to school for 8 hours, why do you need to study at home? ...I think it would help if they had homework though.*

...

*Kate: A bit of math homework every night just like we have reading homework every night ... Besides, it teaches them good study habits for when they are in university.*

...

*Claire: You are all very pro homework obviously. There are a lot of parents that would say that as a teacher I shouldn't be sending work home ... because not only are you telling kids what to do at school all day but then you are going to go home and the teacher is going to give you another however many hours of work dictating what your life is going to be at home. Some people say, "No, I want my kids to be doing other things that I decide are educational for them."*

...

*Mustafa: It could be optional, if they don't want to do it, then don't do it ... If you don't have a mark attached to it ...*

(Taped conversation, December 19, 2011)

All of the parents in the focus group viewed homework positively, which is not always the case. They were also all willing to help with homework when they could even though for Mustafa and Sally, who both worked nights, this was often a problem. As Mustafa and I both expressed, we were aware that not all parents were in favour of homework, especially when it interfered with other educational experiences, family time, sleep or extracurricular activities. We were all able to express how we felt about homework. I had a very good sense of what was going on in their lives after school hours, and how much homework they wanted for their children. These conversations made me think about how much homework I was assigning, how I could communicate with parents and provide them with the resources and tools they desired to help their children at home and how I could engage with parents of my students to discuss the amount of homework parents wanted for their children. I also began to see more possibilities for differentiating homework for students just as we differentiate learning in the classroom.

### **A Conversation about the Benefits of Engagement**

During our last focus group meeting I asked the parent participants how they felt about parent engagement, if they thought parent engagement was beneficial and if they thought other parents would want to be engaged.

*Natalie: It was fun to be in a group, I mean you get to know people. I had never been a big math person, not my favourite subject, but it's got me a little more excited about that, so for my kids' sake I think that's good.*

*Mustafa: The more parents get engaged in their children's education, the more beneficial it's going to be for both parents and the children.*

*Kate: One thing about engagement, like actually having parents engaged in the school, is that for the teachers it can give them different ideas. Because when you teach the same thing all the time it's so nice to just have somebody else come in and give a different viewpoint ...*

(Taped conversation, February 14, 2012)

In reading back the responses to my questions, I found it interesting that these three parents each address different aspects of engagement. Natalie spoke of enjoying being part of the group, being engaged with the milieu (in this case connecting with other parents), Mustafa referred to being engaged with the subject matter and the learners, working with his children doing math. Kate spoke of engaging with the teacher in the classroom, with subject matter, with learners and with the milieu of the school. I was again reminded of the diversity of the role that parents will play in schooling. Even with the same opportunity provided to parents, with whom and with what they will engage, or the combination of these that they will choose, will differ.

By coming together and being open to listen to each other, we were able to come to a shared understanding of areas of learning that are typically dictated solely by the school and the teacher. “In the right-to-voice assumed by educators and the absence-of-voice given to parents and family members, we see a hierarchical structure and unidirectional agenda at play” (Pushor, 2010a, p. 6). Being part of a group of parents and teachers coming together to talk about math was an opportunity for parents to share what they valued and what they contributed to math education. It was an opportunity for me as a teacher to tell them about things that were already happening, to listen to what they wanted for their children and think about how I could adapt my practices, in line with what I knew about education, to meet their needs. These conversations were not power struggles between conflicting ideas but rather a sharing of knowledge, exciting us all about the teaching and learning of math.

## **Engaging Parents in the Math Curriculum Commonplaces: Subject Matter and Milieu**

### **School Division Math Night #1**

✦ January 30, 2012 (Five days after the Leo Johnson family math night)

I feel my heart sink closer and closer to my stomach as the hands on the clock slowly click toward 7:00 P.M. I glance around anxiously at the empty library and stare hopefully at the door. I look at my colleagues, the school division math coordinator and math consultant and see the same looks of worry and anticipation on their faces as must be on mine. We are hosting division-wide math night for parents. We want to talk to parents, hear about their struggles, concerns and successes with the math curriculum. But nobody is here. It's hard to believe because of all of the discussion in the media in the past month about the math curriculum. There were many comments, mostly negative, about how math is being taught being made by parents in the media and online comments that I had read in response to newspaper articles or that heard while I was standing in line at the grocery store. Where are all the parents that were so passionately commenting online and in public about math? Why aren't they here?

Finally a parent walked through the library door. He was very surprised that there weren't more people there. "I thought it would be in the gym and that we were late and that we would have to stand at the back! I am a bus driver and I hear people talking about math all the time. I can't understand why there aren't more parents here," he said.

I agreed with him and wished that more people were there. If parents came to the division math night and could understand the curriculum, instead of the way that it was being represented in the media, they might be more supportive of it. As Kate said, if parents had the opportunity to

ask anything they wanted about the math curriculum, they would see that there was a lot of sensationalism in the media. Unfortunately, in this case it was true that “those who cry loudest often refuse to come and see what we are doing in our classrooms (Peressini, 1998, p. 426).

### **An exercise in listening.**

At this first division math night, eight people total were present: three parents, one teacher, one principal, a division math consultant, a division math coordinator, and me. The primary focus of these math nights was to listen to parents and answer their questions about the curriculum. We also wanted them to experience the curriculum a bit themselves by doing a math activity. Although some of the content about the math curriculum that we shared and the type of activity that we did with parents was the same as the original math information nights that I had presented to parents in our school division over the last three years during the math curriculum implementation, I was trying to shift the focus away from educators being the holders of knowledge and parents being the recipients of that knowledge (Pushor, 2010a). For that reason we began the night with the questions for the parents and an intent to listen and learn from them. We asked them, “What do you want for your children in mathematics learning? Why are you here? What questions do you have?” One parent answered that she wanted her son to feel successful in math – to have confidence and to know what he is doing. Other parents wanted for their son to know the basics like adding, subtracting, multiplication and division.

Two parents, a husband and wife, were there because they were upset. They were spending two hours at home every evening quite often trying to figure out the new math program, and how to help their son. They had a lot of questions very specific to their situation in that they had asked for more help from the school but really weren't feeling like they were getting it. The major concern that these parents were having was that they were frustrated with

the hours of homework that they had to do daily in math. They wanted to help their son and they wanted him to understand math but the homework was causing a lot of frustration in their household, especially because they didn't always understand the way it was being taught. These were the same concerns that Mustafa and Sally had been talking about in our discussion about homework (Field notes, February 2, 2012).

### **A response to parent voice.**

After the meeting, my colleagues and I discussed what could be done about the frustration that it seemed many parents were having with homework. We didn't want to tell parents that we were listening to them and not do anything about what they were saying. We wanted to be responsive to their concerns. We didn't think that parents and students should be spending hours in frustration doing homework. We decided that it might be helpful to publish a brochure outlining some research and usage of math homework. This would communicate to parents and teachers about the role of homework in math and what to do if they are experiencing frustration. Although the brochure is still in draft form during the writing of this thesis, some of the key points that we make are encouragement of parent teacher communication about homework and the possibility for differentiation of homework. I see this brochure opening up possibilities between teachers and parents to negotiate frequency and types of math homework, much like the conversations that we had in the focus group.

### **Invitation**

As I drove home from the division-wide math night, I thought about the poor turnout. I caught myself thinking, "Oh well, we offered the math night and not very many people came. It was all we could do." Had we done all that we could do? Whose responsibility was it that more



parents didn't come? Pushor and Murphy (2004) stated, "When parents are not engaged in schooling activities, the assumption is that fault rests with the parent rather than with how the school invites involvement" (p. 6). We had put a notice in the newsletters in each school to invite parents to the math nights. Was this enough of an invitation? Were these math nights well-advertised? Had parents chosen not to come or were they unaware of the opportunity? I felt that the cause of the low turnout was their lack of awareness of the opportunity.

The turnout seemed a sharp contrast to the Leo Johnson math night where about a hundred parents and children attended. Looking back, I was not surprised because the focus group and I put much more work into inviting people to the family math night than just putting it in the school newsletter. Initially for the family math night at Leo Johnson School we advertised in the newsletter but then decided that we needed to invite people in multiple ways.

*Mustafa: ... my kids didn't bring the newsletter home.*

*Claire: No?*

*Natalie: And it gets lost, and emails can get overlooked ...I saw it in the newsletter that came online and I saw it on the bulletin board outside the school, so I did see it advertised a few places, but I still think that personal contact [is what makes the difference]. That's what I did, I saw people in the hallway and I mentioned it to them, and they made some fun, laughing about the oxymoron of math and fun in the same sentence, so I think you kind of peak people's interest.*

(Taped conversation, February 14, 2012)

Natalie and I also both took some time to call and invite families from the school to the math night.

I got home today and called my entire grade 2 class to invite them to the math night. It took at least an hour. Some parents were quick on and off the phone but others chatted about math or asking how their child was doing. It was time consuming but I was glad I did it. Lots of people said they were busy with other activities otherwise would love to come. It seems like

people have a lot going on these days but at least they knew about it and I hope they felt welcomed (Field notes, January 24, 2012).

Our division math nights were being offered city-wide to any parent from any school. Because of this it didn't seem possible to be calling parents to invite them. Our division math nights were further removed from schools which made inviting parents more difficult. In general, the further removed any school event is from the parents, the harder it is to make personal contact to invite parents. For example, if a classroom teacher is hosting a math night, it is likely a higher percentage of families would attend as opposed to a division-wide math night where parents have fewer personal ties to the people hosting the math night. There was another division-wide math night coming up a week later. I thought it was important to be more proactive in inviting parents. I asked the principals of several of the schools I worked in to tell their teachers about our division math nights and to email the invitation directly to any parents they knew of that had come to their schools with concerns about the math curriculum. In addition, a few days before the math night, school office coordinators sent another email invitation to parents in all the schools in the surrounding area of where the division math night was to be held. It wasn't as much of an effort as the inviting we had done to the Leo Johnson family math night but it was more of an effort than the first division math night.

### **School Division Math Night #2**

✠ February 2, 2012

As it gets closer and closer to 7:00 P.M., I begin to wonder if the extra effort to invite parents made any difference at all. Maybe parents just weren't that interested in the math curriculum after all. At about five minutes to seven, parents start flowing into the library. They take coffee and snacks from the back of the room and the tables start filling up. I see the

grandfather that I invited from the Leo Johnson family math night come in and I warmly welcome him. Soon all the tables are full and we are bringing chairs in from other rooms for parents to sit on. By a few minutes past seven, the library is packed to full capacity with about 30 parents all seemingly eager to discuss the math curriculum. Again we asked the parents the same questions, “What do you want for your children in mathematics learning? Why are you here? What questions do you have?” After having parents discuss these questions at their tables, I asked them to share key points with the whole group.

Daniel, a parent of a first grade student, stood up and spoke quite passionately about what he wanted for his daughter in math learning. He stated that he wanted the curriculum changed back to a curriculum of rote learning and memorizing of facts algorithms. He was adamant that the current curriculum was not working and that changes needed to be made. He was so worried about his daughter’s education that he was sending her to Kumon (the same paid program that Natalie’s children attend). He argued that even if research was showing that our students were more successful with this new curriculum that the data must be flawed because so many more families were sending their children to paid tutoring services like Kumon to do math. Daniel and several other vocal parents at this math night did not hide their total dislike of the math curriculum and their desire to return to a ‘back to basics’ curriculum.

There were other parents, though, who disagreed with Daniel. One parent of a kindergarten student was disappointed in the amount of worksheets that her daughter was doing. “Shouldn’t they be exploring math in the world around them?” she asked. Another parent told of her children’s experience with the math curriculum. She spoke about how she loved the math curriculum, and how her children loved the way they were learning math. She was impressed with the way that her children were thinking about math, manipulating numbers and

communicating their mathematical ideas. She saw the deeper understanding that they were gaining from the math curriculum.

### **Expanding Parent Engagement in the Math Curriculum Commonplaces**

Some of the parents at the division math night like Daniel were at the division math night to discuss curriculum. They were parents who were engaged with the subject matter. It was likely as well that these parents were also engaged with the milieu – talking about math in their social circles with other parents, family or friends, reading the newspaper articles about math curriculum and commenting about the math curriculum online. Not all parents want to be engaged in this way, in the discussion of curriculum content and teaching pedagogy, but some do. As we were discussing WISE math and the newspaper articles about the math curriculum in our focus group, Kate wondered whether this type of engagement was too much:

*Kate: It seems to me there's that 'hover parenting,' it's like engagement to the negative extreme, you know?*

*Natalie: Off the continuum.*

*Claire: What do you mean by "hover parenting"?*

*Kate: I think the ones that are so involved in curriculum, that they are unhappy with the curriculum, that they want to see things change and they want their children to be Einstein when they are in Grade 4. They put so much pressure for specific curriculum for the children because they don't think the schools are doing a good enough job, whereas when I was a kid we went to school and you were happy with what the school did and no one even really asked questions. I was from a small town too and so teachers were very respected people in the community and they were doing a good job, and no one really asked ... But now it seems that in [newspaper] articles and other people you talk to, people are really concerned about [curriculum] down to very minute details including what book they read and so it's almost over-engagement?*

*Claire: Okay, yeah, that makes sense.*

*Kate: I think there's a balancing point between being engaged for the good and maybe... too much.*

*Mustafa: But I think if we go back to the beginning of our conversation in the group that, I think, we all felt that there was a lack of, in particular math, the lack of understanding from what the kids were taught, there seemed to be some, a decline in the math skills of the children ... So I agree with your point, in some aspects, that some people might be over-engaged in other aspects of their studies, but in math in particular I think there is a need for that. So I guess you need to have some kind of healthy balance I guess and not be extreme to either side.*

*Claire: Yes, and I think the communication between parents and teachers and schools, of what is actually going on, [is important] or else you have those outliers.*

*Kate: That's right, and that's why it is good as a group, right?*

It appeared that a structure such as our math group or for groups of classroom parents and teachers to come together and talk about math was a model that would be beneficial for parents that wanted to engage with the subject matter, with teachers and with the milieu (other parents). Kate thought that parents were too engaged when they were too concerned about the details of the subject matter and the resources that were used. Mustafa thought that parents had worthwhile input into how math was taught. The difference in their opinions made sense as I read back Kate and Mustafa's reasons for joining the group in our initial conversation. Mustafa joined to be engaged with the subject matter – *“to see if I could have an input and see if something could be improved in terms of how maths is taught in school”*. Kate seemed to be more interested in being engaged with the milieu – she wanted *“to learn what other people's feelings are towards math and also to explore whether or not it is true that many kids, girls in particular, do not like math.”* She also became more engaged in the milieu than any other of the parents in the focus group in our discussions about the conflict in the media about the math curriculum.

## **Dispelling the Need to Hover**

I wondered about the “hover” parents that Kate had described being “over engaged” because they did not agree with the curriculum. What about the parents who liked the curriculum? Why weren’t they viewed as being engaged to the extreme? Perhaps it was because the parents who disagree with the curriculum have divergent opinions that create tensions, tensions about curriculum that we are not used to discussing with parents. Why did parents feel the need to “hover”? Perhaps, parents like Daniel felt the need to state their opinions so passionately because no one had bothered to listen to them before. As discussed in Chapter 1, parent voice had been almost completely absent from the creation of the math curriculum and selection of a resource to support the curriculum. Perhaps had parents been a part of the discussion, they would feel like their opinion is valued and wouldn’t feel the need to “hover” or be so concerned with minute details in the curriculum. Perhaps if parents and teachers could be engaged in a sustained conversation over a longer period of time about the math curriculum, they could work through the tensions and differences of opinions.

As I thought about the math curriculum and all of the different opinions I had heard from parents at the division math nights, I began to question, What is math? That seemed like it would be an easy question to answer but it was not. I could tell you about the math I learned as a student and the math that I taught like computation, algebra, and geometry but who decided that these math concepts were what should be taught to students? As we discussed curriculum, I kept thinking about the fact that really, it’s all made up. What many people believe to be the “basics” of math based on their schooling experiences, including those that Daniel thought the curriculum should return to, are not necessarily basics at all. In math for example, why is it that it is

expected that all students learn how to solve equations using algebra? Who decided that that was a necessary skill for all students to learn? Grumet (2009) questioned all curricula:

At any given moment, in any classroom in any country, the curriculum that offers children important information about their world can be unraveled and questioned. All these choices that constitute knowledge and its presence in schools are generated by the social and material histories of the people who participated in them. Just to get on with the business of everyday life, however, we agree to a provisional version of the world, assuming that some of it is steady and stable so we can pay attention to pieces that are screaming for our attention and decisions. (p. 27)

All curricula are provisional, yet parents like Daniel felt that there are certain aspects of math curriculum that must be taught and taught in a certain way. He defined learning math as memorizing basic facts, repeating standard algorithms for addition, subtraction, multiplication and division over and over again until they were engrained. He did not recognize that for many math students this never happened no matter how much they practiced. Five years ago, I would have agreed with Daniel but during that time I have come to a different understanding of what it means to teach and learn math. I believe that math is about finding patterns in numbers and in the world, seeing the beauty in mathematics and being able to use math to solve problems. As a teacher, I believe that students should learn mathematics using concrete materials and having an opportunity to think about and solve problems on their own. To learn mathematics is to learn to be a problem solver, and that cannot be taught with the memorization of a set of algorithms.

Because we saw the basics of mathematics differently, it was important for me to listen to him and come to understand his perspectives. At the division math night, we had invited parents to share with us what they thought of the curriculum and that's what he was doing. We had asked

them what they wanted for their children and their experiences in learning math and he was giving me his honest answer.

Thinking back to that encounter, it's strange but I don't remember feeling slighted or embarrassed as an educator and representative of our school division by Daniel's public criticisms of the curriculum. This interaction felt different than the conflict I had several years earlier with Alexandra at the parent-teacher conference. She had criticized the math curriculum as well but at that time I think I still held on to the notion that in interactions with parents and teachers, there needed to be a winner and a loser. I felt differently now about parents like Daniel who were engaged with the subject matter. I expected for some parents to be passionately engaged in the subject matter and that our conflicting ideas would cause tensions. I knew that the math curriculum was different and that some parents disagreed with its content and teaching approach even though I thought it was beneficial to student learning. I expected and welcomed criticism because any curriculum should be questioned. "If teachers are to participate in the politics of curriculum innovation [like teaching a math curriculum that is unfamiliar to parents], we must recognize that ... schooling is not a private or romantic practice to be sheltered from the world. It will always be contested as it should be" (Grumet, 2009, p. 29).

### **Parent Engagement in Curriculum: Changing the Story with Daniel**

I imagined what I would have done if I were the teacher of Daniel's daughter. Based on my research and the experiences that I had with the focus group, I would invite him to come speak more in depth about thoughts on the math curriculum. I image that we would find somewhere quiet and private to chat like on one of the couches in the library at the school. I would want him to feel welcome, as if I were welcoming him into my home, and would offer him a beverage and make sure he was comfortable.



I would begin with listening first to what he had to say. I image that I might ask him questions like: What knowledge do you have to share with me about your daughter? What experiences have you had with your daughter helping her with math? Why do you think rote learning and standard algorithms are the best way for your daughter to learn math? What kind of experiences have you had as a math student and in your use of math in your daily life? I would listen to his answers, probe him to tell me more and to clarify what he was saying so that I could understand his perspective.

As I did with the focus group as our conversation progressed, eventually I would share with him my thoughts on the math curriculum, my experiences with students and my reasons for thinking differently now about teaching and learning math than I did five years ago before the implementation of the math curriculum. I would emphasize, because I think it would be a common ground for us, that I still believed students should be able to recall their basic facts and spend time practicing basic computation skills but that it was important that they had a conceptual understanding of these concepts first.

I would invite him to observe math lessons with students and to participate in others. Lehrer and Shumow (1997) found that parents who observed classrooms that used a reform approach to teaching math “generally believed that practices such as sharing solution strategies, inventing algorithms, and making mathematical conjectures were useful ingredients to mathematical learning” (p. 54). My goal would not be to change Daniel’s mind but for me to understand his perspective and for him to understand mine. This would take time, frequent interactions and sincere dialogue between Daniel and me. There would be tensions but there would not have to be a winner and a loser.

## **Parent Engagement in Curriculum: Changing the Story of Parent Voice**

After all of our focus group meetings, Leo Johnson family math night and the division math nights, I felt I had a better understanding of how parents were engaged with teachers, learners, subject matter and milieu. One of the biggest concerns of families and parents was how to support their children in math. They wanted to be able to engage with the subject matter – to understand it well enough to be able to engage with their children at home doing homework. I felt that engaging with parents as a teacher would be beneficial for students and families to address these concerns. However, there was still a large body of parents who were engaged in the milieu – the politics of the math curriculum who were hoping that the government would change the math curriculum (Reynolds, 2012). I was worried that the government would make changes to the curriculum because of the parents who were engaged with the media. I was hoping that more parents would have the opportunity to engage with the subject matter, the learners and teachers to have a more comprehensive understanding of the math curriculum as compared to what the media were presenting before any changes were made.

I decided to take a break from writing and go to the store with my husband. On the way we were listening to the news and I heard, “Breaking news ...New math curriculum won’t change...” What was that?! I frantically reached for my iPhone to find the complete article.

### **New Math Curriculum Won’t Change, Ministry Says**

Saskatchewan's Ministry of Education says its math curriculum, which has been the subject of heated debate for its new approach to learning, is in line with what is taught in jurisdictions across North America and will continue. The announcement on Friday afternoon added that some work will be done to help parents understand the new math curriculum, before it is introduced in more school divisions.

...

Parents were ... asked to provide feedback to Government via email. Nearly 550 responses were received through the Ministry of Education website. The majority of the feedback indicated parents were experiencing difficulties in supporting their children with learning math as approaches to

instruction differed from approaches commonly used in the classroom prior to the introduction of the new curriculum. A number of parents requested better communication between home and school and supports so they could better help their children with math at home ... An example of using best practices includes options for the roll out of the 30 level curriculum next year. Some school divisions held parent nights to help introduce new curriculum to students and their families and this was very helpful. Next year, all school divisions will be encouraged to hold events like this to introduce the 30 level curriculum to families. ("New math won't change", 2012)

In crisis there is great opportunity (Grumet, 2009). As a response to the "crisis in education," the Ministry of Education had given parents the opportunity to voice their opinions and is responding to them. They are encouraging school divisions to introduce curriculum to students and their families: to engage parents in the subject matter and to provide opportunities for parents and teachers to engage and discuss student learning. This opens many more possibilities for parent engagement to occur between parents and teachers than in the past. I am optimistic that schools, spurred by the feedback from parents to the Saskatchewan Ministry of Education and its recommendations, will understand the importance of planning opportunities to engage parents. Perhaps schools will organize meetings for parents who wanted to discuss math as Mustafa had suggested, classroom teachers could offer opportunities for parents, teachers and students to come do math together, school divisions could offer math nights to discuss curriculum like the ones we had offered in our school division. In the case of our focus group, parents could come together with teachers to plan a math event for the school. I found this to be especially engaging because our work together had been a catalyst for discussions about many things including curriculum, homework and assessment.

Perhaps because of this "crisis," engaging parents will become the norm instead of the exception. This will take time; nothing can change overnight. As parents and teachers work together, the role of parents has the possibility to become redefined. As more opportunities for parent engagement are provided, parents will find places to share their parent knowledge as they

engage with learners, teachers, subject matter and milieu. As parents and teachers work together, similarly, the role of teachers has the possibility to be redefined. Teachers may begin to think differently about the place of parent knowledge situated alongside their own knowledge in their teaching practices. As parent engagement becomes the norm, I believe that teachers will see the richness in engaging parents that I have experienced with the focus group and that over time the benefits for parent engagement will support teacher practice and enhance student learning.

## Chapter 4 - Learning to Engage Parents

As I began this research, I set out to interrupt – to break in on and put something in the place of (Pushor & Ruitenberg, 2005) – the current practices of math information nights for parents. I was interested in inquiring into how parents' engagement in planning, implementing and participating in math sessions would influence their role as parents in and out of school, as well as influence their experiences with their children in mathematics. I was curious about how parents would view themselves after being engaged meaningfully with the school. I wondered how parents would story their experiences of helping their children with mathematics, their sense of their own skills in doing math, their comfort in working with teachers, their relationships with their children, their views on schooling, and their autonomy and role in their child's schooling and education. From their stories, I hoped to develop a deeper understanding of what may be possible in schools to engage parents in the teaching and learning of mathematics. This research has called into question the current practices of schools and their relationships with parents, it has influenced my role as a school division support teacher, and it also has affected me as a teacher. Throughout this research, because of my conversations with the focus group, my experiences at math nights and the turmoil in the media surrounding the math curriculum, I came to a different understanding of my role as a teacher. What had I previously been doing as a classroom teacher to develop relationships with parents and to engage them in the work of schooling?

As I examine my own attempts, successes and failures as a teacher, I hope to open teachers to the possibilities of engaging parents with the commonplaces of curriculum: their children, their children's teachers, the subject matter, and the milieus of school, home and beyond; to developing mutually beneficial relationships with parents that include them in the

teaching and learning of math (Hands, 2005; Pushor, 2010b). In the past my actions neglected to meaningfully engage parents. As with everything else in my journey as a teacher –learning new curricula, dealing with classroom discipline issues or incorporating technology into my teaching – I have found that engaging parents is not easily achieved.

### **Trial and ERROR**

✦ December 2005

I'm sitting at my desk correcting final math exams. My first ever semester of teaching is nearing its end. I am teaching upper level math on a temporary contract at a large mainstream high school. I see approximately 120 students every day. It has been a struggle to keep up with being a new teacher: planning, correcting, learning how to manage a classroom and building professional relationships with my colleagues. Most of my focus has been on making sure that I am prepared for the next day to teach the math content to my students. As I finish correcting an exam of one of my Grade 12 students, Emma, I realize that most of it is blank. Over the last few weeks, Emma's work has declined drastically. She has been coming to class but has rarely taken notes or completed her assignments. I talked to her several times about it, telling her that she needed to do her work, to catch up and to study hard for the final exam so that she would pass the class. In the whirlwind of five-minute breaks between classes she smiled at me and promised she would study more and do well on the final exam. Staring at her mostly blank test in front of me, I have the sinking realization that without having even come close to passing the final exam, Emma is not going to pass the course. Realizing that Emma had not put the effort in when she was capable of passing the course was disappointing, but what was really upsetting me was that I was going to have to call Emma's parents, as this was the school policy, and tell them she had

not passed. The reason I was so anxious, upset and nervous about this was because at mid-term parent-teacher conferences, Emma had been passing and I hadn't had any contact with her parents since then. I believed Emma when she told me that she was going to study harder and do well on the final exam. During the last few weeks of the semester, as her work was declining, I told myself that she was a mature Grade 12 student, there was no need for me to call her parents, she was old enough to be communicating with them about what was going on. Based on the results of her final exam, I worried that she hadn't told them anything at all.

I pick up the phone with sweaty, shaky hands and dial the number. I tell Emma's mother that she has not passed her math course this semester. My suspicion of Emma's lack of communication with her parents is confirmed; her mother had no idea she was doing so poorly. She is disappointed with Emma but she also questions me. How long had Emma's grades been slipping? Why hadn't I called her sooner? What was the point now of contacting her when it was too late? I apologized sincerely, telling her there was nothing that could be done at this point, that Emma would have to retake the class, and that she was right, I should have contacted her sooner.

I hang up the phone feeling shame and guilt for not having called Emma's mother sooner. Embarrassed, I look around and I am relieved to see that none of my colleagues are in the room to have overheard my conversation. Emma's mother was absolutely right. I should have contacted her sooner. We could have worked together to motivate Emma to do her work. Perhaps there were other factors that Emma's mother knew about that were causing the decline of her work and interest in the class. It was likely that her mother had knowledge to share with me that may have helped Emma pass the class. It was too late for Emma and her mother but I vowed that

I would never shy away from communicating with parents again. That experience has stuck with me as a reminder to communicate with parents.

Over the years, including this last year as I conducted my research on parent engagement, I have come to a better understanding of why I neglected to make any contact with Emma's mother. I believe there were several factors contributing to my mistake. I realize that I had based what parent-teacher interactions should be like on my own experiences as a student and the relationship my parents had with teachers. I also have to admit that I avoided talking to Emma's parents about student learning because I was uncomfortable with the tensions that the conversation would unavoidably hold. What I also recognize now is that I lacked the experience and preservice or inservice teacher education required to work with parents in a knowledgeable way.

### **Lack of Teacher Education**

As in my experience, it is unlikely that teachers receive any curricular experiences relating to parent engagement in their teacher education programs or receive any guidance as beginning teachers as to how to work with parents (Lareau, 2000; Gunn Morris & Izumi Taylor, 1998; Pushor, 2011; Shumow & Harris, 2000). In fact, Pushor (2009) found, "In a search of 10 prominent universities in Canada, no undergraduate teacher education courses were identified which offer[ed] a curriculum focusing on parents" (p. 140). In the absence of teacher education or mentorship on how to work with parents, teachers learn to work with parents like I had with Emma's mother - through trial and error (Shumow & Harris, 2000).



## **Fear of parents**

Even after my experiences with Emma's mother, I still didn't feel like I knew what to do to involve parents. I knew what I didn't want to do again. I didn't want to avoid parents and then call them with bad news. I began to call parents and inform them of their student's learning throughout the school year. This was difficult for me in the beginning but I know that I was not alone in my feelings of uncertainty. I was one among many "teacher candidates and beginning teachers [who] continue to express both a fear of working with parents and a desire to learn how to do so more effectively" (Pushor & Ruitenberg, 2005). Every time I called a parent, I felt nervous. I often remember staring at the phone in my office with a phone number in hand, willing myself to call parents and to talk with them about how their child was doing in my class. Perhaps it is because parents and teachers have most often been cast as antagonists (Peressini, 1998) or natural enemies (Waller, 1932) in a dominant plotline of schools which "positions parents as outsiders ... people of whom to be wary" (Pushor, 2009). Reflecting back to the beginning of my career, I can see that I knew nothing of the significant role that parents play to enhance student learning. I knew nothing about what I have learned through my experiences in this research. Through my experiences, and because of education courses that I have now taken at a graduate level, I am becoming aware of the value of building relationships with parents, of the knowledge that may be gained by engaging them in equitable dialogue about their children and about learning math, and of the friendships that may be formed.

## **Reflecting Critically on Beliefs**

My beliefs regarding the role parents play in education were formed by the minimal interactions I saw my own parents have with teachers over my years of schooling. I vaguely

remember my parents coming home from a parent teacher conference when I was in elementary school and telling me that they probably wouldn't waste their time going to any more because the teacher always told them what they already knew: that I was doing well in school. I believe in the first years of teaching, I based my interactions with parents on what I knew – that parents shouldn't be bothered with information they already possessed. In Emma's case, I assumed that she told her parents how she was doing because as a student that's what I would have done. As Emma's teacher, I didn't want to waste Emma's parents' time with information they already had. Coupled with the uncomfortable topic of Emma's lack of effort, it had been easy to convince myself that it was unnecessary to call her parents. Graue & Brown (2003) argued "that prospective teachers should have experience reflecting on how their views toward education, and particularly about home-school relations, are shaped by their past experience, their privilege and their need to establish authority as a professional" (p. 732). Had I been challenged as a prospective teacher to think critically about the role parents play in schools, I may have discovered my limited views and had the opportunity to think beyond my own experiences and "imagine new ways of relating" (p. 732) with parents.

### **Drawing on Parent Knowledge**

As teachers, it is important we recognize there is much to be learned from parents. Different from the knowledge of teachers, parents hold knowledge (Pushor, 2010b) about their children: their personalities, their learning styles, their past successes and failures, their insecurities, and their passions. Parents also have "funds of knowledge [which] are the historically accumulated bodies of knowledge and skills essential for household functioning and well-being. The basic premise has been that classroom learning can be greatly enhanced when teachers learn more about their students and about their students' households" (Gonzalez,

Andrade, Civil & Moll, 2001, p. 116). The parents of our students have a wealth of information about all subject areas, including math, garnered from their personal experiences, their jobs and their daily tasks at home. As teachers, we can access this knowledge by inviting parents to share their interests, passions and expertise with students (Cowhey, 2006, Gonzalez et al., 2001, Hands 2005). Cowhey (2006) suggested doing home visits or making contact with each parent at the beginning of the year, getting to know the parents, keeping a list of the skills, interests and knowledge families possess that may fit into the curriculum. As I will discuss in further detail later in this chapter, there are many opportunities to draw on parent knowledge and lay it alongside teacher knowledge (Pushor, 2010b) to benefit student learning.

Throughout the course of teachers' careers, because of the current lack of formal preservice and inservice education in parent engagement, teachers may not have the opportunity to think critically about the valuable role that parents play in enhancing student learning. Instead of leaving this part of education to chance or personal beliefs of teachers, Hands and Hubbard (2011) question whether parent engagement should be viewed as essential rather than optional. In either case, if teachers are to engage parents, they "need time, education and on-going institutional support to involve parents, learn about parent perspectives and plan opportunities. Equally important, teachers need to understand the community as a potential educational resource rather than an obstacle" (Shumow & Harris, 2000, p. 23). Without this ongoing education and support, teachers are left to trial and error as I had been, to figure out how to work meaningfully with parents.

### **Running: A Metaphor for Learning to Engage Parents**

I am a runner. A couple of times a year I sign up and run a ten kilometer or half marathon race. It's not the race day and crossing the finish line that actually interests me but, instead, it's

the weeks of training leading up to it. Running can be exciting and exhilarating but it can also be humbling and devastating. Some days I return from a run and feel like I could do the whole thing over again and other days I want to quit a few blocks in. On the bad days, running is excruciatingly difficult and I often wonder why I am doing it. On the good days, I feel proud, empowered and eager to do it again. There is never an end to my training. Even after the race day, I know there is always another race waiting in the next few months for which I will start training once again.

My mom sent me an article recently about runners. I was struck by how the article not only described runners but also spoke to me as a teacher on a journey to engage parents.

We put in the effort. We push ourselves out of our comfort zones and embrace the great run days and the tough run days. We know that not all of our runs will be strong. The runs where each footstep takes effort; our breathing is laboured and our thoughts challenge us to stop. These runs are a big part of our running journey. We know we will always grow, change and evolve. With each running experience, memory, event and struggle, we know we will always want more from ourselves. We know that change will occur because movement is change. We run and we love it. We may not run fast. But we run. We're runners because we say we are and no one can tell us we're not. (Berry, 2012)

The thing about being a runner is that you have to run. You have to put on your shoes and get out there and do it. The same is true of engaging parents. If, as a teacher, I want to be partners with parents, if I want to build meaningful relationships with them, I have to do it. It will take time and effort but, in the end, it will be rewarding.

Throughout the rest of this chapter, I reflect back on my “training” or rather on my lack of preservice education in parent engagement, and the trials and errors that I have made since the

beginning of my career and during the course of this research. I am aware that although this race - the work and meetings with the parents in my focus group - is coming to an end, there are more running events around the corner. I have only just begun to understand my role as a teacher in engaging parents. I hope that in re-examining my practices as a teacher working to engage parents in mathematics that it will inspire other teachers to do the same. I am cognizant that some people run slowly and some people run fast, but I encourage everyone to get out there and run.

### **Humble Beginning: Learning to Talk and Listen**

In my first interview for a permanent teaching position, a few months after my experiences with Emma and her mother, I was asked the question, “What are you going to do to communicate with parents?” I replied with a blank stare followed by a weak, “I’m not sure what you mean...you mean besides, like, talking to them?”

I’ve always viewed my response in that situation as an embarrassing moment. I had not considered how I might communicate with parents about their son or daughter’s learning, once again showing the gap in my preservice teacher education in this area. But, the more I think about my response, the more wisdom I see in it. Talking to parents. What a simple concept. Maybe I hit the nail right on the head: talking to parents. I think my interviewers were looking for responses like newsletters, blogs, and assessments explained in parent and student friendly language. These types of communication relay information about student learning, homework and classroom events to parents but they are unidirectional and they do little to build relationships with parents or to enhance the education of students. Typical parent communication enables teachers to inform or involve parents (Amendt, 2008) but it does little to enable teachers to “learn from parents their information, advice and experiences with their children that will help

us be more effective teachers” (Allen, 2007, p. 9). Pushor and Ruitenberg (2005) supported the insight I had found on my fumbled interview question:

...“Just talking” and “just listening” ... asking parents what they need, and ... not having all the answers. Considered individually, each of these gestures seems like such a simple, little thing. Yet, together, they are the things that are so foundational to our work with parents that they often get ignored in the literature in the field or are never made explicit. They are not the things which are represented in policy documents, in handbooks, in staff orientations and yet they are the things which build relationships. (p. 51)

### **Communication**

One of the most significant things we can do as teachers and parents working together is to communicate with each other. As a teacher, I wonder about how I defined communication and about what would be possible if I challenged that definition. Epstein (2010), in a revised version of her six types of parent involvement, redefined communication “to mean two-way, three way, and many-way channels of communication that connect schools, families, students and the community” (p. 86). The word “communication has been derived from the Latin word ‘communis,’ meaning to share...the communication process is complete once the receiver has understood the message of the sender. Feedback is critical to effective communication between parties” (Wikipedia.com). Based on these definitions, in doing the typical things that teachers do to communicate with parents, I realize I hadn’t really been communicating at all; I had only been making information available. I hadn’t been communicating with parents when I sent newsletters or wrote classroom blogs because parents either didn’t receive or understand the information or, maybe more importantly, they did not have a venue to provide feedback or connect with me as the teacher. The types of communication I had been using had not provided parents the

opportunity to be engaged. I wonder how I could change these practices. What can I do differently?

As discussed in Chapter 3, at the division math nights and in the feedback received from parents by the Saskatchewan Ministry of Education, one of the major concerns parents expressed is their ability to understand the math that their children are doing. Parents described the hours of tears and frustration that math homework is causing in their homes. What parents know how to do in math may be very different from what students are learning at school. For many teachers, parents and former students, there is a marked change in the teaching of the new mathematics curriculum (Saskatchewan Ministry of Education, 2008) from the way mathematics was taught to them. For parents who do want to help with homework, communication from teachers regarding what is being taught in schools is a key factor to this being a positive experience. Our parent group discussed their frustrations with homework and their desire to have communication with schools about what their children are learning in math.

*Mustafa: I think the issue is as well with the parent and school communication because, a lot of times, my daughter doesn't understand something, and I don't know what she's been taught at school. I find it hard; I am thinking well they must have told you something, I can't understand what you are trying to do. If I can't understand then I can't teach you. And if she doesn't understand she can't explain it, so we are just stuck and the only thing I can do is use my own, sort of, initiative and whatever I think she should learn; that's what I teach her.*

*Sally: Yeah, and you're sitting [doing homework with your child] saying, "I'm not sure, this is the way I know how." But if [teachers] give us that example of, this is how you learned it, and this is how we're teaching it ... It's preparing you, and then for each subsequent child you are more familiar with it because you experience it.*

*Claire: Have you ever gotten any letters or anything about what [teachers and students] are doing in math class?*

*Kate: No.*

*Mustafa: No, just the homework.*

(Taped conversation, December 20, 2011)

### **Math News**

As I listened to Sally say that she would have liked to have some written examples of how the students were learning math, I felt guilty thinking about my own teaching practices. I was really interested and invested in parent engagement yet I hadn't taken the time to do even this for families and students. I had sent letters about what we were learning in math class in prior years but I had stopped because I wasn't sure it made a difference. Was the time and effort worth it? I promised myself that I would start sending such letters for my math class once again because there may be some parents like Sally and Mustafa who want to sit and do homework with their children and understand the strategies that their children are learning in math at school. I feel it will open up the doors of communication with parents by giving them information about the curriculum and by inviting them to respond via email or phone if they have any questions. I know there is more I could be doing, like sending daily or weekly emails, recording and posting short videos online, writing blogs, or using a website to frequently update parents as to what is going on in our math class. I could email the parents of my math class and ask them what they need or want to support their children in math.

While I was aware that I had a wealth of possibilities at my fingertips, I felt I needed to start small. I knew it wasn't much but I wanted to "do something" (Amendt, 2008). Spurred by the focus group's desire for information from their children's teachers about math curriculum content and teaching approach, along with a statement that I had recently read by Redding et al. (2004) that it is helpful for schools to "regularly communicate with parents about what children are learning and suggesting what parents can do to help," I put together a "math news" letter for parents of the Grade 7 math class I was teaching. I rarely give math homework



and feel that I am very careful about only sending homework that students feel comfortable doing independently since I believe that students have the right to homework they can complete without help (Vatterott, 2009). Because of this, I didn't think it was any of my students that were experiencing hours of frustration doing math at home with their parents, such as in the descriptions we had heard at the division math nights. Even so, I thought that it would be a good start toward parent engagement to send an email to the parents of my Grade 7 math class explaining the math students would be doing at the beginning of each unit. I included vocabulary words, learning outcomes and a short description of concepts and strategies for solving problems that were likely different than what the parents had typically learned. I also sent online links to games related to the content of the unit and an invitation to email me with any questions or concerns.

**Ways Parents Can Help**

1. Ask your child to show you what he/she is learning in math.
2. Knowing how to determine area is a functional skill in our society. Pose for them a practical area problem to solve in your home.
3. Help your child to learn the words to know in this unit.

**Math Links and Resources**

Go to games under SS7.1 and SS7.2 at:

<http://hzsd.ca/learningcenter/Library/Math%20Resources/Grade%207%20Math%20Websites>

## Grade 7 Math News

### Unit 4

### Circles and Area

Hello Again Parents!

We have begun Unit 4, Circles and Area. Circles are all around us. It is important for students to develop a good understanding of the relationships among radius, diameter and circumference of circles to prepare them for work with cylinders and spheres in later grades.

***What's different from when we learned these concepts in school?***

Rather than just memorizing a formula, students will develop the formula by connecting previous learning about area and applying it to the circle.

Frequent exposure to area helps students to develop an understanding of the measurement process. The media often use circle graphs to display data. It is important for students to be able to analyze and interpret information presented in this way.

**Sask Learning Curriculum Outcomes**

**SS7.1:** Demonstrate an understanding of circles including circumference and central angles.

**SS7.2:** Develop and apply formulae for determining the area of triangle, parallelograms, and circles.

**SP7.2:** Demonstrate an understanding of circle graphs.

**Words to Know**

**Radius/rayon:** the distance from the center of a circle to any point on the circle (plural is radii)

**Diameter/diamètre:** the distance across a circle measured through its center

**Circumference/circonférence:** the distance around a circle also known as the perimeter of the circle

**Pi/pi( $\pi$ ):** the numerical value of the ratio of the circumference of a circle to its diameter, approximately 3.14

**irrational number/un nombre irrationnelle:** a number that cannot be represented as a terminating or repeating decimal, for example pi

**parallelogram/parallélogramme:** a quadrilateral with both sets of opposite sides parallel

**base/base:** the side of a polygon or face of an object from which the height is measured

**height/hauteur:** the perpendicular difference from the base of a shape to the opposite side or vertex; the perpendicular difference from the base of an object to the opposite side or vertex

**Sector/secteur:** part of the circle between two radii and the included arc

**legend/légende:** part of a circle graph which shows what category each sector represents

**percent circle:** a circle divided into ten congruent sectors with each sector further divided into ten parts; each part is 1% of the circle

**sector angle or central angle:** the angle between the two radii that form a sector of the circle

If you have any questions or concerns, please feel free to contact me at any time!

Claire McTavish  
[cmctavish@gscs.sk.ca](mailto:cmctavish@gscs.sk.ca)  
 659-8486

Writing and sending this letter wasn't much work because our school division math team had already composed letters such as these for each unit. Using the math team letter as a base, I

added some content, specifically the section “*What’s different from when we learned these concepts in school*”? in response to what Mustafa and Sally had told me about wanting to be provided with information about what students were learning in class as compared to the typical way it was taught.

Even now, analyzing this letter a few months later, there are changes I know I will make for next year. I shared my knowledge of the curriculum and ways that I thought parents could help, without specifically asking parents for their feedback or to share knowledge they have in regard to these curriculum topics. In the letter, or included in the email message, I could have asked parents to share information with me. In the next letter, I intend to pose more specific questions to parents so they will recognize the knowledge they hold and have to share. For example: What can you tell me about your child’s experiences when working with these concepts in the past? How might you support your child to use formulas, a major concept in this unit? How might you support homework on these topics? I will also include an invitation to parents to share, either with me or with the class, any insights, knowledge or application of these skills in their work or daily lives (Cowhey, 2006). These changes will make more explicit my desire to engage parents in ways that invite them to communicate with me about their children and the math curriculum.

I wasn’t sure what would come out of sending this “math news” email but I thought that, at the very least, it was a small step towards communicating with parents about the teaching and learning of math. Despite the unilateral nature of a letter, I thought that if I sent it via email that may open a channel of two-way communication between the parents and me.

Children need links – links created by their families and their teachers – that are positive, that develop mutual trust, that create shared goals, and that share power and responsibility

on behalf of the child. The key to building this trusting, positive relationship between people in different settings (i.e., family members and educators) is two way communication. (Allen, 2007, p. 8)

Sending an email was one small link that I could make with parents. I hoped that in return the parents would feel comfortable responding to my email or contacting me by phone to discuss their child's learning, the curriculum or to share information with me that would enhance student learning.

The next day, I got a few email responses:

Hello Mme. McTavish

Thank you so much for your math "news" and for all of your work preparing and working with the students.

Thank you also for providing the opportunity for the Math evening a while back. Although Jocelyn and I were unable to attend due to meeting commitments, my husband did take our sons (Michael - Gr. 4 and Chris - Gr. 1) and they enjoyed the evening and activities very much! What a wonderful idea this was!

Also, Xtra-Math has been embraced in our house! Thank you for initiating this as well. Even our daughter in high school is participating... such wonderful practice of basic facts!

Thanks again! Have a wonderful day!

Heather (Jocelyn Black's mom)

(Personal communication, February 15, 2012)

Hi Claire,

Very nice newsletter! This was a lot of work. How is Colton keeping up in math?

Thanks,

Val

(Personal communication, February 15, 2012)

## Two-Way Communication

I hadn't been sure what to expect in response to my "math news." Simply by sending an email that updated parents on what we were doing in class, I had provided an opening for parents to email me and give me feedback or ask questions. I had "establish[ed] clear two-way channels for communications from home to school and school to home" (Epstein, 2010, p. 86). Val had written an email to ask me how her son was doing in math. Maybe she was worried about his progress previously but had hesitated to email. In response, I was able to share my teacher knowledge with Val about Colton's progress in math. In addition, I got some feedback from Heather about what she thought about the family math night and an online homework site for practicing basic skills that I had assigned the students to do for ten minutes a night. Just by sending the "math news" with an invitation to contact me, I was able to start conversations with a few parents. Maybe my email about what students were learning in math had sparked the possibility of developing "true partnership[s] involv[ing] two-way communication that can be initiated by either party" (Vatterott, 2009, p. 50). I hadn't emailed about student progress, about how parents felt about the math night or about the homework I was sending home but these parents felt comfortable initiating these conversations via email with me. It will be beneficial if, over time, these relationships do become true partnerships in which the parents and I make decisions together about student learning (Hands, 2005). Amendt and Bousquet (2006) believe that once parents and teachers learn how to share knowledge with each other and make decisions together, if it can become the norm, few decisions at schools will be made without engaging parents.

During the next two months, I saw the two mothers, Heather and Val, in the halls at school and we got to know each other a little bit better. Although I would consider myself an

extravert, I was still nervous and hesitant to walk up to these parents and talk to them the first few times. The antagonist roles that are often foregrounded in discussions among my colleagues about parents and teachers were in the back of my mind, as well as those same hesitations I had calling parents at the beginning of my career. I could tell that I still hadn't had enough experience talking to parents because it still felt a little unnatural to me. Heather was at the school one day watching Jocelyn in a speaking competition and I made the effort to go over and say hi to her and talk about what a great job Jocelyn had done. I could have walked the other way and continued on with my busy day but I was trying to make an effort to have more frequent and less formal interactions with parents; interactions that build trusting relationships (Pushor & Ruitenberg, 2005). We talked about the weather and what we had done over the weekend, nothing to do with math or Jocelyn's achievement. Although having informal conversations wasn't exactly parent engagement – interactions with parents about student learning – it was a baby step in the right direction towards building relationships with parents.

### **Challenging Situations: Changing the Story**

That week, I got another email from Heather. This time it was not the positive feedback that I had received from her in the last email. She told me that Jocelyn had been working on a review of our math unit and had been experiencing a lot of frustration using algebra tiles to solve equations. She told me that tears had been shed, and hours had been spent trying to work this out. She wondered if I could help Jocelyn the next day at school because Heather wasn't sure how I had explained it.

I was horrified. I thought I had been very careful about the amount and type of homework I had been sending home. I had not wanted my assignments to cause frustration for my students or their families. I was wrong. Jocelyn, a top student in math, was having difficulties. I felt

horrible thinking about Jocelyn having to struggle excessively. An image of the first time I had tried to cut my son Carson's fingernails and accidentally cut his finger crossed my mind; I felt the same overwhelming guilt I felt that day. Although I had tried to avoid it, "teachers inevitably have to deal with parents about difficult situations that arise, be they social, emotional, behavioral, or academic (Cowhey, 2006, p. 207). I quickly emailed Heather back indicating to her that it was not my intent to cause this frustration, that of course Jocelyn and I could work on her math together the next day and to let me know if there was anything else I could do. I reminded myself that, in working with parents, "strong parent involvement and consistent, honest communication with families is [the] best insurance when (not if) I make mistakes or have to handle challenging situations" (Cowhey, 2006, p. 207). Heather replied later that night, thanking me for my quick response and letting me know that Jocelyn would be coming to find me the next day. I was thankful I knew Heather, that she felt comfortable emailing me and that we were able to communicate openly and honestly with each other.

I wonder if Heather's reaction would have been different if we hadn't emailed back and forth and talked to each other a few times in the halls. Would she have felt welcome to email me expressing her concerns? Would she have been angered at my sending homework home that her daughter was having difficulty with and that she wasn't sure she understood? Would she have felt guilty as a mother that she was unable to help her daughter with her homework? Would she have sent me an angry email, implying that the problem was me as teacher? Would she have exploded at me at a three-way conference? Would she have told other parents about how the new math curriculum didn't make sense and sign onto the WISE Math website?

Knowing Heather, I can't imagine her responding in anger but as I reflect back over my career as a teacher I know, from conversations I have had with colleagues and through my



research over the last few months, such occurrences are not unheard of. I have had experiences such as these with Alexandra, the angry parent at the parent teacher conference, and Daniel, the advocate for a return to back to the basics, neither of with whom I had relationships. I have also read the angry, frustrated comments of parents posted on the online message board of wisemath.org, perhaps a reflection of the lack of authentic and reciprocal communication between teachers and parents regarding the math curriculum and the parents' ability to help their children with math homework.

### **Living in relationship**

Mapp (2003) suggested, "When school staff engage in caring and trustful relationships with parents that recognize parents as partners in the educational development of children, these relationships enhance parents' desire to be involved and influence how they participate in their children's educational development. [These relationships are formed when]... the school community welcomes parents into the school, honors their participation, and connects with parents through a focus on the children and their learning. I feel that this is what I did with the focus group that came together to plan the Leo Johnson family math night. I welcomed them to be a part of the group, honored their opinions and participation, and connected with them through our discussions about math and the family math night. We were discussing learning math or the changes to the math curriculum, just like I had with Alexandra and Daniel, but now, when the conversations were between people who knew each other, who saw each other as real people and who cared about each other, we were able to talk and listen to one another with caring and respect. As Cowhey (2006) indicated, all relationships will experience some tension and conflict, just as happened with Heather and me when she watched her daughter Jocelyn struggle through the math homework I had assigned. When there are tensions between people

who don't really know each other, either the parent or the teacher may be afraid to be honest because s/he is intimidated or uncertain of how the other person will react. One may end up blaming the other or refusing to listen, leaving the conflict unresolved. Conflict between people in a relationship, though, is resolved differently than between people who are not in relationship. Conflict between people in relationship, for example marriage partners, family members or friends, are resolved with a care for one another, an empathy for the other person's feelings, the ability to be honest with one another and a desire to resolve conflicts without blame.

### **Accountability and Responsibility**

As I think about the different types of encounters I have had and the change in dynamic in them when the people involved care for each other, I continue to think differently about my role as a teacher in engaging parents. What professional expectations are there of me as a teacher in engaging parents? Over the years I have filled out report cards, hosted meet the teacher nights in September, called parents of students who were struggling, participated in three way conferences, sent student portfolios home and kept a detailed grade book. I have been accountable to parents about how I arrived at students' marks. I have fulfilled all the duties required of me by my school division and the administrators of my school in terms of informing parents, so why does it feel like I have never really gotten to know any of the parents? I have been accountable to my principal and my school division and I have never been questioned on my effort, but what I now realize was missing is that I was not being responsible to parents. Noddings (2009) described the difference between the two:

*Accountability* forces us to answer to authorities of power, and it encourages compliance or the appearance of compliance. We have to satisfy some authority that we have met

some specific goal ... In contrast, *responsibility*, points downward in the power chain; it asks us to respond to the legitimate needs of those placed in our care. It is not satisfied in meeting one narrow goal. (Noddings, 2009, p. 17)

In the past, I have been *accountable* in my role as a teacher by complying with all the required interactions with parents. I have not been *responsible* to parents; I have not asked about, listened to and responded to their needs. My actions have shown that I was doing my job, I was doing what was expected of me in terms of keeping parents informed, but that did not show that I was responding to the legitimate needs of parents – or that I even knew what their needs were. Caring implies a continuous search for competence; we want to do our very best for those for whom we care (Noddings, 2005). As a teacher responsible to parents, I want them to know that what they think matters, that because I care about them I will strive to meet their legitimate needs as parents of the students I teach and to keep our relationships strong.

I care about the parents in the focus group. In our research conversations, I listened to them and to what they wanted for a math night at Leo Johnson School. As I reread my words in the transcripts, I realized that I wanted a math night where parents could discuss curriculum and where I could dispel misrepresentations of the curriculum. The parents, in contrast, primarily wanted a fun family math night. As this dawned on me throughout our unfolding conversation, I began to attend more closely to their voices.

*Claire: I just want to clarify, are you thinking that we would have a math night just for parents? Or are you feeling like you wanted to do something fun for families, or kids that would come?*

*Mustafa: Yeah, families I think.*

*Sally: I like the family idea.*

(Taped conversation, December 20, 2012)

Darn! Even though I knew we were hosting school division math nights for parents only, it was difficult for me to let go of the notion that what parents needed was to hear about the curriculum. Intending to honor both the parents' knowledge and my teacher knowledge, we compromised a little and agreed that we would include a short period at the beginning of the math night to address parents' questions about the math curriculum. As it played out, there were no questions from parents about math curriculum at the Leo Johnson family math night and the whole event focused on families having fun and doing math together.

As we prepared for the Leo Johnson family math night, I felt responsible for whether or not it was a success. For the weeks leading up to it, I was making lists, gathering supplies, asking kids what they thought of the games we had chosen, organizing teacher and parent volunteers, inviting people in multiple ways and eventually losing sleep over all of the details. I cared deeply about what we had planned as a group, about the structure and the activities that we had chosen for the family math night. I wanted the event to be the talk of the school the next day because I wanted our focus group to have their participation honored (Mapp, 2003), to feel they had made a difference in the school community. I wanted the families who attended to have felt welcomed and to have felt a sense of belonging on the school landscape.

I had never cared in this manner about parent math nights before. Because I had developed relationships with the parent participants who planned the math night with me, and felt responsible to them as individuals in my care, I was more invested in the success of the evening. I hoped others would value their work as I did. Even when I spoke to a gym full of a hundred disgruntled parents about the math curriculum a few years ago, I did not feel as anxious as I did about the Leo Johnson family math night. When only three parents came to the first division math night, I was intrigued by the lack of people in attendance but I wasn't devastated.

In providing the division math nights, I was being accountable; I could report back to my superiors that the math night had been offered, meeting the narrowly defined goal of accountability (Noddings, 2009). In organizing the Leo Johnson family math night, I responded to the legitimate and expressed needs of the school community and, out of an ethic of care, I worked as hard as I could to make it a success.

As a teacher acting out of a sense of responsibility to engage parents, I cannot possibly write a comprehensive description of how I would respond to the needs of the students and families in my care but I have presented some possibilities that I myself hope to implement as a means to engage parents.

## **Acting Out of a Sense of Responsibility: Welcoming Parents onto the School**

### **Landscape**

#### **Drop-Off and Pick-Up**

✦ February 5, 2012

After a long day of teaching in the midst of the research with my focus group, I head out of the school and drive to my son's home based daycare. He has been going to daycare for four months and I still find myself lingering at the end of the day chatting with Louise, my son Carson's babysitter, hoping to have a glimpse into his day. What did he have for lunch? Did he poop? How long did he sleep? None of these things really matter. He will still be hungry when we get home no matter how much he ate for snack and he will still go to bed at the same time no matter how long he slept during the day. I don't know why I feel the need to ask these questions. I suppose it is just our natural transition into other conversation. We trade stories about everything, sometimes about vacations or summers at the lake or how we slept the night before,

but mostly about kids. Louise's stories are about her daughters and grandson, mine are about Carson. We draw parallels from our experiences and make connections with each other's lives. We are becoming friends. I think she senses my need for connection, conversation. I never feel rushed, always comfortable, even though we are chatting in the entranceway of her home or outside on the deck as the kids play. It is her care for me that makes me feel even more comfortable leaving Carson with her. (Personal journal, February 5, 2012)

Thinking about my experiences as a mother of a young child in a daycare setting, I wonder about when and where teachers and parents are able to have this same type of contact. Why is it that when children enter school and get older, these types of interactions became fewer and further between? I wonder especially about a school like Leo Johnson where most of the students take the bus to and from school, how often do parents even come to the school and what possibility do they have of getting to know their child's teacher?

*Kate: One thing I do find about this school that I had noticed is that when my oldest was in kindergarten she took the bus with her friends all the time, and so I didn't really get to know the teacher, and then we moved and the bus couldn't take her because I didn't sign her up nearly fast enough so I started driving her a lot more and I actually liked it, liked to pick them up at the end of school because then, that's the only way I got to meet the teacher ... [but] because it's such a bus based school I think a lot of people don't get to do that.*

...

*Claire: If you don't have that contact, especially with the school where kids are bused in, where do you have it?*

...

*Mustafa: But it does make a difference. In the last school before we moved here ... I was the chair of the school community council. I was meeting all of the teachers frequently, and it does have a positive effect on your kids that go to that school because they know who your kids are and you have a relationship with those teachers, and they do give extra attention or care, not overly, but it's a natural thing, that you know somebody ... And I think if more parents knew that and had that experience they would think differently ... I guess it's just the, a matter of providing that opportunity.*

*Kate: Right, I mean it's a bus based school and lots of people work until 4:30 and you can't get there [to pick up your kids], and you've got to be at work at 8 [in the morning].*

*Claire: So what if teachers or schools were to have an evening event just to provide that same chance to parents that have to work?*

*Mustafa: I think if you had that one evening and parents saw the value of that, they would come ... they would make time.*

(Taped conversation, February 14, 2012)

In mostly teaching middle years students at bused based schools, I rarely saw parents at my door or in my classroom before and after school. On the rare occasion that parents of my students did come to the school, I made the effort to make them feel welcome and took the time to talk and get to know them. But what about the students whose parents I didn't ever see? I felt I had inadvertently been disadvantaging most of my students. Mustafa's intuition that his children were more cared for when he was involved in the school is supported in the literature.

Teachers may pay more attention to students if they know their parents are more involved. In general, children of involved parents are more motivated to learn for learning's sake, and have more control over their academic performance because they adopt their parents' positive attitudes towards school and learning. They know, too, that they can obtain guidance from their parents on how to navigate school and its challenges. Children of involved parents are more familiar with the tasks required of them at school because parents share this kind of information with them. (OECD, 2012, p.13)

Lawrence-Lightfoot (2003) stated that "perhaps the most important condition for finding common ground and supporting productive engagement between parents and teachers is the frequency of their contacts with one another" (p. 74). As a teacher, wanting to be responsible to parents, an effective way to do so would be to increase contact with parents. If parents aren't in the school to drop off or pick up their children, there are other places in which I could see them more frequently.

## School Events

Another venue for parents and teachers to interact are school events; events such as the Leo Johnson family math night, the school carnival and school community barbecues. In the past, typically I attended these events if a school administrator required my attendance or if I was helping organize the event. I missed many opportunities to build relationships with my students' parents.

While we were organizing the math night, there were several teachers that volunteered (their attendance was not mandatory) at the math stations. I was excited that the teachers wanted to help and would have an opportunity to informally interact with parents. One teacher, William, was very willing and enthusiastic to help but he did not want to be at a station with a parent from his classroom. He didn't want the evening to turn into a three-way conference in which he got questioned on how the child was doing in math or in school. He wanted to avoid, as much as possible, contact with parents from his class. I just found this so ironic since part of the point of the math night was to create more interactions between parents, teachers and students around curriculum and here he was avoiding it. (Personal journal, January 23, 2012)

As a teacher, and as a result of my experience with the math night, I have been thinking about how I could be more open to interacting with parents at school events. I could start by attending more of them on a voluntary basis, bringing my family, helping at the event paired up with a parent from my classroom who I might not see very often and being open to conversation with parents. I suppose there is the possibility that parents will ask about their child's achievement but I don't think it should be a deterrent to wanting to talk to parents.



## Classroom Events

School events are often busy and crowded, are not always centered on student learning and do not provide an opportunity for parents and teachers to come together and share decision-making. As our focus group discussed possibilities for parents and teachers to understand each other's background, the math curriculum and one another's beliefs about teaching and learning, we discussed the possibility of periodic classroom events where parents, teachers and students could come together and have fun doing math.

*Claire: I just think there could be so many amazing things that could happen between parents and teachers and schools and classrooms. But I guess my question with that is, Are parents willing or do they have the time to want to do those sorts of things, and how do we change a whole way of thinking? Because that is not the way school is right now; it's just not the way people think about their relationships with their child's teacher.*

...

*Mustafa: I think you raise a valid point because as parents we don't have enough interaction with our teachers, and our kids are in a school eight or nine hours a day and we are like "Who is teaching our kids?" and we don't know. We just drive up to the door and they jump in the car and we drive off and that's it. So I think we do need more interaction from parents to the teachers of your own children. Not necessarily with every teacher in the school, but at least those that are teaching our kids, so they can have an idea and the teachers can have an idea of what background they have and the issues.*

*Natalie: And how do teachers feel about that? Like are teachers open to that?*

*Mustafa: Yeah, that's interesting.*

*Claire: That's a good question. What do you think?*

...

*Mustafa (joking): They might be like, "I can't deal with your kids, never mind the dad. Get out of here."*

(Taped conversation, February 14, 2012)

As I listened back to the taped conversation and heard the laughter after Mustafa's comment about the teacher's impatience with the student and the parent, I thought about the murky waters of engaging parents. Pushor (2010b) believed "teachers' and parents' knowledge is

complementary and equally important to the schooling of children [but that] ... it is different knowledge” (p.20). Parents have knowledge to share, for example, about their child’s “capabilities and temperament” (Lawrence-Lightfoot, 2003, p. 68), their attitudes, strengths and weaknesses towards math and their motivators. Teachers on the other hand have knowledge to share about math curriculum, math strategies, instructional strategies and their experiences working with children. What I know is that parent engagement is NOT about negating our teacher knowledge or not about giving up our role as professional educators to parents. It is about inviting parents to share in decisions in which we both have a vested interest, decisions such as homework policies, and about contributing their parent knowledge to enhance our ability to make the best decisions possible about students and programming. However, teachers and parents will not always agree on what they want for students. As a teacher, I have to question my policies, my beliefs about teaching and learning mathematics and know what I am willing to compromise and what I am not. “Productive relationships between parents and teachers require the marking of boundaries and some degree of separation ...just as teachers mark the school boundaries and make barter with parents in order to ensure the territorial control they believe necessary for their work with students” (Lawrence-Lightfoot, 2003, pp. 70-71). In proposing more interactions between parents and teachers in order to engage parents, I believe it will provide an opportunity for individual teachers to consider the boundaries they deem necessary to maintain their ability to use their professional knowledge to teach children. I hope to challenge myself to engage parents, knowing the wealth of knowledge about students I will receive from parents, the ease of communication which will arise between us and the partnerships that will be formed while, at the same time, being mindful of the boundaries I want to maintain.

## **Acting Out of a Sense of Responsibility**

### **Possibilities for Sharing Decisions and Sharing Knowledge**

I want to be welcoming: to communicate with parents in ways that “welcome parents and demonstrate a sincere desire to include parents in the life of the school” (Mapp, 2003, p.11). To ensure parents feel welcome on the school landscape, to honor their choice to participate and to connect with them about student learning (Mapp, 2003), I realize there needs to be spaces for them to make shared decisions and to contribute parent knowledge (Pushor, 2010b) about their children. Over the last few months as I met with the focus group of parents, I became aware of some of the possibilities that existed for shared decision making and for sharing knowledge between parents and teachers. I accepted that each parent would be unique in his or her needs and I wanted to be responsive to their individual choices for parent engagement. In an effort to create this same kind of relationship with all parents, and playing with possibilities suggested by Pushor (2010b), I imagined several efforts that could be made on my part as a classroom teacher to enhance opportunities for parents to feel comfortable finding space to participate.

- Make meaningful connections at the beginning of the year. Call, email or go on home visits to meet with every parent. Ask them about their families and their child. For example: How does your child work best? How could I help? What is the context of your lives at home? How does your son or daughter feel about math? What have your experiences been with math as a student? As a parent how are you helping your child at home? What do you want for your son or daughter in mathematics learning?
- Re-invent meet the teacher night. Instead of using this time to tell parents about my classroom policies, I could use this time for the parents and me to get to know each other

and also for parents to meet other parents. During this time, I could ask parents how they want or are able to be engaged in their child's math learning both on and off the landscape. Pushor (2010b) advised, "Ask them how they may want to use their parent knowledge alongside teacher knowledge as they work to support and nurture their children's learning" (p. 26). I could also use this time to discuss the amount and type of math homework that parents want their students to have and the possibilities of classroom math events throughout the year.

- Ask parents to fill out a questionnaire about their families and their students. As a trial this year, I asked parents to answer the following questions:
  - Please share with me any or all parts of your son/daughter's personality, learning style, confidence level in math, motivators, interests outside of school, schedules and anything else that you would like to share so that I can better understand him/her.
  - How do you feel about homework? Does your son/daughter enjoy homework? Does he or she have time for homework? How much math homework, if any, would you like to see your son/daughter bringing home?

From their responses, I was able to differentiate the amount of math homework that I gave to students: some students received an extra package of practice questions to work on at their own pace for days when I didn't assign homework to the whole class.

- Meet with parents and students throughout the year. I plan to organize fun math nights, curriculum information nights or any other event that is responsive to the needs of the families I teach. I plan to collaborate with parents and students to plan these events to

make them fun and focused on learning or doing math. For example, I might invite parents and students to play a math game as a large group or do a hands on math activity.

- Communicate to parents about homework and what students are learning in math class on a blog, classroom website or via email. Some parents may choose to read these communications as their level of engagement but I can establish these communications in such a way that parents are invited to respond, comment or contact me at any time.
- Be available for parents to arrange a meeting with me at any time.
- Openly invite parents into my classroom to talk about how they use math in their lives or careers, to observe students learning math or to participate in the lesson as a learner.
- Request feedback periodically through the year from parents about their child's math education. Ask them for information about their [child's] attitudes and dispositions at home towards mathematics, their approach to homework, the satisfaction or frustration they display, the nature of their conversation about their math class or content [and] the kind of assistance or support they seek (Pushor, 2010b, p. 29).
- Ask parents to share ideas with me and with each other either via email, on a blog or in person in a group meeting regarding how they incorporate math education into their children's lives. This may or may not be specific to the curriculum outcomes students are learning but will be beneficial to how students see math in the world.
- Invite parents to school professional development opportunities for math so that we can be learners together (Amendt & Bousquet, 2006). Curriculum and teaching approaches frequently change. If teachers are being offered professional development to understand these changes, it would build relationships between teachers and parents to learn about math together as well as provide knowledge to parents on how math is being taught.

These are the types of experiences that may help parents like Mustafa and Sally learn math strategies that they want to know about to help their children in math.

- Invite parents to analyze and interpret achievement data in math and help to set school and classroom goals to meet the academic math needs of the students.
- Invite groups of parents together, like our focus group came together, to discuss math curriculum.
- Ask parents to help plan and host math nights for other parents. The parents learn new strategies and concepts and then teach them to other parents (Civil et al., 2003).

### **Having a Plan: The ‘Business’ of Parent Engagement**

I hope to choose a few of these possibilities every year and try them out. I feel a professional responsibility to engage parents but I feel like I need a plan. My thoughts returned back to William, the teacher who specifically asked not to be at a station near parents from his class for the Leo Johnson family math night. His intent sounded harsh and business-like, not relational at all, like I believe education to be. But even in the world of business, relationships are integral to success. I thought of my brother and sister-in-law who own a magazine and rely on advertisement sales to make profit. I wondered about what they did to develop and maintain relationships with clients and how this applies to my desire to engage parents. I decided to pick up the phone and ask.

Amanda: There is definitely a plan in sales to develop relationships with people ... I have a “networking plan” which are goals I set for myself yearly to network with existing clients, potential new clients and past clients. Currently my networking plan is to be a member of the Chamber of Commerce and attend their events, take three clients out to lunch a month, play in one golf tournament a month, contact one new person a month through an existing contact and attend galas and award shows to which I am invited. Spring is an especially busy time for galas and award shows.

Claire: Wow! That sounds like a lot of time!

Amanda: It's worth it though because sales are partly about product and partly about personal relationship. Making sales decisions, clients look at price, external factors and personal relationships. For example, if I have a really strong relationship with a client and a salesperson comes in as competition, the client will not only consider price and external factors such as product quality or delivery times, but also their relationship with me, their existing salesperson. Often, the strong relationship can trump the price or quality of a product. I have to make sure that I maintain personal relationships with my clients by taking them out to lunch, playing golf with them or travelling two hours to write a sell an advertisement that could just as easily have been faxed so that I spend half an hour in contact with a client.

(A. Soulodre, personal communication, May 29, 2012)

As I thought about this conversation, I drew many parallels between the work of a salesperson and that of a teacher. I do not believe that school should be run like a business, farther from the truth, but perhaps teachers could take a page out of a marketing book in how to develop relationships to engage parents. From what Amanda was saying, in business, relationships need to be built over time and with frequent contact to maintain their integrity. It also seems necessary to have a plan and follow through with that plan to ensure that clients aren't ignored. Parents most often want contact, just as the clients do. Typically, parents aren't going to seek that contact out, for example, by showing up to a class to observe uninvited, just as the client is not going to call up his salesperson and ask to be taken out to lunch. However, the client would likely graciously accept the invitation if it were offered. It seems that parents also would appreciate frequent contact and a sincere effort on the part of teachers to engage them in the teaching and learning of math but it is likely that they are not going to be the ones to initiate it.

Amanda also talked about finding new clients as a major part of her networking plan. For me, these clients represent the parents who are absent from the school landscape and perhaps I don't know why. Are they choosing to be engaged in their child's education in ways that are invisible to me or are there other reasons why I don't see them? Perhaps I am not doing enough to make them feel invited to the school. Perhaps they have negative feelings about school

because of their experiences as a student and don't feel comfortable coming to the school.

Perhaps they don't feel confident in their math abilities and so they don't want to attend a family math night where they may feel inadequate. Perhaps it is a foreign concept for many parents to actually be asked what they think when it comes to the schooling of their children or to be invited to share information about their children with teachers. I feel that special attention is required for these 'new clients' to invite them to be engaged in multiple ways.

*Mustafa: I think if the opportunity is available then the parents will want to avail that opportunity, though if they don't, then they don't* (Taped conversation, February 14, 2012).

From all the possibilities that presented themselves to me throughout this research, I am inspired as a teacher to make and follow through with a plan to invite parental engagement. I know that it will be difficult at times and rewarding at others. I know that I will not be successful in all that I do but I believe that the energy I put forth will come back to me multiplied in the friendships I will form and the knowledge I will gain from parents to enhance student learning.



## Chapter 5 - The Challenge of Parent Engagement

### A Metaphor of Learning to Make Coffee

As I think about my research on parent engagement, one thing comes to mind – coffee. It is not for the obvious reason - all the coffee I drank while I spent hours thinking and writing about parent engagement. In fact, as I write this final chapter, it is not coffee but Coke (and Doritos if I'm being completely honest) that are keeping me going today. Rather, coffee is in the forefront of my mind because of the metaphorical parallels between learning to make coffee and learning to engage parents in mathematics.

✘ March 29, 2011

I want to pick up my coffee maker, throw it against the wall and smash it into a million pieces. I'm on my third attempt of the morning to make a good pot of coffee; a pot of coffee that isn't as thick as mud or so weak that I can see to the bottom of my cup. I hate making coffee because I'm not good at it. I usually buy my coffee on the way to work but, since I am on maternity leave, I am forced to either make my own coffee or wake my sleeping baby to go and get some. As you can see, I have been left with no choice as I have been told to NEVER wake a sleeping baby!

I don't understand the problem with my coffee-making because I follow the directions on the can exactly. I measure the coffee grounds and the water and put them into the coffee maker, just as I am directed to do, but somehow my coffee still doesn't turn out. Sometimes, in frustration, I just give up on my coffee making skills and go buy a cup when my son Carson wakes up.

I eventually come up with a new plan. I convince my friend Sarah to come over with her son for a baby play date and, while she happens to be at my house, make coffee. When Sarah comes over I watch what she does, even take notes as she laughs at me. As we sit and sip our coffee, hers black and mine with cream and sugar, I feel optimistic that one day with some help and a lot more experience, I will be able to make my own coffee.

What I have come to understand from my research is that learning to engage parents in mathematics is much the same as my experiences with learning to make coffee. I had decided that I needed to make coffee at home rather than wake Carson. With this same sense of knowledge, that parent engagement enhances student learning (Allen, 2007; Henderson & Mapp, 2002; Henderson et al., 2007; Jeynes, 2005; Lopez et al., 2004; Sheldon et al., 2010), it became apparent how important it is for educators and parents to work together. I was somewhat forced into learning to make coffee since I was stuck at home. Similarly, teachers and parents have been challenged to come together in recent years because of the changes in the Saskatchewan math curriculum which have prompted school divisions to hire math specialists, create online resources for parents (Reynolds, 2012) and host parent math nights. This extra time and effort put forth to engage parents has been deemed by some, namely the originators of WISE Math, as a crisis in education. I disagree. The changes in the math curriculum have provided more opportunities for parents to become engaged with their children's mathematics learning. Although difficult at times and requiring time and effort, the partnerships and sharing of knowledge between teachers and parents that are occurring because of the changes in the math curriculum are opening many possibilities: to enhance student learning, to contribute to teacher knowledge, to give parents a welcomed place and voice on the school landscape, to position

parents and teachers alongside one another in a reciprocal relationship, to deepen parents' knowledge of curriculum.

Returning to my coffee metaphor, it is valuable to note that some people do not even like coffee; they prefer tea or a hot chocolate. Those that do like coffee all like it differently – weak, strong, organic, black, cream, sugar, cream and sugar – you get the point. The same is true for parent engagement. Some parents choose to be involved, some choose to become engaged and some are contributing to the education of their children in ways that we as educators are unaware. With parents who are engaged I have found, through this research, that parents differ greatly in with what and with whom they engage. Parents may be engaged with the subject matter, the learner, the teacher, the milieu or any combination of these curricular commonplaces (Schwab, 1973). As educators, it is important that we are accepting of whichever role parents choose. I have also found that it is beneficial to offer these different types of opportunities for parent engagement with multiple invitations that are as personal as possible. For some parents, like Natalie, she was happy to be an involved parent, serving the agenda of the school, but she also chose to be a part of the focus group, plan the math night, and be a part of curricular decision-making when the opportunity presented itself.

Drawing a parallel once again, in my countless attempts at making coffee at home – all the times I made it too strong or too weak, gave up and went and bought coffee or just didn't have any at all – I found that it is hard to learn a new skill without some outside help. I personally, as is common for most teachers, lack preservice and inservice education (Lareau, 2000; Gunn Morris & Izumi Taylor, 1998; Pushor, 2011; Shumow & Harris, 2000) required to work knowledgeably and thoughtfully with parents. Without this education, teachers are left to trial and error, fearing conflict with parents, avoiding contact with them except when absolutely

necessary (as I had done with Emma's mother), or setting up controlled interactions such as a typical Meet the Teacher night or parent-teacher conference. In these controlled interactions, there is often a time limit and structure to the event that sometimes makes it feel like there needs to be a winner and a loser. The development of preservice and inservice teacher education, designed to enhance teachers' understanding of the role that parents play in schooling and education, would provide teachers with the opportunity to learn about the knowledge that parents have to share in regard to their children and the curriculum, and how to engage parents in ways that enhance schooling experiences for students, parents and teachers. Just as with any other aspect of a teacher's career, like teaching math content or incorporating technology into their teaching, it is valuable for teachers to have ongoing professional support, mentorship and dialogue about engaging parents.

As I think about drinking coffee with my friend Sarah in the comfort of my living room, I am reminded of the conversations that we had in the focus group. As a group of parents and a teacher, we came together and talked about math. Among many topics, we talked about curriculum, assessment, homework, problem solving strategies, public perceptions of math, building confidence and applications of mathematical concepts. I think that the far ranging nature of our conversation, as a group comprised of parents and a teacher, was unique. Even Mustafa and Natalie, who had both been involved with schools for years, had never had an opportunity like this before, and as a teacher, neither had I. It was valuable to share in such a group because we were able to learn from one another, to share our differences in opinion about mathematics' teaching and learning and to find commonalities in our perspectives.

### **So What? Now What?: Personally**

As I reflect back on my journey to interrupt my current practices of parent math nights, I am reminded of some of the first math nights that I put on for our school division. I can remember the agenda that I set and the information that I shared but I can't remember anything about the parents – their names, what they looked like and definitely not any knowledge or information they had to share because I never gave them that opportunity.

In contrast, thinking back to my experiences in doing this research, the parents whom I encountered will be forever etched on my brain. Of course, Mustafa, Sally, Natalie, and Kate, my parent participants are present in my memories. The ideas they had to conceptualize the family math night, their passion for wanting to create a fun family math event, their desire to build the confidences of their children in doing math, their questions about the math curriculum, the insights they had into their children's learning and the knowledge I gained that has shaped my teaching practices and work as a math support teacher will be ever present in my memories and in this work.

I also have a clear memory of many of the parents whom I met at the family math night, at the division math nights and at Leo Johnson School. I can see the smiling faces at the Leo Johnson family math night as parents participated in the activities with their children. I met many parents at the division math nights like Daniel whose names, children, and concerns, opinions and/or successes with the math curriculum have stayed with me. It is not that parents are doing anything differently, it is that I have changed, that I now perceive parents as partners, as people with ideas, as people with whom it is important to build relationships.

Because of my experiences throughout this research, the interactions I have with parents are different now. I have come to understand the importance of having frequent informal opportunities to talk with parents to build trust and relationships, as in the way Kate makes a point of picking up her daughters from school when she can so she can talk with their teachers. For most parents however, at a school where the majority of students are bused in, I see the importance in organizing classroom opportunities for this to occur and attending school events at which I will see parents. These relationships are important because it is likely there will be tensions with parents throughout the year - difficult conversations, differences of opinion, misunderstanding or frustrations and it is valuable to be able to resolve these tensions with honesty, trust and respect.

I see the value in having opportunities for parents and teachers to come together to talk openly about curriculum, as I experienced with the members of my focus group. Having had opportunities to discuss homework and curriculum with this group, I think differently now about Mustafa, and other parents like him, who showed his daughter how to multiply using the traditional algorithm because that was the only way he knew how to help her. In the past, I would have judged him for not supporting the different strategies that students were exploring in the curriculum. In talking to him, I found that it wasn't that he was unwilling to understand the strategies that were being explored at school but that his daughter was unable to explain them to him and he did not have enough contact with the teacher to be able to ask. Throughout our group discussions, I also gained an appreciation for what parents do. These are not always things that I see as a teacher -like the way Sally is so positive about math with her children even though she didn't like it as a student.

As I think about my future as a classroom teacher, I will slowly incorporate my ideas from Chapter 4 to engage parents in my teaching practices. I am especially excited to bring my math students and their parents together for classroom math nights throughout the year. The setup and content of these events will be determined together with parents. I imagine we may come together as a group two or three times during the year and participate in math activities.

As I continue my role as a math support teacher, I hope to be able to work with parents like Sally who want to be able to do math homework with their children. As with any opportunity for parent engagement, I suspect there are some parents who want to be engaged with the subject matter, to understand the strategies their children are learning, to be able to engage with their children at home and help them with homework. In working with parents from several schools across the division to plan the agenda for some meetings, I would like to invite parents of Grade 4 & 5 students to come together and learn strategies for multiplication and division. Based on the conversations and experiences throughout this research, one of the biggest areas of concern for parents is being able to help with these operations. I feel it would be beneficial to be able to share my teacher knowledge with them and for them to have the opportunity to share their experiences with me.

In working as a math support teacher in our school division, one of the aspects in which I can support schools and teachers is in parent engagement in mathematics. My research has given me knowledge and experiences that can be shared with others. I hope to share this knowledge through planning math nights with individual schools and parents, offering professional development sessions, working with teachers in professional learning communities, planning with teachers individually and by modeling parent engagement in my own teaching practices.

### So what? Now What?: For Parent Participants

Looking forward, I wonder what the future holds for each of my participants in regard to their parent engagement in mathematics. I imagine Mustafa will seek out opportunities to talk to other parents about math; I could even see him initiating this type of group within the school.

*Mustafa: I thought it was a good experience to sit down and talk to other people about their views on math, I think it's a good thing. I think it should be something that goes on continuously because it is an improvement in a positive way ... Maybe they should discuss it in the community council meeting, or there should be a sub-committee, or people who are interested in math, or a math fanatic club or something.*

(Taped conversation, February 14, 2012).

I imagine Kate will continue to be engaged with the milieu, reading newspaper articles, talking to other parents in her social circles and feeling comfortable to openly discuss curriculum with her children's teachers. I imagine she will continue to pick her daughters up from school to build that comfort level with her children's teachers, both for herself and for her daughters.

*Kate: [Being part of this group] really shifted my opinion of why everybody is so negative in the paper, and then when you have a chance to ask anything you want to know [I thought] "Oh. Let's have fun with this math, this is great." ... It made me realize that it probably is a lot of sensationalism of the media.*

(Taped conversation, February 14, 2012).

I imagine that Natalie will continue to build relationships with her children's teachers by being either involved or engaged on the landscape. I wonder if, because of her experiences with the focus group, she will seek out more opportunities to be engaged.

*Natalie: ... what I've done in the past is made myself available to teachers and offered to help with whatever it is that they want me to do ... Not my own agenda, but whatever I can do to supplement them, or help out because I don't work full time so I do have that time to give. And I've done that for 12 years and it's always been really great relationships.*

(Taped conversation, February 14, 2012)

I imagine Sally will continue to instill a love for math in her children even though she did not enjoy math as a student. I wonder what kind of relationships she will have with her sons'



teachers and what kinds of resources will be available to her as she continues to support her sons in doing their math homework.

*Sally: Definitely [I have strong skills using math in my daily life] but I think I have just picked up counting money, forward and back by just dealing with money all the time. But to sit down, I am definitely nervous as the kids get older and they get into more difficult math.*

(Taped conversation, November 23, 2011)

I am thankful for the opportunity I had to work with Mustafa, Kate, Natalie and Sally. As a group, we were able to positively impact the school in our planning of the Leo Johnson family math night. I hope that their participation in this research welcomed them onto the school landscape and that it has opened possibilities for them in the future for parent engagement.

### **So What? Now What?: Moving Beyond the Personal and the Particular**

During the time this research was conducted, the math wars (Schoenfield, 2004) came to Saskatchewan. Public criticism of the math curriculum, led by WISE Math, spurred the Saskatchewan Ministry of Education to request parent feedback. Within this feedback, “a number of parents requested better communication between home and school and supports so they could better help their children with math at home” (“Backgrounder,” n.d.; “New math won’t change.” 2012). In response to this feedback, the Saskatchewan Ministry of Education encouraged school divisions to hold parent nights to introduce parents to the new Grade 12 math curriculum (the last year of implementation of the math curriculum across the grades). As this research concludes, the math wars continue on in Saskatchewan but, for the moment, the government is not making any changes in curriculum to return ‘back to basics.’ I am pleased that the Saskatchewan Ministry of Education has decided to support the curriculum that they have asked teachers to implement and that they are now publicly supporting educators and parents in

these changes. I do hope that as school divisions plan and host parent math nights, this research can be used to inform them in this process.

As the Saskatchewan Ministry of Education and other school divisions work with parents, this research makes visible how math nights can be planned with parents, and how these events can create opportunities for meaningful dialogue between parents and teachers. Having planned parent math nights based on my sole agenda at the beginning of the implementation of the math curriculum and now having planned a parent math night alongside parents, I found that it should not only be my agenda that matters but a process of shared decision making in which what we both view as important shapes these parent nights. Had it been solely up to me, Leo Johnson School would have hosted a parent night about curriculum. Since the parents in the focus group wanted a fun family math night, we compromised and planned a math night that we all felt was beneficial to the school, one in which parents and students came together to do math activities.

As I met with my participants to plan the Leo Johnson School family math night, I was simultaneously planning the division wide math nights. In my planning I was able to use the parent group's knowledge and the discussions we had already had, alongside my knowledge, to think differently about the division math nights. Because of this, a small but monumental shift in what we did at the division math nights was to ask parents to share with us what they wanted for their children in math education and their thoughts, comments or concerns about the math curriculum. In listening to their responses, one of the major concerns was homework – parents were frustrated with the time and energy they were spending on homework as well as with the difficulties they were having understanding how the math was being taught at school. In response, our division math team decided to create a pamphlet for families to address homework

in mathematics. To address the frustrations that parents were having with homework that their children did not understand we included examples of purposeful homework such as assignments at the student's independent level, games for skill practice to increase math fact fluency and review of concepts. From what parents were saying, it also seemed as though there needed to be more communication between parents and teachers about math homework. To respond to these concerns, we included a section on how teachers and parents can work together. It emphasized the importance of teachers and parents having a shared understanding of homework expectations, creating dialogue between teachers and parents that can allow for differentiation of homework, and encouraging parents to communicate with teachers immediately if homework seems excessive or is causing frustration.

As a result of listening to parents and the acknowledgement of the important work that we did in responding to their needs with the development of our homework pamphlet, there has been a corresponding shift in our school division math team goal. In reevaluating our community/parent goal, "to encourage and respond to opportunities to communicate with school communities about changes to math teaching and learning at the elementary and high school levels," we also felt it should be added that "we will listen and respond to parent/community feedback" (D. Cote, Personal Communication, June 8, 2012). This change in our goal will impact the work of our math team for next year and it may also influence individual school goals and teachers' professional growth plans as these are often aligned with the school division math team priorities and goals. Our math team will likely plan more math nights with schools for next year, either alongside parents, or ensuring that our agenda is reflective of a reciprocal sharing of knowledge rather than informing parents. In listening to parents, our work as a math team or in individual schools may move forward with suggestions from parents for workshops on strategies

or different types of online resources to support homework. Teachers may also choose to learn more about engaging parents in mathematics as a professional goal. They may choose some of the ideas that I presented in Chapter 4 to try like sending a questionnaire to parents about math homework, asking parents about their children's comfort level in math, inviting parents to be math resources in the classroom, offering opportunities for parents and teachers to talk about math or planning classroom math events with parents.

### **So What? Now What?: Future Research Possibilities**

This narrative inquiry leads to several other research possibilities. I would find it of particular interest to research what would happen if parents with children in the same class and their teacher were to come together as our focus group did. I am interested in their experiences as they talk about math, do math activities together, discuss math topics and homework specific to their child's grade and with their child's math teacher. What new possibilities can be found by providing opportunities for classroom teachers and parents to talk specifically about math? What might a teacher's experiences in this situation tell us? What would a teacher do differently to engage parents after such experiences? How would parents think differently about engaging with their son or daughter's teachers after such experiences?

Another research pathway could be to inquire into the experiences of teachers with preservice and inservice education on parent engagement. What new insights could be gained from hearing the perspectives of several different teachers as they work to engage parents, acting on philosophical, theoretical, pedagogical and practical foundations gained from their teacher education curriculum? How might their experiences differ from teachers with no preservice or inservice education on parent engagement?

I also think it would be valuable to replicate this type of inquiry with a different recruiting system for participants. In this research, I recruited the parents at Meet the Teacher Night. My participants were parents who felt comfortable enough to be on the school landscape for this event. I think it would be valuable to recruit marginalized parents by asking teachers for names of parents who are not often seen on the school landscape, possibly because they do not feel comfortable or welcomed. These parents could then be contacted by the researcher and invited to be a part of a focus group that talks about math and organizes a math night for the school. If they chose to participate, this would give voice to parents who are not often seen on the school landscape.

### **Final Thoughts**

With my son Carson safely tucked back in his crib, I stumble, still bleary eyed, back to bed. I wonder why no one warned me that being a parent would be so hard, that it would require getting up every night at 3 a.m. for months to rock my baby back to sleep. As I snuggle back into bed, I can't help but smile; when I wake up tomorrow it will be a new adventure. The lack of sleep, the frustration of not knowing what Carson wants is all worth it just to see him smiling up at me in the morning from his crib. Every day something new; every day exciting and uncertain, difficult and rewarding...

As I try to fall back asleep, my mind starts racing with plans of parent engagement for next year. Who will I meet? What will we do together? What will they tell me? What will I learn? What kind of difference will it make? What new possibilities are waiting for me? I imagine every day something new; every day exciting and uncertain, difficult and rewarding...

## References

- (2007). *Math makes sense* (WNCP ed.) (Math makes sense series). Pearson Education Canada.
- Allen, J. (2007). *Creating welcoming schools*. New York, NY: Teachers College Press.
- Amendt, T. (2008). *Involvement to engagement: Community education practices in a suburban elementary school and an inner-city community school*. (Unpublished master's thesis). University of Saskatchewan, Saskatoon, Canada.
- Amendt, T., & Bousquet, Y. (2006). *Creating a culturally affirming learning community* (Project #76). Saskatoon, Canada: Dr. Stirling McDowell Foundation for Research in Teaching.
- Associated Press (2009). Obama: Crisis is time of 'great opportunity'. Retrieved May 23, 2011 from: [http://www.msnbc.msn.com/id/29567427/ns/politics-white\\_house/t/obama-crisis-time-great-opportunity](http://www.msnbc.msn.com/id/29567427/ns/politics-white_house/t/obama-crisis-time-great-opportunity)
- Auerbach, S. (2010). Beyond Coffee with the Principal: Toward Leadership for Authentic School-Family Partnerships. *Journal of School Leadership*, 20(6), 728-757.
- Backgrounder* (n.d.) Retrieved May 12, 2012, from Government of Saskatchewan website: <http://www.gov.sk.ca/adx/asp/adxGetMedia.aspx?mediaId=1699&PN=Shared>
- Becker, J. P., & Jacob, B. (1998, June). Math war developments in the United States (California), *ICMI Bulletin No. 44*. Retrieved from: <http://lsc-net.terc.edu/do/paper/8090/show.1.html>.
- Berry, J. (2012, April 30). Yes: We are runners! *The StarPhoenix*. Retrieved on May 11 from: <http://www.thestarphoenix.com/health/runners/6539349/story.html>
- Bourdieu, P. (1977). *Outline of a theory of practice*. Nice, R. (trans.), London, Cambridge University Press.
- Cairney, T.H., & Munsie, L. (1992). *Beyond tokenism: Parents as partners in literacy*. Victoria, Australia: Shortrun Books
- California Department of Education. (1992). *Mathematics framework for California public schools, kindergarten through grade 12*. Sacramento, CA: California Department of Education.
- Civil, M., Berbuer, E., & Quintos, B. (2003). Parental involvement in mathematics: A focus on parents' voices. *Proceedings of the 2003 annual meeting of AERA*. Chicago, IL.

- Civil, M., Diez-Palomar, J., Menendez-Gomez, J.M., & Acosta-Iriqui, J. (2008). Parents' interactions with their children when doing mathematics. *Proceedings of the 2008 annual meeting of AERA*. New York, NY.
- Clandinin, D. J., & Connelly, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research*. San Francisco, CA: Jossey-Bass Inc.
- Cowhey, M. (2006). *Black ants and Buddhists*. Portland, ME: Stenhouse Publishers.
- Community. (n.d.). Retrieved on May 11, 2012 from: <http://en.wikipedia.org/wiki/Communication>
- Dewey, J. (1938). *Experience and education*. New York, NY: Collier/Macmillan.
- Epstein, J. L. (1995). School/family/community partnerships: Caring for the children we share. *Phi Delta Kappan*, 76(9), 701-712.
- Epstein, J. L. (2010). School/family/community partnerships: Caring for the children we share. *Phi Delta Kappan*, 92(3), 81-96.
- Fight for old style math, group urges. (2011, November 29). *CBC News*. Retrieved on December 6, 2011 from: <http://www.cbc.ca/news/canada/saskatchewan/story/2011/11/29/sk-mb-math-education-follow-up-111129.html>
- Freeman, M., deMarrais, K., Preissle, J., Roulston, K., & St. Pierre, E. (2007). Standards of evidence in qualitative research: An incitement to discourse. *Educational Researcher*, 30, (1), 25-32.
- Gall, M.D., Gall, J.P., & Borg, W. R. (Ed.). (2007). *Educational research: An introduction (8<sup>th</sup> ed.)*. Toronto, ON: Allyn & Bacon.
- Gonzalez, N., Andrade, R., Civil, M., & Moll, L. (2001). Bridging funds of distributed knowledge: Creating zones of practices in mathematics. *Journal of Education for Students Placed at Risk*, 6(1&2), 115-132
- Graue, E., & Brown, C. (2003). Preservice teachers' notions of families and schooling. *Teacher and Teacher Education*, 19, 719-735  
doi: 10. 1016/j.tate.2003.06.002
- Grumet, M. (2009). Commentary: The politics of curriculum creativity. *LEARNing Landscapes*, 2(2), 25-30.
- Gunn Morris, V. & Izumi Taylor, S. (1998). Alleviating barriers to family involvement in education: The role of teacher education. *Teacher and Teacher Education* 14(2), 219-231.

- Hands, C. (2005). It's who you know and what you know: The process of creating partnerships between schools and communities. *The School Community Journal*, 15(2), 63-84.
- Hands, C. M. (2009). The evolution of trust relationships in school-community partnership development: From calculated risk-taking to unconditional faith. In L. Shumow (Ed.), *Promising practices for family and community involvement during high school* (pp. 53-69). Greenwich, CT: Information Age Publishing.
- Hands, C.M., & Hubbard, L. (2011). Understanding family and community inclusion and engagement. In C. M. Hands & L. Hubbard (Eds.), *Including families and communities in urban education*. Charlotte, NC: Information Age
- Hands, C.M., & Hubbard, L. (2011). Culminating remarks on family and community inclusion in urban education. In C. M. Hands & L. Hubbard (Eds.), *Including families and communities in urban education*. Charlotte, NC: Information Age
- Henderson, A. T., & Mapp, K. L. (2002). *A new wave of evidence: The impact of school, family, and community connections on student achievement*. Austin, TX: Southwest Educational Development Laboratory. (National Centre for Family & Community Connections with Schools). Retrieved on April 6 2010, from <http://www.sedl.org/connections/resources/introduction.pdf>
- Henderson, A. T., Mapp, K. L., Johnson, V. R., & Davies, D. (2007). *Beyond the bake sale: The essential guide to family-school partnerships*. New York, NY: The New Press.
- Hoover-Dempsey, K. V., Walker, J. M. T., Sandler, H. M., Whetsel, D., Green, C. L., Wilkins, A. S., & Closson, K. (2005). Why do parents become involved? Research findings and implications. *The Elementary School Journal*, 106(2), 105-131.
- Jeynes, W.H. (2005). A meta-analysis of the relation of parental involvement to urban elementary school student academic achievement. *Urban Education*, (40)3, 237-269.
- Jeynes, W.H. (2010). The salience of the subtle aspects of parental involvement and encouraging that involvement: implications for school-based programs. *Teachers College Record*, 112(3), 747-774.
- Kilpatrick, J. (2012). The new math as an international phenomenon. *ZDM Mathematics Education*, (Published online March 23, 2012)  
doi: 10.1007/s11858-012-0393-2
- Kumon*. (n.d.). Retrieved from <http://www.kumon.ca/>
- Lareau, A. (2000). *Home advantage: Social class and parental intervention in elementary education*, (2nd ed.) Lanham, MD: Rowman and Littlefield Publishers, Inc.



- Lawrence-Lightfoot, S. (2003). *The essential conversation: What parents and teachers can learn from each other*. New York, NY: Random House, Inc.
- Lehrer, R., & Shumow, L. (1997). Aligning the construction zones of parents and teachers for mathematics reform. *Cognition and Instruction*, 15(1), 41-83.
- Lopez, E., Kreider, H., & Caspe, M. (2004/2005). Co-constructing family Involvement. *The Evaluation Exchange*, X(4), 1-5. Retrieved from <http://www.hfrp.org/evaluation/the-evaluation-exchange/issue-archive/evaluating-family-involvement-programs/co-constructing-family-involvement>
- Lopez, G., & Stoelting, K. (2010) Disarticulating parent involvement in latino-impacted schools in the midwest. In M. Miller Marsh & T. Turner-Vorbeck (Ed.), *(Mis)Understanding Families: Learning from real families in our schools* (pp.19-36). New York, NY: Teachers College Press.
- Mapp, K. (2003) Having their say: Parents describe how and why they are involved in their children's education. *School Community Journal* 13(1), 35-64.
- Mathematically Correct*. (n.d.). Retrieved from <http://mathematicallycorrect.com/intro.htm#from>
- McAskill, B., Holmes, G., & Pelton, L. (2005, April 18). Consultation draft for the Common Curriculum Framework Kindergarten to Grade 9 Mathematics final analysis report. Victoria, BC.
- National Council of Teachers of Mathematics. (1989). *Curriculum and evaluation standards for school mathematics*. Reston, VA: NCTM.
- National Council of Teachers of Mathematics (1995). *Assessment Standards for school mathematics*. Reston, VA: NCTM.
- National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Reston, VA: NCTM.
- National Council of Teachers of Mathematics (2006). *Guiding principles for mathematics curriculum and assessment*. Reston, VA: NCTM.
- New math curriculum won't change, ministry says. (2012, May 11). *CBC News*. Retrieved on May 11, 2012 from: <http://www.cbc.ca/news/canada/saskatchewan/story/2012/05/11/sk-new-math-curriculum-120511.html>
- Noddings, N. (2005). *The challenge to care in schools: An alternative approach to education*. New York, NY: Teachers College Press.

- Noddings, N. (2009). Commentary: Responsibility. *LEARNing Landscapes*, 2(2), 17-23.
- Noguera, P. (2011, June 1). *Urban schools must start empowering – and stop blaming – parents*. Retrieved from In Motion Magazine website:  
[http://www.inmotionmagazine.com/er11/pn\\_compt.htm](http://www.inmotionmagazine.com/er11/pn_compt.htm)
- OECD. (2012), *Let's read them a story! The parent factor in education*, PISA, OECD Publishing.  
doi: 10.1787/9789264176232-en
- Peressini, D. (1998). The portrayal of parents in the school mathematics reform literature: Locating the context for parental involvement. *Journal for Research in Mathematics Education*, 29(5), 555-582.
- Pushor, D. (2001). *A storied photo album of parents' positioning and the landscape of schools*. Unpublished doctoral dissertation, University of Alberta, Edmonton, Alberta. Retrieved from  
<http://library.usask.ca/scripts/remote?URL=http://search.proquest.com/docview/304738646?accountid=14739>
- Pushor, D. (2007). Welcoming parents: Educators as guest hosts on school landscapes. *Education Canada*, 47(4), 6-11.
- Pushor, D. (2009). The situation of parents in the curricular commonplaces: A place of equal rank? *LEARNing Landscapes* 2(2), 139-153.
- Pushor, D. (2010a). Are schools doing enough to learn about families? In M. Miller Marsh & T. Turner-Vorbeck (Ed.), *(Mis)Understanding families: Learning from real families in our schools*. (pp.4-16). New York, NY: Teachers College Press.
- Pushor, D. (2010b). "Parent engagement in mathematics is just not possible." Or is it? *Vinculum: Journal of the Saskatchewan Mathematics Teachers' Society*, 2(1), 20-32.
- Pushor, D. (2011) Attending to milieu: Living a curriculum of parents alongside teacher candidates. In Kitchen, J., Ciuffetelli Parker, D. & Pushor, D (Ed.), *Narrative inquiries into curriculum making in teacher education*. (pp. 217-237). Bingley, UK: Emerald Group Publishing Limited.
- Pushor, D., & Murphy, B. (2004). Parent marginalization, marginalized parents: Creating a place for parents on the school landscape. *Alberta Journal of Educational Research*, 50(3), 221-235.
- Pushor, D., Ruitenber, C., with co-researchers from Princess Alexandra Community School. (2005). *Parent engagement and leadership*. (Project #134). Saskatoon, Canada: Dr. Stirling McDowell Foundation for Research into Teaching.

- Redding, S., Langdon, J., Meyer, J., & Sheley, P. (2004). The effects of comprehensive parent engagement on student learning outcomes. *Harvard Family Research Project*. Retrieved from <http://www.hfrp.org/publications-resources/browse-our-publications/the-effects-of-comprehensive-parent-engagement-on-student-learning-outcomes>
- Restivo, S., & Sloan, D. (2007). The sturm und drang of mathematics: Casualties, consequences, and contingencies in the math wars. *Philosophy of Mathematics Education Journal*, 20. Retrieved from: <http://people.exeter.ac.uk/PErnest/pome20/>.
- Reynolds, C. (2012, March 19). Have you finished your homework, Mom? *MacLean's*, 125(10), 44-47.
- Russell, G., & Chernoff, E. (in press). *The marginalization of Indigenous students within school mathematics and the math wars: Seeking resolutions within ethical spaces*. Manuscript submitted for publication.
- Saskatchewan Ministry of Education. (2008). *Saskatchewan Mathematics Curriculum 8*.
- Saskatchewan Ministry of Education. (n.d.). *Why First Nations and Métis education is a priority for the government*. Retrieved from the Saskatchewan Ministry of Education website: <http://www.education.gov.sk.ca/Default.aspx?DN=569d7901-be99-4b2b-a68d-36b3cfa63f52>.
- Schoenfeld, A. H. (2004). The math wars. *Educational Policy*, 18(1), 253-286.
- Schoen, H. L., Fey, J. T., Hirsch, C. R., & Coxford, A. F. (1999). Issues and options in the math wars. *Phi Delta Kappan*, 80(6), pp. 444 – 453.
- Schwab, J. J. (1973). The practical 3: Translation into curriculum. *The School Review*, 81(4), 501–522.
- Sheldon Cooper from the Big Bang Theory*. (n.d.). Retrieved May 26, 2012, from the Quotefully website: <http://www.quotefully.com/tvshow/The+Big+Bang+Theory/Sheldon+Cooper>
- Sheldon, S., Epstein, J., & Galindo, C. (2010). Not just numbers: Creating a partnership climate to improve math proficiency in schools. *Leadership and Policy in Schools*, 9(1), 27-48.
- Shumow, L., & Harris, W. (2000). Teachers' thinking about home-school relations in low-income urban communities. *School Community Journal*, 10, 9-24.
- Steiner, Frederick (2002) *Human ecology: Following nature's lead*. Washington, DC; Island Press.

- Swidler, A. (1986). Culture in action: Symbols and strategies. *American Sociological Review*, 51(2), 273-286.
- Van de Walle, J. & Folk, S. (2005). *Elementary and middle school mathematics: Teaching developmentally*. Toronto, ON: Pearson Education, Inc.
- Vatterott, C. (2009). *Rethinking homework: Best practices that support diverse needs*. Alexandria, VA: Association of Supervision and Curriculum Development.
- Vickers, M. (2006, June). Down for the count? *The Weekly Standard*, 012 (08). Retrieved from <http://www.nychold.com/art-wstd-061106.html>
- Waller, W. (1932). *The sociology of teaching*. New York, NY: John Wiley and Sons, Inc.
- Western Northern and Canadian Protocol. (May, 2006). *The Common Curriculum Framework for K-9 Mathematics*. Retrieved from <http://www.wncp.ca/english/subjectarea/mathematics/ccf.aspx>
- Wente, M. (2011, December 15) Why Alex can't add (or subtract, multiply or divide). *The Globe and Mail*. Retrieved from <http://www.theglobeandmail.com/commentary/why-alex-cant-add-or-subtract-multiply-or-divide/article4181017/>
- WISE Math*, (n.d.). Retrieved from <http://wisemath.org/>