

REFRAMING PARENTS’ CONCERNS OF MATH CURRICULUM CHANGE

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Our kids do not learn the basics anymore. I read through my son’s grade 3 math lessons and was appalled at the methods he uses for basic addition and subtraction.

What a bunch of garbage! They are not teaching our kids the basics. There is no memorization of the times tables. Ask a kid what 6x8 is and it will take them five minutes to come up with an answer.



Introduction

Why aren’t kids learning the basics anymore?

How would you respond? Would your response appease either of the parents quoted above?

Literature

The tug-of-war between “new math” and “back to the basics” has been replayed for over 80 years. Yet, efforts to communicate reforms and advantages to parents have largely failed. This failure leads to conflicting pedagogical agendas at school and at home, and to parental disengagement.

Yet, parents are critical partners in education (Remillard & Jackson, 2005); an “untapped resource for improving mathematics performance” (Hyde et al., 2006, p. 136). Parental involvement increases achievement, improves motivation, and reduces anxiety (Patall, Cooper & Robinson, 2008).

Unless parent concerns are more clearly understood and addressed—rather than dismissed as naive and uninformed—the tug-of-war will continue, leaving children caught in the middle.

We seek to refrain from continuing to create deficit frameworks of parent involvement and see parents as important resources and partners in education (Civil & Bernier, 2006; Lightfoot, 2004).



Research Questions

Our research is based on the premise that the starting place for effective communication begins with understanding parent perceptions of mathematics teaching and learning today.

In this study, we asked,
What are parents’ experiences with and perceptions of curriculum change?

What is the nature of their concerns with today’s mathematics teaching and learning?

The objectives for the study are to:

- Develop rich descriptions of the range of parent experiences in school mathematics.
- Develop categories of description of parent perceptions of learning, teaching and curriculum.
- Begin to identify ways to engage in productive conversation with parents.

Methodology

Phenomenography (Marton & Booth, 1997) provides a theoretical grounding to empirically develop a framework of categories to illustrate the range of participants’ perceptions of their experiences of a particular phenomenon.

Data for this study consisted of online comments posted by readers to national newspaper articles in Canada from June 2013 to June 2014 describing the state of mathematics education.

Each post was treated as a unit of analysis. Through a comparative sorting process we identified two categories of description with subcategories. The categories delineated qualitatively different concerns expressed by the online responders.

Comments in which responders identified themselves as parents are used as exemplars in this phase of the study.

Results	
Categories of Description	Expressed Concerns
Students need the opportunity to reach expected goals : - Master basic computational skills - Problem solve - Be functionally numerate citizens - Understand mathematical principles - Develop intellectual discipline	<i>We were made to chant multiplication tables through most of grade 3. We were picked on and belittled in class if we could not instantly answered simple mental arithmetic questions. I hated it, but over 5 decades later I can do basic mental arithmetic quickly in my head.</i> <i>I’m a computer scientist and I did not memorize the multiplication table as a kid. I think in this day and age it’s much more important to teach kids to look at how they can solve these problems rather than memorizing the answer. Calculators are cheap, thinkers are not.</i> <i>My child (grade 4) had a multiplication math test a few weeks ago and each multiplication problem had to be solved using a different strategy. It was very cool to see him write out logical answers for each strategy.</i>
Essential supports must be in place for students to reach expected goals. - Teachers who can teach according to curriculum expectations - Teaching resources that are clear to parents and teachers - Ensure success without substantial extracurricular support	<i>I have 3 school aged children and the textbooks they bring home are badly written and the math baffling. ... My husband and I have spend long hours pouring over convoluted world problems from these texts trying to figure them out and both of us are University grads.</i> <i>I’ve heard from many parents who say they spend about a couple hours a night teaching their kids, and have had to give up other extracurriculars like sports or music. Other parents spend over \$1000 a month on Kumon and special phonics tutors. This is not an option open to all.</i>

Findings

Our findings allow us to lay aside the rhetoric of oppositional stances and highlight shared goals and necessary supports for children’s mathematics learning. The public’s expressed perceptions provide a starting place to begin engaging in purposeful conversation.

We recommend that parents’ perceptions of mathematics curriculum change and arithmetic learning be solicited in order to develop approaches to re-engaging parents with their children’s mathematical learning in schools.

Further research is needed to gain more in depth understanding of the unresolved differences such as the following quotes.

- The thing is that not everyone is going to be engineers or scientists. Thus, not everyone needs to have the complex deep understand of the underlying nature of the equations used.
- Let’s stop exposing our children to these unproven experiments in the classroom and get back in the business of teaching them math.

Future Research

In the next phase of this project we will collect data from parents through demographic questionnaires, focus groups and follow-up interviews. Our purpose is to understand differences in their personal experiences and in their concerns for their children’s mathematical learning.

References

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