

# Financial Literacy with Families: Opportunity and Hope

**Lorraine M. Baron**

*University of Hawai‘i at Mānoa*

*In this article, the author explores the link between citizens’ quantitative literacy abilities and their financial prosperity. The author applies a robust social justice research vision and a Freirean approach to describe personal flourishing within the context of numerical, mathematical, and financial literacy (NMFL) education. Four families participated in a weekly evening community program that was designed to inform them about NMFLs. Analysis of the interview data showed that participants described a sense of personal flourishing, gained confidence and skills, and felt financially empowered enough to teach/transfer that knowledge to their children. The author proposes a conceptual framework linking personal flourishing with NMFLs and suggests the framework be used to investigate and describe quantitative literacy and financial literacy in future empowering pedagogies research.*

**KEYWORDS:** community research, financial literacy, flourishing, quantitative literacy, social justice research

Numerical, mathematical and financial literacies (NMFLs) are pressing economic, social, and cultural challenges. For example, as Lusardi and Mitchell described (2011), international research shows that financial illiteracy is widespread. This lack of financial literacy is true in various countries, even “when financial markets are well developed as in Germany, the Netherlands, Sweden, Japan, Italy, New Zealand, and the United States, or when they are changing rapidly as in Russia” (p. 497). Moreover, a strong link has been shown between citizens’ basic numerical or mathematical abilities and their financial prosperity and civic engagement (Human Resources and Skills Development Canada [HRSD], 2012). Steen (2001) argued that Quantitative Literacy (QL), which includes personal finance and other mathematical expressions, is increasingly necessary for fully contributing citizens of tomorrow.

The problem of financial illiteracy can be particularly limiting for families who live in communities where there is a low median income, where unemployment is common, and where financial capability is low. For “members of marginalized and low-income groups, it is basic financial knowledge and skills—in addition to a meager subsistence level income—that prohibits their amassing the necessary savings to even consider investment options” (Ek-Udofia & Spotton Visano, 2012,

p. 5). Literacy (reading and writing) is most commonly targeted as an approach to provide spaces for empowerment for marginalized communities. When we can read and write, we can advocate for ourselves and participate more broadly in society. The work and scholarship of the Brazilian educationalist, theorist, and activist Paulo Freire has become the (international) model for *self*-empowering and transformative pedagogies through reading and writing (see, e.g., 1970/2000).

In this study, these same principles of self-empowering and transformation are applied for mathematical literacy. The Count On Yourself (COY) project applies ideas of self-empowerment through numerical, mathematical, and financial literacies. Count On Yourself provided a parallel program for adult and child numerical, mathematical, and financial literacies: while parents were involved in a financial literacy course, their children participated in a Math Camp led by pre-service teachers from a local university. The goal of the project was to provide the space for both adult and child participants to become more self-empowered with respect to mathematical and financial literacies. For the adults, this meant that they learned more about aspects of financial literacy that they could apply to their lives, and for the school-aged children, this involved participating in math camp activities that emphasized conceptual understanding of numbers, place value, fractions, decimals, money, and financial concepts. This initiative aimed to integrate research and practice and to address practical needs of an urban community.

Based on the COY project, a research project was designed to analyze how participants might express what they learned about financial literacy and what they felt were the greatest benefits from the program. One of the purposes of the study was to develop a conceptual framework linking personal flourishing (subsequently described) with numerical, mathematical, and financial literacies (NMFLs) and the participants' "voices" and to suggest that this framework could be used in future studies to investigate and describe work with communities with respect to NMFLs. Using an *in vivo* approach (see Andersen & Kragh, 2010), I applied a robust social justice research vision (Grant, 2012) to develop a framework for describing how participating families benefited from this financial and mathematical literacy project. Three primary questions guided the project:

1. How did the participating adults describe what they learned about financial literacy from the COY program?
2. How did this knowledge impact (or not) them and their families?
  - a. What did adult participants notice, understand, or come to believe?
  - b. How, if at all, did this impact their motivation and ability to act to improve their financial circumstances?
3. What were the features of the COY program that adult participants felt were most beneficial to them and to their families, and why?

## Numerical, Mathematical, and Financial Literacies and Community Needs

### *Why NMFLs?*

A review of the literature identified various definitions and meanings for mathematical literacy. Some used the idea of numeracy (using mathematics in the world) as parallel to that of literacy (using reading and writing in the world). Steen's (2001) definition of *quantitative literacy* became the most useful overarching definition of what it meant to be able to use number and mathematics in the world, and of its importance for fully participating in the democratic process. *Financial literacy* is considered, within Steen's definition of QL, one of the expressions of QL. Steen explained that we express our quantitative literacy when we enact our financial capabilities.

With respect to the word *numeracy*, I have also found that, in practical settings such as schools, numeracy is often used to mean "basic facts"; hence, for example, a numeracy course might be assigned to students who were deemed not to be able to do "real" or "important" or "serious" mathematics. The course would consist of an overly simplified curriculum. The idea of numeracy or quantitative literacy too often involved an oversimplification of the four operations of addition, subtraction, multiplication, and addition, and a focus on speed drills, rather than encompassing the broad and applicable notions as described by Steen (2001). For this reason, the word numeracy often fails to capture the essence of QL. Though the adult course in this project involved financial literacy, the children's program included concepts typically taught in the K–6 mathematics classrooms as well as ideas about money and finances. For this reason, I included the ideas of QL and renamed the focus of my project as numeracy, mathematics, and financial literacies. These competencies are linked to each other, as illustrated below.

### *Numeracy and its Link to Financial Literacy*

As defined by the HRSDB (2012), quantitative literacy or numeracy is "the knowledge and skills required to effectively manage mathematical demands" (p. 22). The HRSDB study addressed the objective of facilitating "the creation of opportunities for Canadians to acquire the learning, literacy and essential skills they need to participate in a knowledge-based economy and society" (p. iii). HRSDB found that approximately half of respondents (49%) scored only Level 1 or 2 [of 5 levels] on the numeracy proficiency scale. These low results are significant because numeracy and problem solving have been linked to financial prosperity and civic engagement (Behrman, Mitchell, Soo, & Bravo, 2010; HRSDB, 2012; Smith, McArdle, & Willis, 2010). Measures of financial capability, which included making ends meet, planning ahead, managing financial products, and financial knowledge

and decision-making, are disquieting. For example, more than half of the U.S. population has no rainy day fund, only one-third consistently pay the full monthly owing amount on their credit cards, and fewer than 40% could answer 4 or 5 [out of 5] fundamental financial literacy questions correctly (FINRA Investor Education Foundation, 2013). Similarly, a Canadian report (Statistics Canada, 2008) found that 49% of all adults say they do not engage in basic household budgeting (57% between the ages of 18 and 29 do not have a budget, while 47% between the ages of 60 and 69 do not maintain one).

### *Financial Literacy and Civic Engagement*

Innumeracy, or “an inability to deal comfortably with the fundamental notions of number and chance, plagues far too many otherwise knowledgeable citizens” (Paulos, 2001, pp. 3–4). Numeracy was determined by Smith and colleagues (2010) to be “by far the most predictive of wealth among all cognitive variables” (p. 18). In short, mathematical literacy has an impact on an individual’s financial health and prosperity. Behrman and colleagues (2010) worked to isolate the causal effect of financial literacy on wealth accumulation and found that, compared to other variables, wealth accumulation was dependent on financial understanding and skills more than any other variable. In these studies, an understanding of mathematics and finances early in life was found to have a significant impact on a person’s wealth.

There is substantial evidence that financial literacy programs “can make an important contribution to the well-being of vulnerable groups” (McFayden, 2012, p. 1). Gutstein (2006) wrote, “reading the mathematical word is equivalent to developing mathematical power” (p. 29); he claimed that opportunities to learn, access, and equity all demand that historical marginalized groups get the chance to develop the tools for mathematical empowerment (p. 30). This study engaged grassroots community resources to support NMFLs and applied a qualitative research approach for the purpose of improving awareness, access, and the quality of programs available to the participating school community.

### *The Community and Its Needs*

The elementary school in which this project took place is one of three elementary schools in a smaller, urban community (population 28,000) within a larger city (population 115,000). The larger city’s main activities include tourism, agriculture, light industry, forestry, manufacturing, and the high tech industry. The school is considered a community school, which means that it serves as a space for local community events on weekends and evenings as agreed to by the city council and the school board. This smaller urban center is generally perceived as a lower-socioeconomic region and a “less desirable” location. Compared to the larger surrounding city, this small urban center has the lowest median income, the highest

unemployment and underemployment rates, the highest number of single parent families, the highest number of rental properties, the highest number of social assistance recipients, the highest number of drug-related arrests, and the highest number of visible minorities. Despite these statistics, this community also has high family values and a proud community history. Though others may perceive this smaller urban community as less desirable, its residents exhibit a sense of pride and cohesiveness, as has been demonstrated regularly through community events and publications.

Leonard (1984) characterizes marginalized people as remaining “outside the major arena of capitalist productive and reproductive activity” (p. 181). Because of the indicators of low socio-economics and because of its location outside the newer town center, the citizens of this smaller urban center have less access and information about free financial or educational programs, or other forms of social assistance that might be available in the newer and larger town center. The needs of this urban community determined the setting for this study.

At the time of the study, the school principal had been an administrator in the community for over 20 years and was well trusted by the community and parent council. The schools in which this principal worked had historically poor academic performance, a prevalence of large numbers of both low- and high-incidence special needs students, and a high rating on an index measuring early childhood vulnerability. Data indicated that students from these schools had poor achievement in intermediate grades, and were less likely to graduate than their peers (British Columbia Ministry of Education, 2006). The principal was a colleague and our professional relationship was based on the fact that I had supported K–12 teachers in a district role as a mathematics consultant for over a decade. Knowing this particular principal’s history of working with the most marginalized communities in our school district, I consulted with her regarding which school community might benefit from a financial literacy and math camp project such as COY. Because she was highly trusted and a consistent and dedicated member of the community, and I had been a support for the school and district, the Parent Advisory Council of the school was quick to approve the program and the research.

The project was announced at a community forum, and four families chose to participate in the COY quantitative and financial literacy program. Though all members of the school community were invited to participate, it was fortunate that a fairly small group signed up for the first iteration of this program. A trusting environment could be more readily built with a small group. During the progression of the program, more families and other school communities became interested in COY. It had been expected that the program would be repeated, either in the same location, or at another school in the community. A nearby school had requested the program be provided for them in the following school year.

The participants determined the definition of “family” in this study. Though some families may have been more traditional (e.g., mother, father, two children, etc.), the participants defined others. This distinction is important because a mother had asked for her fiancé to participate even though he did not live in the community. This “family” was formed from blending the mother’s two children from previous relationships with the father’s two children from a previous marriage and a shared child on the way. Furthermore, in other cases, the fathers did not participate in the project, and in one case, neither did the children. It was important to be inclusive of all who wished to participate. The composition of the families and some demographics are provided in Table 1.

*Table 1*  
**Participating Families**

<b>Family Description</b>	<b>Mother</b>	<b>Father</b>
Mother and Father (family of four); two participating children in grades 4 and 5	<b>Valerie:</b> 35-year-old mother of two; works at a financial institution	<b>Brent:</b> 43-year-old with teacher training/unemployed father of two; husband of Valerie
Mother and Fiancé (family of six), four children plus one on the way, (combined family: two from Ema, two from Phil); one of Phil’s children participating in grade 2, the other three not yet in elementary school	<b>Ema:</b> 29-year-old mother; Ema works as an office assistant; during the course, she was pregnant with a fifth child on the way from this combined family.	<b>Phil:</b> 42-year-old father occasionally employed as a heavy equipment operator; father of same children and fiancé of Ema
Mother and three children (family of five), grade 1 and grade 6 child participating, (third 8th grade child served as a babysitter)	<b>Anna:</b> 41-year-old married mother of 3 children; home business owner; married to tradesman	Husband not participating in COY
Mother (family of four); husband and children not participating in COY)	<b>Carolyn:</b> 42-year-old married mother of two boys; works outside of home for family business; married to business owner	Husband not participating in COY

## Theoretical Framework

This study utilized the in vivo approach to build theory (as described in Andersen & Kragh, 2010). According to Andersen and Kragh, the theoretical framework of a project is evolving and acts as a mechanism for understanding the empirical data. As Dubois and Gadde (2002, see also 2014) described, this approach involves systematic combining and the creation of a tight and emerging framework where an overriding theoretical stance is initially claimed, and subse-

quently used to frame and reframe the findings throughout data collection, analysis, and then re-combining of theoretical ideas. Dubois and Gadde explained that newly developed research frameworks are formed by critically evaluating emerging constructs against ongoing observations. The theoretical framework subsequently evolves during the study. As Dubois and Gadde explained, the “framework is successively modified, partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process” (p. 559). The goal is to develop a theory that demonstrates both novelty and continuity; it must be connected to existing theory and literature and seek to resolve paradoxes, but differ from it as the researcher’s attention turns to unexpected data.

### *Critical Theory*

As Burrell and Morgan (1979) explained, social sciences researchers “cannot operate in more than one paradigm at any given point in time” (p. 25). I designed my study with a critical theory perspective as a foundation with the goal of providing the space for a marginalized group to “become critically aware of their ‘true’ situation, intervene in its reality, and take charge of their destiny” (Stinson & Bullock, 2012, p. 1166).

Freire (see, e.g., 1970/2000) wrote about the fallacy of teaching the technical skills of reading as disconnected from social and political contexts. Freire immersed himself in the community, spending time with them, “learning himself the words that are important to the people” (Crotty, 1998, p. 148). He also believed in dialogue, explaining that the “oppressed cannot be liberated without their reflective participation in the act of liberation” (p. 155). Similarly, McLaren (2007) claimed, “any genuine pedagogical practice demands a commitment to social transformation in solidarity with subordinated and marginalized groups” (p. 189). With these ideas in mind, I immersed myself as a participant in the adult’s financial literacy course, inviting the discourse and active participation of the adults in the program.

Leonardo (2004) argued that critical theorists must confront inequality and come “to terms with social arrangements that create social disparities” (p. 13). Critical mathematics education enables learners “to use mathematics as a tool for social critique and personal empowerment... for the purpose of transforming one’s place within [the] world” (Appelbaum, 2009, p. 194). According to Grant (2012), a number of core practices are essential to achieve a robust social justice vision of education. Here, I apply those practices to educational research.

To begin, the researcher’s beliefs and values with respect to research must be critically examined. Kemmis and McTaggart (2005) contended that it would be naive to argue that the facilitator is completely equal as a coparticipant in the group; however, the facilitator can engage as a coparticipant with “some special expertise that may be helpful to the group in its endeavors” (p. 594). They maintained that the facilitator should not be seen as overriding, but rather “as someone aiming to estab-

lish or support a collaborative enterprise in which people can engage in exploratory action” (p. 595). In this study, I kept my role and my voice in balance (or, at least made great efforts to do so) and critically, intentionally, and regularly reflected on my own influence upon the group. I participated in the adult financial literacy course, sitting among the participants, and sometimes (but rarely) asking questions of the facilitator. Though I had clearly been the organizer of the project, I was also a learner. I was careful not to participate in a way that would limit the other voices. I consistently reflected on my involvement as I worked to facilitate the overall program.

In qualitative studies, research validity is often associated with the development of ethical relationships between participants and the researcher. The reason for this focus on ethics is that more credible data can be collected if the study has been designed to establish a trusting climate. Guba and Lincoln (2005) deepened this idea by asserting that “the way in which we know is most assuredly tied up with both what we know and our relationships with our research participants” (p. 209). The researcher’s persona and experiences also have an effect on trust and authority; in this case, participants may have been more accepting of me because of my previous work in the community, or because the school’s principal was trusted and also trusted me to take on this work. The study reflected a significant amount of catalytic validity: “validity [that] points to the degree to which research moves those it studies to understand the world and the way it is shaped in order for them to transform it” (attributed to P. Lather in Kincheloe & McLaren, 2005, p. 324).

From this perspective of praxis (i.e., a continuous cycle of reflection and action; see, e.g., Freire, 1970/2000), this study sought to deepen participants’ “understanding of society [leading] to engagement in social movements, at whatever level people are capable of participating given the daily struggles for survival” (Gutstein, 2006, p. 25). Gutstein (2006) viewed “writing the world with mathematics as a developmental process, of beginning to see oneself capable of making change, and...developing a sense of social agency (gradual growth)” (p. 27). The COY project sought to identify how participants described their gradual growth of understanding and engagement with mathematical and financial literacies.

### *Theme and Theory Development*

As described in the *in vivo* approach to theory building, one immerses oneself into the data; in this case, the voices of the participants, and their collective ideas, and as data themes emerge and questions arise, other relevant theoretical frameworks may be called upon. Though I remained open to multiple themes “emerging” from the data, two research perspectives seemed appropriate as tools to make sense of the data. The two perspectives, Grant’s (2012) personal flourishing and Steen’s (2001) quantitative literacy, assisted in adjusting and refining the data themes.



*Personal flourishing.* Grant (2012) proposed how to practice and cultivate a more robust social justice vision of education and argued for a democratic education for what he described as a flourishing and whole life. Brighthouse (2006) and Grant (2012) described how, in order to make meaning and sense of important aspects of their lives, individuals should experience personal flourishing and personal autonomy. This meant that they must develop the confidence and skills to contribute to society and to the (broadly defined) economy, democratic competency, and the facility and desire for cooperation (Grant, 2012). According to Grant, personal flourishing also includes living and doing well, having a positive identity, having family and friends as support mechanisms, financial stability, education, and a commitment to children's flourishing minds. People who flourish experience the opposite of languishing, yearning for more, or feelings of being stuck in a rut (Keyes & Lopez, 2002).

*Quantitative literacy.* Steen (2001) studied various international documents describing what it meant to be "numerate" and found some commonalities he called Elements. He also described that one could look at quantitative literacy in terms of actions and how one expresses QL. He called these Expressions of QL. Steen's Elements and Expressions of QL are listed in Table 2.

*Table 2*  
**Elements and Expressions of Quantitative Literacy**

Elements and Expressions	Steen's (2001) List
Elements of QL	confidence with mathematics, cultural appreciation, interpreting data, logical thinking, making decisions, mathematics in context, number sense, practical skills, prerequisite knowledge, and symbol sense
Expressions of QL	citizenship, culture, education, professions, personal finance, personal health, management, and work

Steen (2001) described elements and expressions of QL that included confidence with mathematics, being able to use mathematics in context, expressing quantitative literacy through citizenship (e.g., understanding data, projections, inferences, etc.), the application of mathematics in one's educational trajectory, the application of quantitative literacy in one's personal finance and management, and the ability to make quantitative decisions with respect to one's personal health (e.g., options, dosages, risks, nutrition and exercise data, etc.). Steen described personal finance as an expression of quantitative literacy that is "probably the most common context in which ordinary people are faced with sophisticated quantitative issues" (p. 13). He also argued that it is "an area greatly neglected in the traditional academic track of the mathematics curriculum" (p. 13). Quantitative literacy "empow-

ers people by giving them tools to think for themselves, to ask intelligent questions of experts, and to confront authority confidently [...]... skills required to thrive in the modern world” (p. 2). Steen’s description of QL is broad, powerful, and matched some of the other literature on teaching for social justice (e.g., Grant, 2012).

## Methods

### *The Adult’s Financial Literacy Curriculum*

I designed and led this research project; however, it resulted from the collaborative efforts of several groups including the faculty members from the local university and employees and volunteers of four non-profit community partners. The adults’ Financial Literacy course was facilitated free of charge by an accredited Chief Executive Officer of a local financial advising and management company who also participated in non-profit work and whose personal mission was to offer free advice and programs for the citizens of the city, in particular, marginalized groups and individuals. The course was based on *Momentum* (see Table 3), a curriculum that was developed in Calgary, Canada (Momentun Community Economic Development Society, 2010). Though a curriculum plan structure was in place, the Financial Literacy facilitator organized the adult learning according to feedback received from participants during every session. During the first session of the course, the facilitator provided each participant with a binder of the course content (provided at no cost) and described the overall structure (see Table 3). He asked participants which areas were of most interest to them, and which were of least interest. He explained that he would attend to all the areas generally, but was happy to address those areas of greatest interest. Adjustments were made over the following eight sessions depending on the financial interests of the participants.

In the first session of the course, participants were engaged in describing their assets. This exercise is an important starting point because one’s assets not only include financial ones, but also human assets, such as one’s skills and experience, physical assets, such as housing, food, clothing and transportation, personal assets such as motivation, self-confidence, or sense of humor, and social assets such as the support one has from family and friends. This broad perspective of assets is an example of how the course materials and the facilitator showed participants to value what they have—a competency model rather than a deficit model. If participants originally felt they did not have assets, this part of the course dispelled those beliefs and created a strong base and place of trust for future discussions about credit, budgeting, consumerism, and banking.

*Table 3*  
**Momentum (2010): Financial Literacy Curriculum**

Topic	Content
Assets	Participants set short- and long-term goals for five types of assets (human, personal, social, physical, and financial).
Credit	Participants learned to take charge of their credit. They developed an awareness and understanding of the advantages and disadvantages of credit, using it wisely, and about consumer credit tools available to them.
Budgeting	Participants learned the difference between needs and wants, which is a critical step in setting a realistic budget and being able to follow it. They identified and tracked their spending habits over a one-week period and they used this information to build a budget that was reasonable for them. Then, they set short- and long-term goals for saving or paying off debt.
Consumerism	Participants uncovered the effects of consumerism on their lives and aspects of advertising that threatened their financial stability. They discussed and worked on their ability to control their consumeristic tendencies, and developed strategies to live more simply.
Banking	Participants learned about banking account options and the benefits of each. They discussed how to use banking services and how to access banking tools and resources.

### *The Children's Math Camp*

The COY project provided access to one-on-one, needs-based teaching during the Math Camp for children involved in the project. The four Math Camp leaders had been students in my Elementary Mathematics Methods course for one semester. They were at the end of a 2-year program for licensure and on practicum in the field full-time when they volunteered to participate as Math Camp leaders to build on their “capstone project” (required for graduation) through service-learning activities. It was not necessary for them to engage in such a complex and time-consuming plan for the completion of their capstone project; however, as I had introduced them to my research idea during our coursework, they became committed to completing the COY project with me. The design of the course was left up to them; however, I assisted by providing some extra curricula and activities materials.

The Math Camp leaders assigned themselves to individual children, prior to the sessions beginning, according to their grade-level teaching interests (each participating child was in a different grade in school), and planned each session according to the child's needs, desires, and interests. Early in the program, the Math Camp leaders planned “icebreakers” and “climate builders.” They surveyed the children to find out what they enjoyed, how they felt about math, what they liked to eat, what they were allergic to, and more. This knowledge of the child helped them

tailor the session to each child's preferences. The evening sessions included nutrition and physical activity breaks, with some time together, but with most of their time dedicated to the children with whom they had planned to work. Most of the time early on in the Math Camp was spent on mathematical content chosen for the child's grade level. However, because the children asked about what their parents were learning and showed an authentic interest in why their parents were participating in the COY project, the Math Camp leaders decided to introduce financial literacy at the child's level—linking the content of the children's learning with that of their parents in the parallel sessions.

For the last half of the 8 weeks, financial literacy for children became a large part of the focus during Math Camp. Overall, the content of the Math Camp included games, lessons, and activities based on numbers, place value, fractions, decimals, money, and financial concepts. A series of children's books on financial literacy were provided (e.g., Phillips, 2010) as well as adult and teen financial literacy books (e.g., Vaz-Oxlade, 2010). They closed the program on the last day by spending their budgeted play money at a "store" set up by the Math Camp leaders. This activity was a highlight for the children in the program.

The program consisted of eight meetings on Wednesday evenings in the school's library. If a family chose to participate, it was important that they be able to attend all sessions, and so, the principal and I worked with the participants to make sure the Wednesdays scheduled for the Financial Literacy course were feasible for all who intended on participating. A meal and refreshments was available for participating adults and children. Funds for purchasing and preparing meals were raised by a group of college students from a local institution. The families met in the school library, and the school-aged children were taken to the multi-purpose room. Pre-school-aged children attended a child-care service provided free of charge in a small classroom in the school.

#### *Data Collection and Procedures*

The proceedings of the adult financial literacy course were digitally recorded, as were individual pre- and post-interviews. Adults were individually asked three questions at the beginning of the program in an informal interview setting that was selected by each participant (either at their homes, in the school, or at a coffee shop). They were asked six questions at the end of the program. These were digitally audio-recorded. Each participating adult was interviewed for approximately 35 minutes at the beginning and at the end of the program. Adults were also asked to complete a Financial Literacy Program Exit Survey (Canadian Centre for Financial Literacy, 2013) near the end of the program (see Appendix A<sup>1</sup>).

---

<sup>1</sup> See Prosper Canada at <http://prospercanada.org>.

The semi-structured interview questions asked early in the program (pre-survey) dealt with the perceived quantitative needs for the families involved and the immediate community, the kind of mathematical learning and support the participants would find useful, and the predicted benefits of the program. The participants, in their pre-survey interviews, clarified the definition of the community; they referred to the small urban center as their community and described the needs of that community with respect to mathematical and financial needs.

Near the end of the program, questions were asked (post-survey) about what kind of support was most helpful; what were the benefits and disadvantages of the COY project; and which specific teaching strategies, advice, structures, or “technologies” were believed to be of most benefit (see Appendix B). Though the interviews were semi-structured, I often allowed the participants to lead the conversation towards whatever topics on which they felt they wanted to comment. Similarly, the facilitator of the FL course also allowed for divergent conversations. This flexibility in data collection resulted in data that reflected more closely the participants’ perspectives on the COY project. All of these data were used, along with the literature, to generate themes for the study, and to answer the research questions.

#### *Data Coding and Analysis*

I attended to the transcription of the audio-recorded data within a week of each session to best reflect the conversations. As I coded the data, I selected five themes (or categories) to organize the data. I gradually deepened my knowledge of the key concepts that arose, and continually related them back to both Grant’s (2012) and Steen’s (2001) theories to refine the categories, keeping in mind that some data may not fit.

Initially, I merged Grant’s (2012) and Steen’s (2001) work to create a proposed conceptual framework that linked personal flourishing with quantitative literacy. This proposed theoretical framing acted as a lens through which I re-analyzed the data. Acknowledging the reciprocity of theory informing data analysis and data analysis informing theory, I engaged in a back-and-forth process that allowed me to initially analyze the data using this initial framework.

After transcription and multiple readings of the text, I coded and classified the data into initial themes that addressed the research questions and also corresponded well with Grant’s (2012) ideas of flourishing lives and with some of Steen’s (2001) elements or expressions of quantitative literacy. Using the initial framework, I concluded that participants made sense of financial literacy within the context of their lives, and they gained personal financial knowledge. Participants also seemed to describe themselves as more confident and able to engage in financial matters. They produced budgets and attended to them, and they engaged more in financial matters through their banks and other financial institutions. They not only described themselves as learners but also as impacting their children and families.

Nonetheless, using this original framework, I found that some themes did not accurately describe what it seemed Grant (2012) and Steen (2001) had originally intended. I also found that some data did not exactly fit. As a result, some responses were difficult to code, and some could have been included in more than one category. At this stage of the coding, I tightened the themes to better reflect the data. As described in Dubois and Gadde (2002), this is the stage when the analysis finally turned into a product, and there seemed to be “no confusing pieces left” (p. 558).

In many ways, the existing literature supported the five themes derived from the participants’ voices and collective ideas, providing a Framework for NMFL Educational Research (see Table 4). The first theme *Financial Knowledge* described what kinds of financial knowledge the participants felt they had learned during the COY program. When participants described how they made sense of or understood financial matters as they applied to their lives, their comments were coded under this theme. The second theme *Re-Imagining Self and Possibilities* involved the participants challenging their previously held beliefs and assumptions that they may have perceived held them back. Are they stuck in poverty? Are they alone in their financial struggle? Is there hope for the future? In this data theme, participants noticed the barriers that might have previously been invisible to them. It represents shifts in beliefs. This theme can also be thought of as connecting Grant’s (2012) ideas of positive identity with Steen’s (2001) description of confidence with mathematics.

The third theme *Taking Action* was used to code participants’ responses when they described specific actions they took to better their financial situations. In theme two, they may have expressed agency, but in theme three, those beliefs about agency have now been realized through action. The participants had done something for themselves that represented the actualization of those beliefs they may have described. When the participants acted, they engaged in society, and this action, though not completely equivalent, can be related to Grant’s (2012) ideas of contributing to society and Steen’s (2001) comments on citizenship.

The fourth theme, which I called *Impact on Family*, is perhaps the most significant. This theme was used to code instances when the adult participants described changes through the empowerment of their children and the agency they felt in how they could impact their children’s financial futures. This newfound sense of self-empowerment created a shift in possibilities for future generations, and provided hope for the future of their children’s financial lives.

Finally, I created a fifth theme *Features of the COY Program* to describe the technical and structural features of the project that participants described as helpful or productive which did not necessarily fit in the four previous themes. By describing the structures used while implementing COY, this theme calls upon the critical theorist’s perspective supported by the literature on re-imagining schooling (see, e.g., McLaren, 2007; Stinson & Bullock, 2012). The Findings section discusses the

five resulting themes that were supported by the initial theoretical perspective and best organized the data collected.

*Table 4*  
**Framework for NMFL Educational Research**

<b>Theme</b>	<b>Description</b>
1. Financial Knowledge	Data were coded this way when participants indicated a shift in financial knowledge or skills or described their financial knowledge.
2. Re-Imagining Self and Possibilities	Data were coded this way when participants examined their assumptions and either realized that things should change, that things could change, or that they were not alone in the struggle for change. This theme represented a shift in beliefs about what was possible and about their agency.
3. Taking Action	Data were coded in this category when participants felt so strongly about the possibilities for change that they took action. These shifting practices were realizations of their beliefs about their agency.
4. Impact on Family	Data were coded in this theme when participants described the impact of the COY project on their relationships with other members of their family, including their ability to communicate with their children and impact their children's financial futures.
5. Features of the COY Program	This final theme included data that described how and why the structures of the COY program were beneficial.

## Findings

This study sought to discover what financial knowledge was gained through the Count On Yourself program and how this understanding impacted (or not) adult participants and their families. Did new understandings lead them to take action with respect to their financial lives? How did COY impact their families, and what did they feel were its most beneficial features? In the following data sections, the findings are described to express the voices of the participants directly as quotes from the data recordings. Some of the responses from exit survey questions are also provided to support the themes when appropriate. Only survey questions where the participants' responses were consistent were reported here (e.g., they all agreed or disagreed) because this showed a strong commitment by the participants to the ide-

as presented in the survey. (A summary of the exit survey results can be found in Appendix C.)

### *Theme 1 – Financial Knowledge*

For this theme, participants made meaning and sense of financial aspects of their lives in context. This theme describes adults who have the practical skills, knowledge, and ability to solve authentic problems in real contexts. They can appreciate, understand, and interpret financial information in their worlds. Participants described their financial knowledge and, therefore, the potential for better financial stability. This theme describes adults who have the personal financial skills, understanding, and knowledge to manage their world.

To confirm the notion that participants felt they had the skills to manage their worlds, three exit survey questions are described here. Survey question 8 “What do you currently do to manage your money?” had a number of parts that included, for example: “(a) Pay my bills on time (b) Make sure that my spending isn’t more than my income each month, and (f) Pay my debt, when I owe money” (Exit Survey Questions). The manner in which the question was asked made it difficult to tell if the participants were reporting on what they learned from the course or simply what they knew and had practiced all along. Nevertheless, these data indicate a level of confidence with respect to healthy financial knowledge and habits. For these survey questions, all participants agreed that they usually or always paid their bills on time (3 of 6 marked “usually,” while 3 of 6 selected “always”), that they made sure that their spending isn’t more than their income each month (all six marked “usually”), and that they paid their debt when they owed money (5 of 6 marked “usually,” while 1 of 6 selected “always”).

Survey question 7 also dealt with confidence. Similarly, it is difficult to tell whether the participants’ knowledge was a result of the course or whether the course improved their confidence. However, because the question represents knowledge and understanding, it is included here. The survey item asked: “Tell us how you feel now about managing your money”; part (e) stated, “I feel that I will improve my financial situation” (Exit Survey Questions). For this survey item, all but one participant reported that they always (3 of 6) or usually (2 of 6) felt that they would improve their financial situation. Only one participant reported that they sometimes felt that way.

Brent described his place in the larger picture of consumerism (one of the topics in the *Momentum* curriculum). He understood and interpreted consumerism in his world:

Consumerism, everything that you see out there is an ad. You are bombarded on television, media, print, advertising: “You deserve it, it’s about you! You’re entitled to this. You’ve worked hard. Enjoy it! Spend it! Here’s a way that we can make it more af-



fordable to you.” People are sucked into this, and they are really not aware of it until it’s too late, and that’s for me, what I think this community, city, province, country, nation, I’m not going to say the world, it’s North America that’s got the problem. (Brent’s Post-Interview)

An open-ended survey question brought richer data for this theme in that it delved more deeply into the practical and meaningful knowledge and information the participants took from the financial literacy course, including *Momentum’s* Budgeting, Credit, Banking, and Assets course topics. Survey question 1 asked: “What are the most important and useful things that you learned from this program?” Valerie listed: “tools for handling/managing our finances—budgeting and online resources, insight to ‘good’ credit and how the ratings work, and that there is more than one way to do things well with budgeting.” Brent listed: “the mystery of a credit score, how to find a credit score, understand it, and improve it, and how to fight consumerism!!” Ema described: “the importance of being in control of your finances and being aware and responsible about where it is going and what it is doing.” Phil added: “financial awareness, appreciating and seeking [out] community resources for information, and money management strategies.” Anna included: “I really liked learning about all the different existing accounts/services in our banking and credit system.” Carolyn listed: “budgeting, and to use many accounts.”

My researcher’s notes also revealed that, as an active learner in the financial literacy course, I had participated in learning and had made some personal gains with respect to financial knowledge. I made notes to discuss these questions and ideas further with my family. Through rich discussions during the sessions, we described various financial strategies, and we discussed and deepened our personal financial skills, understanding, and knowledge.

### *Theme 2 – Re-Imagining Self and Possibilities*

For this theme, participants described beliefs of agency and confidence. This theme depicts adults who noticed some of the assumptions they may have made about what was possible for them. The data described beliefs, values, or perspectives that described how participants felt empowered enough to make changes in their lives with respect to their finances.

*Realization 1: I am not alone in my financial struggles.* During Anna’s post-interview, she referred to the financial literacy course sessions, everyone’s ability to give examples of their own financial experiences, and for others to empathize with them. The participants and facilitators were honest in their descriptions of their real life experiences:

I think that everybody was comfortable and confidential—it’s nice to hear other examples as well—you know you’re not by yourself. You learn from other people. The other members talk and you learn more. Stories that somebody else tried. It was nice.

Anna was expressing not only that she was making sense of her own financial contexts but also that the conversations during the COY project allowed her to understand and make sense of others' financial situations. Their successes and challenges were not different from hers.

*Realization 2: Hope for the future.* Valerie made a significant declaration during her post-interview as she considered the benefits of her participation. She articulated: "It's part of taking control, and giving yourself a future as opposed to just letting your future take control of you." This response demonstrated a healthy mindset and indicated a good level of confidence with respect to making a difference for herself in her financial life. During Valerie's post-interview, she described how she now felt that she had the ability to accomplish something of value:

I finally felt that I had hope for the future and less of a defeatist attitude, because of what we had learned, we can make as small or as big of a change as you want, and any change would be better than where we were at.

*Realization 3: General beliefs about their empowerment.* For Valerie, her child's success in mathematics in school was evidence of empowerment: "My child is doing very well in math and I think her opinion of math being more fun is what helped that. I truly believe that came from the time spent in the COY program." When asked how the program impacted them, both Phil and Brent individually described feeling empowered: "I felt enthusiasm, empowering...." Brent stated, "being more empowered."

Important information was revealed in one of the exit survey questions. Survey question 7 asked what participants felt comfortable doing: "Tell us how you feel now about managing your money: (c) I feel comfortable getting help with my money (examples: finding resources online, seeing a credit counselor, help with my taxes or talking to someone at the bank)" (Exit Survey Question). For this survey question, all participants reported that they always (1 of 6) or usually (5 of 6) felt comfortable seeking help for their financial situation.

### *Theme 3 – Taking Action*

For this theme, participants engaged in, participated in, and contributed through personal agency in society. This theme describes adults who take action on their beliefs. During Anna's post-interview, she described that participating in the COY program gave her the confidence to know that she should take action and what action to take, which, in her case, was to visit her credit union. She stated, "Now I have to do something and the program helped me and gave me confidence and gave me the idea to ask and to go to the credit union." During Carolyn's post-interview, she described how the COY program gave her the skills and understand-

ing to run her household budget as well as the family's business budget. She explained:

I got the financial support that I needed to start and maintain a budget. My household budget—I run my business budget as well. It will have an impact on my husband because I do run the household budget. It will have accountability impact on him. Instead of going with the flow, there will be more proactive planning involved.

Both Phil and Anna separately described situations where they took action for themselves: “There are different avenues that I am exploring. I have been to an investment group, and we are going to a mortgage broker and to a bank” (Phil's Post-Interview); “[I went to] find out about the bank and credit union. I went to a credit union workshop and I also participated in a financial group” (Anna's Post-Interview).

One of the exit survey questions addressed participants' actions. When asked: “What do you currently do to manage your money?: (h) Get help with my money (examples: filing taxes, financial advisor, credit help, credit counseling or using online tools and resources)” (Exit Survey Question), all participants (6 of 6) reported that they usually sought help. A second open-ended survey question brought richer data for this theme in that it delved more deeply into the specific actions the participants took as a result of their involvement in the financial literacy course. Survey question 16 asked: “Is there anything else that you have started doing to manage your money during this program?” All six of the participants added some of the steps they had taken as a result of participating in COY. Valerie listed: “opened an online budgeting tool, contacted credit card to lower interest rate, opened second account to keep bills separate, always making sure money is set aside, and opened savings account for *invariable* expenses as added to the budget.” Brent added, “started to use mint.com.” Ema stated, “consolidate my debt (asked my family to help me pay my credit card debt so I am not accruing more interest)”; and Phil added, “being more aware and talking to the right resources.” Anna said that she “called a credit card financial department, and tried to get a loan, but it didn't work out,” and Carolyn listed: “started proper monthly budget, wanting to do full financial overview!” All of the adults in the study showed that they had a newfound sense of agency to take whatever financial actions they felt were important.

#### *Theme 4 – Impact on Family*

In this theme, participants saw the COY program as impacting their families. This theme describes adults who take responsibility for children's flourishing minds. They are committed to developing children's habits of mind to help prepare them to become autonomous financial thinkers.

During Brent's post-interview, he worked to make sense of the impact of consumerism on his and his children's lives:

So, the COY program is chock full of ideas for us to apply with our kids; we talk to them about consumerism, and we'll use those moments in time as a teachable moment. What does this "buy now, pay later" for 12 months really mean? They say "you deserve this" but what's wrong with the widget we already have? It works—why do you need a new one? And you'll be happy for a little bit of time but then, you won't be happy any more, because you'll have to worry about paying it off!

Brent's expression was twofold. He not only expressed that he knew how to use his financial knowledge in real-life situations but also that he knew how to converse about it with his children. The first setting was as a consumer, and the second setting was as a parent.

Anna described how she gained the confidence to speak to her children about financial matters that were age-appropriate:

I was talking to the kids about the finances. Now I can ask the kids "can we afford" to have that. Before I was like OK... "No...we can't buy it" I always understood the concepts but it gives me a little bit more confidence in talking to the kids.

During Brent's post-interview, he described his parenting role as also the role of being a teacher for his children. He saw himself as a model of financial literacy for his children and described how the COY program equipped him with the necessary skills to make a difference with his children:

I've always believed that I'm not just raising my kids but I'm teaching my kids to be a good parent, so there's a responsibility and there are tools in the program that now I can use to explain finances to them.

During Ema's post-interview, she described the importance for her daughter to make the connection between education, schooling, mathematics in school, and financial skills:

My child was disappointed that it [COY] ended, which is huge for her because she hates school and anything to do with school. Math can be fun and can be incorporated into numeracy. [My daughter] now sees the connections to numbers in real life, not just about numbers.

Brent also described how the COY program and its facilitators helped them to become responsible for themselves as adults, and also for their children: "You've empowered us to become teachers, whether it is with our kids or with other people who are struggling and need some advice" (Brent's Post-Interview).

Two open-ended survey questions brought further data in support of this theme. Survey question 16 asked: “Is there anything else that you have started doing to manage your money during this program?” Valerie pointed to the fact that she and Brent had started including their kids in more financial conversations. Survey question 6 asked: “Would you recommend this program to someone else?” All respondents answered yes to this question. One respondent added: “I already have!” These responses indicate a group of adults who believe they, with the help of the COY program, can and have positively influenced their children and others in their community with respect to numerical, mathematical, and financial literacies (NMFLs).

### *Theme 5 – Features of the COY Program*

*Momentum curriculum.* One exit survey question supported this theme of making sense of NMFLs in context. Survey question 2 asked: “Feedback on what I learned: (b) I understand the information that we discussed.” Here, all participants agreed that they understood the information discussed in the financial literacy course. They either “agreed a lot” (5 of 6) or “agreed” (1 of 6). The point that all participants understood the level of materials in the financial literacy supports the use and appropriateness of the *Momentum* (2010) curriculum chosen for this COY research project for this particular group.

Survey Question 2 stated: “Feedback on what I learned: (c) I feel this program will change how I manage my money” (Exit Survey Questions). For this survey question, all participants agreed that they would change how they managed their money. They either “agreed a lot” (2 of 6) or “agreed” (4 of 6). From this question, it appears that all participants felt to some degree that they would change how they managed their money. These changes can be seen as indicators of newfound confidence with NMFLs.

*Safe environment.* This theme also shows evidence of the comfort level that was developed over the 8-week implementation period of the program. During informal conversations, other participants repeated Anna’s comment that everyone felt more comfortable as time went on. Trust was built over the course of the sessions in the group through the telling of personal stories, some of financial success, and others not. The focus group sessions (the adult financial literacy course sessions) became the space for building trust within this community group. The community aspect of the program, including eating meals together, learning together, parallel programs for children and adults, and the giving and philanthropic nature of the facilitators and contributors created a trusting space, and also seemed to assist in nurturing a sense of inter-responsibility between members of the group.

During Ema’s post-interview, she described a comfortable and healthy atmosphere during the program sessions due to everyone’s excitement at participating

and sharing their time. She described how that positive emotion translated into conversations she then had with her family as a result:

The researcher and facilitators were willing to be there, to be involved and share in personal experiences. It was obvious to everyone that you were excited about what you were doing and, because of your enthusiasm it's easier for us to be excited about it when we see your enthusiasm because we can see that it matters to us, and your ability to educate us, and to see the children all excited about learning? That's priceless! It looked awesome to my family, so I showed my daughter off to my mom.

Though the following quotes do not describe specific actions taken by the participants, they are the participants' comments about how they noted that others had taken social action with them in mind to deliver the COY program. When asked what was important about the COY program for the community, Carolyn noted that she noticed a form of social action by offering the program: "To make a program like this and integrate it into the community is fantastic" (Carolyn's Post-Interview). When asked what the community needed, Valerie added: "Learning to fight to learn; we need more *fight* in us to learn to equip ourselves, empowering ourselves to take charge" (Valerie's Post-Interview).

As I reviewed my notes about what participants had described as important features of the COY program, they said that they appreciated that the whole family had been taken care of, including their pre-school aged children. Moreover, they did not have to concern themselves with preparing dinner or such inconveniences as finding parking because their program had been brought directly to them in their community and at their school. They described a feeling of safety and familiarity in that environment. I could see, in part, what the COY program had achieved: to question who are the learners in schools, to re-imagine the role of the school, and to re-examine the role of curriculum.

## Discussion and Implications

Grant (2012) called for "tools that assess how well we are cultivating a flourishing life ... and the extent to which we are creating a caring, democratic community" (p. 927). Moreover, the Financial Literacy and Education Commission (FLEC, 2011) stated that it was "important that all individuals and families, including those of diverse and underserved populations, [be] aware of and have access to reliable, clear, timely, relevant and effective financial information and educational resources" (p. 8). The COY project is an example of a Freirean approach to numerical, mathematical, and financial literacies that attends to families and to a robust social justice vision. The five themes describe a new theoretical framework for describing NMFL research.

Urban families need catalysts that provide them opportunities to breach the barriers that stand in the way of them becoming more critically aware, developing agency to take action, and making shifts to impact their and their children's futures. If financial literacy programs are such vehicles, then it follows that continued work on projects such as COY are needed. The Framework for NMFL Educational Research suggested in Table 4 provides answers to the three research questions. The first theme addresses how the participating adults described what they learned about financial literacy. Themes 3, 4, and 5 describe how that knowledge impacted them and their families in terms of beliefs, actions, and the impact on their families; and the fifth theme addresses the last question that asked what were the features of the COY program that participants felt were most beneficial.

I suggest that the Framework for NMFL Educational Research can be used in future studies to investigate and describe participants' learning and beliefs about their transformation and their actions, as well as the important features of the NMFL program they experienced. The participants in this study described the learning that resulted from their participation in the Count On Yourself project, and their responses could be framed with respect to these five themes. It is yet to be determined, through future studies, how well this framework can be used to fully describe participants' learning. Further themes may need to be added or the themes clarified.

The *Momentum* (2010) curriculum was originally designed to develop knowledge and skills for people who are living on a low income or who are experiencing significant barriers in their lives. This curriculum, which includes knowledge of assets, taking charge of credit, budgeting strategies, effects of consumerism, and concepts of banking was designed to be very accessible, particularly for marginalized communities, and so that participants could learn to manage their finances more effectively. The FLEC (2011) indicated that unbiased and understandable financial education resources should be provided that included core financial competencies in plain-language and user-friendly information. All of the participants agreed that they understood the information discussed in the financial literacy course.

The FLEC (2011) also argued the importance of "increasing rigorous research and evaluation on financial literacy" (p. 11) for the purpose of better understanding how to establish effective programs and practices. In this article, I suggested a framework that can be used in community empowerment and financial literacy studies to investigate NMFL programs. The Framework for NMFL Educational Research (see Table 4) could also be used as a framework to elicit and track the important qualities, as described by the participants, that emerge from community programs that address these needs. The FLEC also sought to "identify customized programs that effectively address local needs, such as ... underserved communities" (p. 12). There are many factors that have impacted the results of this study,

including the user-friendly and relevant characteristics of the *Momentum* (2010) curriculum, the overall design of the program, the facilitation skills of those who worked with the participants, and the level of trust developed in the community. These factors address a possible re-imagined vision of the role that community schools can play. In this case, the school provided a space for a non-traditional curriculum and addressed complete families.

Furthermore, a key feature of the COY project was its inclusion of entire families that served to encourage family discussions around financial literacy. Recent literature (see, e.g., Research and Evaluation Committee: FLEC, 2015) on this matter suggests:

Parents and caregivers play an extremely influential role in the development of the financial capability of young people. This is done through imparting financial skills, knowledge, habits, and attitudes about what is normal and expected with regard to financial behavior. ... It is important to support parents' acquisition of financial knowledge, build their understanding of and confidence in their role as a financial mentor for their children, and provide strategies and guidance for supporting their children in developing effective financial skills and habits. (p. 300)

The COY program strove to meet this call.

Participants demonstrated their financial literacy by indicating that they were more successfully managing their money by paying their bills on time, making sure they did not spend more than they earned each month, and paying their debts when they owed money. They became more knowledgeable about credit scores, being more in control of finances, and budgeting. They considered the impact of consumerism, and learned about the various services that banks could provide. Participants also displayed more agency and self-confidence with finances. Being heard was essential. The practice of "letting research participants speak for themselves" (Guba & Lincoln, 2005, p. 209) allowed them the voice to tell me they felt empowered themselves, in their ability to speak to their children, and that their children also felt more numerically, mathematically, and financially empowered. All of the participants felt that the COY program would change how they managed their money.

Guba and Lincoln (2005) discussed the validity of a study as catalytic authenticity when the researcher creates capacity in participants for positive social change and forms of emancipatory community action. Grant (2012) also spoke of the researcher's ability to encourage social action. In this study, there is evidence that the participants appreciated the community aspect of the project, and took action by visiting banks and credit unions, investment groups, and mortgage brokers. They began budgeting processes online and using software, contacted credit companies to ask for a reduction in their interest rates, opened separate bank accounts to better keep track of their expenses, consolidated their debt, and applied for loans. The exit survey supported the findings and indicated that all of the participants not only felt



comfortable getting help, but also *did* get help with their finances. Taking action is powerful evidence of empowerment, and, there is evidence that the participants took action to improve their financial circumstances.

Perhaps the most significant result of this project was the belief from participants that they had influence upon their children. Though not all families participated as complete units, those who had children in the COY program felt more able to discuss their financial circumstances with their children when appropriate. All participants agreed that they found value in the program and would recommend it to someone else. The implications for this result is that programs such as Count On Yourself, that involve the whole family, might offer steps towards breaking cycles of poverty in communities in which they are implemented.

As I continue to consider Grant's (2012) vision, I am struck by his statement:

You learn about how the practice of democracy can be made to work for you or against you and that it is important that you understand the differences as well as you know what you can do to influence an outcome that befits those who are marginalized. (p. 925)

Grant's intent was to clarify what it means to practice democracy. I find that this statement is reflected both in my practice as a researcher and in the evidence that is produced from this study through the voices of the participants. I entered this work to make a difference and to provide a learning space for families who could participate more democratically in society because they chose to learn to be more numerically and financially literate. I have learned that I can make a difference, and they have learned that they can make a difference in their own life situations. This most certainly reflects Grant's "practice of democracy" (p. 925).

Approximately two years after the completion of the COY project I received the following email from Valerie:

*Both the girls have two bank accounts opened and an investment account too. They use the saving concepts they learned at COY with the cereal box piggy bank they made and are applying it to their bank accounts now. They each saved \$500 to start their investments and have watched it fluctuate with the markets. They love seeing how it has grown just by changing the type of account. They have applied their savings and spending accordingly. The funny thing is when they ask us why we are using our credit cards for purchasing!! So funny. They don't bring up COY all that often but it does creep back into our conversations at times.*

*Brent and I have fixed our bad credit and are now 'A' rated. Such a huge blessing. We haven't maintained all the principles we learned, just*

*the ones that work for us. The biggest change is that we do it all together and are on the same page. Our financial outlook is worlds better than when you met us.*

*I feel like we had the best of both worlds. We had a great experience with COY partnered with the exposure and help at [the bank where Valerie works]. I definitely think the program would be beneficial to families. It's a huge key missing from people's awareness with finances and we were offered practical tools. The best part was the lack of judgment associated with it. I valued that the most.*

*Another aspect was the networking. I have run into [name of course facilitators] a few times. In fact I interviewed with him for a job but had to decline as it was right when Brent had lost his job. We needed the stability that [my job] offered. However, I felt honored he thought of me for the position.*

*So I'll just wrap up by saying we are grateful for the experience. We would love to continue staying in touch and appreciate all the heart you pour into this project and the people. You are a gem!*

There is no better overall description of the benefits of this COY project. Through the research and its proposed research framework, Valerie's and others' voices can be heard.

### References

- Andersen, P. H., & Kragh, H. (2010). Sense and sensibility: Two approaches for using existing theory in theory-building qualitative research. *Industrial Marketing Management*, 39(1), 49–55.
- Appelbaum, P. (2009). Critical mathematics. In E. F. Provenzo Jr. & A. Baker Provenzo (Eds.), *Encyclopedia of the social and cultural foundations of education* (pp. 193–196). Thousand Oaks, CA: Sage.
- Behrman, J. R., Mitchell, O. S., Soo, C., & Bravo, D. (2010). Financial literacy, schooling, and wealth accumulation. In University of Pennsylvania Scholarly Commons (Ed.), *Population aging research center working papers* (pp. 1–42). Philadelphia, PA: University of Pennsylvania.
- Brighouse, H. (2006). *On education (thinking in action)*. New York, NY: Routledge.
- British Columbia Ministry of Education. (2006). *Report on education from the Deputy Minister of Education*. Victoria, BC, Canada: British Columbia Ministry of Education. Retrieved from <http://www.bced.gov.bc.ca>
- Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organisational analysis*. London, United Kingdom: Heinemann.

- Canadian Centre for Financial Literacy. (2013). *Exit and post-assessment*. Retrieved from <http://prospercanada.org>
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. London, United Kingdom: Sage.
- Dubois, A., & Gadde, L.-E. (2002). Systematic combining: An abductive approach to case research. *Journal of business research*, 55(7), 553–560.
- Dubois, A., & Gadde, L.-E. (2014). “Systematic combining”—A decade later. *Journal of Business Research*, 67(6), 1277–1284.
- Ek-Udofia, I., & Spotton Visano, B. (2012). *Engaging marginalized youth in financial literacy programs*. Toronto, ON, Canada: York University.
- Financial Literacy and Education Commission. (2011). *Promoting financial success in the United States: National strategy for financial literacy*. Retrieved from <http://www.mymoney.gov>
- FINRA Investor Education Foundation. (2013). *Financial capability in the United States: Report of findings from the 2012 National Financial Capability Study*. Washington, DC: Retrieved from <http://www.finrafoundation.org>.
- Freire, P. (2000). *Pedagogy of the oppressed* (M. B. Ramos, Trans.; 30th anniversary ed.). New York, NY: Continuum. (Original work published 1970)
- Grant, C. A. (2012). Cultivating flourishing lives: A robust social justice vision of education. *American Educational Research Journal*, 49(5), 910–934.
- Guba, E. G., & Lincoln, Y. S. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In N. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 191–216). Thousand Oaks, CA: Sage.
- Gutstein, E. (2006). *Reading and writing the world with mathematics: Toward a pedagogy for social justice*. New York, NY: Routledge.
- Human Resources and Skills Development Canada. (2012). *Summative evaluation of the Adult Learning, Literacy and Essential Skills Program*. Ottawa, ON: Human Resources and Skills Development Canada, Government of Canada.
- Kemmis, S., & McTaggart, R. (2005). Participatory action research: Communicative action and the public sphere. In N. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 559–604). Thousand Oaks, CA: Sage.
- Keyes, C., & Lopez, S. (2002). Toward a science of mental health. In C. Keyes & S. Lopez (Eds.), *Handbook of Positive Psychology* (pp. 45–59). Oxford, United Kingdom: Oxford University Press.
- Kincheloe, J. L., & McLaren, P. (2005). Rethinking theory and research. In N. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 303–342). Thousand Oaks, CA: Sage.
- Leonard, P. (1984). *Personality and ideology: Towards a materialist understanding of the individual*. London, United Kingdom: Macmillan.
- Leonardo, Z. (2004). Critical social theory and transformative knowledge: The functions of criticism in quality education. *Educational Researcher*, 33(6), 11–18.
- Lusardi, A., & Mitchell, O. S. (2011). Financial literacy around the world: An overview. *Journal of Pension Economics and Finance*, 10(4), 497–508.
- McFayden, J. (2012). Highlights of *The Case for Financial Literacy: Assessing the effects of financial literacy interventions for low income and vulnerable groups in Canada*. Toronto, ON: Social and Enterprise Development Innovations (SEDI).
- McLaren, P. (2007). *Life in schools: An introduction to critical pedagogy in the foundations of education* (5th ed.). Boston, MA: Pearson.
- Momentum Community Economic Development Society. (2010). *Financial literacy: Money management education*. Retrieved from <http://www.momentum.org/money-management>

- Paulos, J. A. (2001). *Innumeracy: Mathematical illiteracy and its consequences* (2nd ed.). New York, NY: Hill and Wang.
- Phillips, N. (2010). *The zela wela kids: Build a bank*. Bloomington, IN: AuthorHouse.
- Research and Evaluation Committee: Financial Literacy and Education Commission (FLEC). (2015). Starting early for financial success: Capability into action. *Journal of Consumer Affairs*, 49(1), 299–302.
- Smith, J. P., McArdle, J. J., & Willis, R. J. (2010). Financial decision making and cognition in a family context. In RAND Labor and Population (Ed.), *Working Paper Series* (pp. 1–36). Santa Monica, CA.
- Statistics Canada. (2008). *Canadian financial capability survey*. (5159). Ottawa, Ontario: Government of Canada. Retrieved from <http://www23.statcan.gc.ca>
- Steen, L. A. (Ed.). (2001). *Mathematics and democracy: The case for quantitative literacy*. Washington, DC: National Council on Education and the Disciplines (NCED) and the Woodrow Wilson National Fellowship Foundation.
- Stinson, D. W., & Bullock, E. C. (2012). Transitioning in to contemporary theory: Critical postmodern theory in mathematics education research. In L. R. Van Zoest, J. J. Lo, & J. L. Kratky (Eds.), *Proceedings of the 34th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1163–1169). Kalamazoo, MI: Western Michigan University.
- Vaz-Oxlade, G. (2010). *Easy money*. Edmonton, AB, Canada: Grass Roots Press.

**APPENDIX A**  
Financial Literacy Program Exit Survey\*



(\*For downloadable copy see <http://prospercanada.org/getattachment/1697a108-196d-4487-95b9-e79cd0c236e9/Exit-and-Post-assessment.aspx>.)

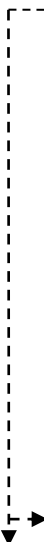
1. What are the most important and useful things that you learned from this program?					
2. Feedback on what I learned:					
<i>Circle a number to show how much you agree or disagree ...</i>	I disagree a lot	I somewhat disagree	I am not sure	I agree	I agree a lot
Most of the information I heard was new to me	1	2	3	4	5
I understand the information that we discussed	1	2	3	4	5
I feel this program/activity will change how I manage my money	1	2	3	4	5
3. What other things would you like to learn about managing your money?					
4. What additional financial literacy supports and services did you receive from staff? (Please check <u>all</u> that apply)					
<input type="checkbox"/> They referred me somewhere else for help <input type="checkbox"/> They helped me file my taxes <input type="checkbox"/> They helped me fill out government applications and forms (e.g. a Social Insurance Number application) <input type="checkbox"/> They made phone calls for me			<input type="checkbox"/> They connected me to a bank <input type="checkbox"/> They advocated for me and/or helped me advocate for myself <input type="checkbox"/> They helped me to get a loan <input type="checkbox"/> Other Please specify _____		

<b>5. How can we make this program better?</b>
<b>6. Would you recommend this program to someone else?</b>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unsure

**THINKING ABOUT MONEY ...**

<b>7. Tell us how you feel now about managing your money...</b>					
<i>Circle a number to show how often you agree with the following:</i>	Never	Rarely	Sometimes	Usually	Always
I feel confident managing my money	1	2	3	4	5
I worry about how much debt I have	1	2	3	4	5
I feel comfortable getting help with my money (examples: finding resources online, seeing a credit counselor, help with my taxes or talking to someone at the bank)	1	2	3	4	5
I worry about being able to pay my bills each month	1	2	3	4	5
I feel that I will improve my financial situation	1	2	3	4	5
<b>8. What do you currently do to manage your money?</b>					
<i>Please circle the number that best explains how often you do the following:</i>	Never	Rarely	Sometimes	Usually	Always
Pay my bills on time	1	2	3	4	5
Make sure that my spending isn't more than my income each month	1	2	3	4	5
Keep track of my spending and income	1	2	3	4	5
Save money	1	2	3	4	5

	Never	Rarely	Sometimes	Usually	Always
<i>Please circle the number that best explains how often you do the following:</i>					
Compare prices when shopping	1	2	3	4	5
Pay my debt, when I owe money	1	2	3	4	5
Learn about money topics that might affect me	1	2	3	4	5
Get help with my money (examples: filing taxes, financial advisor, credit help, credit counseling or using online tools and resources)	1	2	3	4	5
<b>9. Do you budget your money?</b>					
<input type="checkbox"/> Yes (go to question 10) <input type="checkbox"/> No (go to question 11)					
<b>10a. If yes, how do you budget your money?</b> (Please check <u>one</u> )					
<input type="checkbox"/> I write out a budget <input type="checkbox"/> I keep a budget in my head <input type="checkbox"/> Other: please tell us _____					
<b>10b. If yes...how often do you follow your budget?</b>					
<i>Please circle the number that best explains how often you do the following:</i>					
	Never	Rarely	Sometimes	Usually	Always
I follow my budget	1	2	3	4	5
<b>11. If no... why don't you budget your money?</b> (Please check the <u>one</u> that best applies)					
<input type="checkbox"/> I don't know how <input type="checkbox"/> I don't believe in budgeting <input type="checkbox"/> I did it before and it didn't work <input type="checkbox"/> It is just not that important to me right now <input type="checkbox"/> Other: please tell us _____					
<b>12. Do you have a goal for saving money?</b>					
<input type="checkbox"/> Yes <input type="checkbox"/> No					



<b>13. If yes, what are you planning to save for? (Please check <u>all</u> that apply)</b>	
<input type="checkbox"/> My education <input type="checkbox"/> My child's education <input type="checkbox"/> First and last month's rent <input type="checkbox"/> Paying back money I owe <input type="checkbox"/> Something big – like a car or appliance <input type="checkbox"/> Paying back taxes owed	<input type="checkbox"/> A trip <input type="checkbox"/> An emergency <input type="checkbox"/> Home ownership <input type="checkbox"/> Retirement <input type="checkbox"/> To finance a business <input type="checkbox"/> Other Please tell us _____
<b>14. Do you have any savings set aside?</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No (go to question 16)	
<b>15. Did you save and put aside any of your money in the past month? (Please check <u>one</u>)</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>16. Is there anything else that you have started doing to manage your money during this program?</b>	
<b>17. Have you filed your income tax forms with help from this program?</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No	

**We're interested in knowing what you think!**

Please sign up below if you are interested in filling out a short survey in a few months from now.

Your ideas will help us continue to improve the way we deliver financial education.

<b>May we contact you in six months to a year to find out what you think about this program?</b>
<input type="checkbox"/> Yes Signature: _____ <input type="checkbox"/> No

Thank you!



**APPENDIX B**  
Pre- and Post- Semi-Structured Interview Questions

*Adults*

Early in the Program

1. What do you believe are the needs of your community as far as mathematics, numerical, or financial learning?
2. What kind of support would you like for yourself? For your spouse/other? For your children?
3. Can you imagine what would be the good features of a program like Count on Yourself? What would be the potential benefits for you? For your spouse/other? For your children?

*Adults*

End of the Program

1. What do you believe were the most important learning needs of your community as far as mathematics, numerical, or financial learning?
2. What support did you get with the Count on Yourself program that you liked for yourself? For your spouse/other? For your children?
3. What were the best features of Count on Yourself? What were the benefits for you? For your spouse/other? For your children?
4. Were there any disadvantages of participating in the Count on Yourself program? If so, what were they?
5. Do you believe there will be any long-term benefits of this program?
  - a. What were some of the best teaching strategies?
  - b. What was some of the best advice from the facilitator?
  - c. What was the best part of how it was organized (timing, treats, location, etc.)?
  - d. Which types of technologies helped you the most during your learning (games, videos, social media, websites, etc.)?
6. Talk about what you appreciated about the facilitators, researchers, school staff, college students, or other community members who made your experience positive?

## APPENDIX C

### Complete Exit Survey Results

#### 1. What are the most important and useful things that you learned from this program?

*Participant A (Female)*

- tools for handling/managing our finances - budgeting and online resources
- insight to “good” credit and how the ratings work
- more than one way to do things well with budgeting

*Participant B (Male)*

- the mystery of a credit score
- how to find a credit score, understand it, and improve it
- how to fight consumerism!!

*Participant C (Female)*

- the importance of being in control of your finances and being aware and responsible about where it is going and what it is doing

*Participant D (Male)*

- financial awareness
- appreciating and seeking community resources for information
- money management strategies

*Participant E (Female)*

- I really liked learning about all the different existing accounts/services in our banking and credit system

*Participant F (Female)*

- budgeting
- to use many accounts

#### 2. Feedback on what I learned [disagree a lot - 1, I am not sure - 3, agree a lot - 5]

- a. Most of the information I heard was new to me (4, 2, 2, 2, 2, 2)
- b. I understand the information that we discussed (5, 5, 5, 4, 5, 5)
- c. I feel this program will change how I manage my money (5, 5, 4, 4, 4, 4)

#### 3. What other things would you like to learn about managing your money?

*Participant A*

- ways for money to grow, outside of a simple day-to-day savings account
- how to balance savings with debt reduction

*Participant B*

- how to become tax literate
- ways to increase your tax return

*Participant D*

- Discuss present/future investing options and strategies

*Participant E*

- I believe I've learned a lot, and since I am [just starting to be ]the bookkeeper for my house-[hold finances], I should start doing [the] budgeting as well.
- I might need someone to [watch over me] though, just [in the] beginning

*Participant F*

- investing
4. **What additional financial literacy supports and services did you receive from this program?** they referred me somewhere else for help, they referred me somewhere else for help, they referred me somewhere else for help, they referred me somewhere else for help, they referred me somewhere else for help, they helped me advocate for myself; n/a
5. **How can we make this program better?**
- Participant A*
- Show how the dinners provided were broken down in cost. Families that don't pay attention can see how little it can cost to feed the family (a "per person" cost factor)
- Participant B*
- Incorporate the use of media more often in the presentations (video, PowerPoint, internet, iPhone, etc.)
- Participant D*
- consistent feeding time or suggest an alternate time
  - investment segment
6. **Would you recommend this program to someone else?** yes, yes, yes, yes, yes, yes – already have
7. **Tell us how you feel now about managing your money?** [never -1, sometimes - 3, always - 5]
- a. I feel confident managing my money (3, 5, 4, 3, 4, 3)
  - b. I worry about how much debt I have (4, 3, 3, 1, 3, 3)
  - c. I feel comfortable getting help with my money (examples: finding resources online, seeing a credit counselor, help with my taxes or talking to someone at the bank) (4, 5, 4, 4, 4, 4)
  - d. I worry about being able to pay my bills each month (2, 2, 3, 2, 3, 2)
  - e. I feel that I will improve my financial situation (5, 5, 4, 3, 4, 5)
8. **What do you currently do to manage your money?** [never - 1, sometimes - 3, always - 5]
- a. Pay my bills on time (5, 5, 4, 4, 4, 5)
  - b. Make sure that my spending isn't more than my income each month (4, 4, 4, 4, 4, 4)
  - c. Keep track of my spending and income (3, 4, 2, 4, 5, 3)
  - d. Save money (3, 3, 3, 5, n/a, 4)
  - e. Compare prices when shopping (4, 4, 5, 4, 4, 3)
  - f. Pay my debt, when I owe money (4, 4, 4, 5, 4, 4)
  - g. Learn about money topics that might affect me (2, 4, 4, 5, 3, 3)
  - h. Get help with my money (examples: filing taxes, financial advisor, credit help, credit counseling or using online tools and resources) (4, 4, 4, 4, 4, 4)
9. **Do you budget your money?** yes, yes, yes, no, no, yes
- 10.
- a. **If yes, how do you budget your money?** I keep a budget in my head, I keep a budget in my head (just starting to use mint.com), I keep a budget in my head, I keep a budget in my head (I have learned to [make a] budget better!)
  - b. **If yes, how often do you follow your budget?** [never - 1, sometimes - 3, always - 5] 3, 3, 4, 1

- 11. If no, why don't you budget your money?** it is just not that important to me right now (it's a time/effort management thing), not enough time in my day
- 12. Do you have a goal for saving money?** yes, no, no, yes, yes, yes
- 13. If yes, what are you planning to save for?** my child's education, paying back money I owe, retirement; a trip, an emergency, home ownership, retirement; paying back money I owe, something big - like a car or appliance, a trip, an emergency; my child's education, a trip, an emergency, retirement)
- 14. Do you have any savings set aside?** yes, yes, yes, yes, yes
- 15. Did you save and put aside any of your money in the past month?** no (paid down debt instead), yes, no, yes, no, yes
- 16. Is there anything else that you have started doing to manage your money during this program?**
- Participant A*
- opened an online budgeting tool
  - contacted credit card to lower interest rate
  - opened second account to keep bills separate
  - always making sure money is set aside
  - opened savings account for invariable expenses as added to the budget
  - started including our kids in more conversations
- Participant B*
- started to use mint.com
- Participant C*
- consolidate my debt (asked my family to help me pay my credit card debt so I am not accruing more interest)
- Participant D*
- being more aware and talking to the right resources
- Participant E*
- called a credit card financial department
  - tried to get a loan, but it didn't work out
- Participant F*
- started proper monthly budget
  - wanting to do full financial overview!
- 17. Have you filed your income tax forms with help from this program?** no, no, no, no, no, no  
(*this wasn't a part of the curriculum*)
- 18. May we contact you in six months to a year to find out what you think about this program?** yes, yes, yes, yes, yes, yes