Toying with Healthy Eating: Developing a Play-Based Nutrition Education Program

by

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Dalla Lana School of Public Health
University of Toronto

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Abstract

Kindergarten-aged children are a key group for establishing lifelong healthy eating behaviours. However, current school-based nutrition education programs have reported little success in achieving this important goal. Though a number of different reasons account for programs’ limited success, I focused on creating a kindergarten nutrition education program rooted in theory that also considered the needs and preferences of the teachers who implement such programs in their classes. Consequently, the present thesis describes the process of developing a preliminary draft of a kindergarten play-based nutrition education program, Sociodramatic Nutrition Activities for Kindergartens (SNAK).

With the overarching goal of developing SNAK, I drew upon traditional and innovative data in order to learn about play-based teaching and healthy eating in kindergartens through a two phase process: 1. Program Landscaping, where I analyzed provincial and territorial ministry of
education healthy eating kindergarten curricula and conducted a netnography (comprised of analyzing kindergarten teachers’ social media discussions and interviewing a sample of kindergarten teachers). 2. Program Development, where I developed SNAK based upon findings derived from phase one.

Analysis of the curricula, social media discussions, and teacher interviews revealed a myriad of factors that influence teachers when they implement play-based teaching and healthy eating in kindergarten classes. Findings both replicate and suggest new research questions for the nutrition and education literature. These findings also greatly benefited the development of SNAK. Future SNAK research includes further development and pilot testing to determine if kindergarten children (and teachers) can benefit from the program. Furthermore, I also describe how I combined traditional and innovative data and the insights obtained through netnography. Opportunities for developing programs and forming hypotheses can be found through examining the vast amount of teacher social media discussions, and I encourage other researchers to seek out innovative data.
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Chapter 1: Introduction

Canada has one of the highest rates of childhood obesity in the developed world, with close to a third of 5- to 17-year-old Canadians identified as overweight or obese (Roberts, Shields, de Groah, Aziz, & Gilbert, 2012). There are numerous negative consequences of childhood obesity, spanning a range of physical, psychological, and social health issues (Biro & Wien, 2013; Karnik & Kanekar, 2012). Moreover, it is estimated that obesity-related complications cost the Canadian economy over a billion dollars annually (Public Health Agency of Canada, 2011; Tran, Nair, Kuhle, Ohinmaa & Veuglers, 2013).

Though the origins of childhood obesity stem from an indeterminate combination of genetic and environmental factors (Lytle, 2005; Stunkard, Berkowitz, Stallings, & Schoeller, 1999; Wells & Ritz, 2001), one major contributing and modifiable factor is children’s eating behaviours, such as food preferences, food choices, and mealtime behaviours (Brown & Ogden, 2004; Schwarz & Puhl, 2003; Wells & Ritz, 2001). Early childhood - under-six-years of age - is a particularly crucial time period in eating behaviour development, as children’s experiences during this time have been found to play a major role in shaping children’s eating behaviours (Faith, 2005; Brown & Ogden, 2004; Schwartz & Puhl, 2003; Birch, 1998), and preferences for certain foods (Hendy, 1999; Liem & Menella, 2002; Skinner, Carruth, Bounds, & Ziegler, 2002; Strauss & Knight, 1999).

Early childhood represents a key time for interventions and programs to develop healthy eating behaviours that will promote health and prevent obesity (in this thesis, “intervention” and “program” will be used interchangeably) (Veuglers & Fitzgerald, 2005; Wardle, Guthrie, Sanderson, Birch, & Plomin, 2001; Wells & Ritz, 2001). Still, the importance in developing children’s healthy eating behaviours is already well-known: a range of nutrition programs have been developed for elementary schools. However, reviews of these programs have reported minimal effectiveness in developing long-lasting healthy eating behaviours (Brown & Summerbell, 2009; Jaime & Lock, 2009; Thomas, 2006; Wadden, Brownell, & Foster, 2002).
A variety of reasons have been suggested for the limited success of school-based programs. Traditionally, nutrition education programs have consisted of lessons focused on increasing children’s knowledge of healthy eating. However, increasing children’s nutritional knowledge has been found to be insufficient for developing lifelong healthy eating behaviours (Benton, 2003; Brown & Ogden, 2004; Evers, Arnold, Hamilton, & Midgett, 2007; Mata, Scheibehenne, & Todd, 2007). Consequently, researchers have called for more theory-based nutrition interventions to use play and problem-solving in group settings (Lytle & Achterberg, 1995; Taylor et al., 2005). Recent years have begun to show this shift in the focus of kindergarten healthy eating curricula. In the United States, the “Guidelines for School Health Programs to Promote Lifelong Healthy Eating” [Centers for Disease Control and Prevention (CDCP, 2011)] recommends that effective healthy eating curricula be theory-driven, focus on specific behavioural outcomes, aim to build students’ confidence in skills, draw upon teaching activities that are engaging and age- and developmentally-appropriate, and increase students’ exposure to healthy foods.

Additionally, a major problem that appears to be impacting the success of school-based nutrition programs is achieving a fit between the program and the classroom’s/school’s needs. Research on program implementation has revealed that teachers frequently need to adapt program protocols (Datnow & Castellano, 2000; Durlak & Dupre, 2008). Thus, researchers recommend including teachers throughout the program development process, rather than simply during program evaluations (Beets et al., 2008; Lytle, 2005; Oldenburg & Glanz, 2008; Dusenbury et al., 2005). Yet, working to better understand teachers’ needs, preferences, and values is a fundamental, though often unfulfilled, element when developing school-based programs (Durlak & Dupre, 2008; Greenberg, 2004).

Thus, my dissertation details the process of developing a preliminary proposed draft of a kindergarten nutrition education program that aligns with the Ontario Ministry of Education’s full-day kindergarten curriculum, is rooted in research recommendations, and also considers teachers’ needs and preferences. The objectives of the proposed program, “Sociodramatic Nutrition Activities for Kindergartens,” (SNAK) are to have kindergarten students role-play a variety of healthy eating concepts and behaviours in food-themed sociodramatic play centres.
SNAK will be described in greater detail in Chapters 2 and 9 of this thesis. Of note, in SNAK as well as throughout this dissertation, “healthy eating” was defined as reflecting the recommendations in “Eating Well With Canada’s Food Guide” (2007).

This chapter details the three different, though interrelated, literature areas that provide the rationale for developing the proposed play-based nutrition education program, SNAK: 1) children’s healthy eating behaviour development, 2) school-based nutrition education, and 3) alternative data collection methods. I attempt to eliminate unnecessary repetition with the theory chapter (Chapter 2), research design chapter (Chapter 3), and the literature reviews in the results chapters (Chapters 4-8). However, due to the nature of a manuscript-style dissertation, some overlap was unavoidable.

**Literature Review**

**Healthy eating behaviour development**

Early childhood experiences have been found to play a major role in shaping children’s nutritional attitudes, behaviours (Faith, 2005; Brown & Ogden, 2004; Schwartz & Puhl, 2003; Birch, 1998), and preferences for certain foods (Hendy, 1999; Liem & Menella, 2002; Skinner, Carruth, Bounds, & Ziegler, 2002; Strauss & Knight, 1999). Nearly all dietary behaviours are learned through experience, with childhood considered by many to be the most significant period in the formation of food preferences (Beauchamp et al., 1994; Cashdan, 1994; Hendy, 1999; Liem & Menella, 2002).

In their systematic review of preschool healthy eating interventions, Mikkelsen and colleagues (2014) reported that role modeling was one of the more successful ways to increase young children’s fruit and vegetable intake. Other research has likewise found an increase in children’s consumption of disliked vegetables following opportunities to observe peers selecting and eating
the foods (Birch, 1999). Similarly, within a Canadian educational context, peer teaching was applied in a nutrition education program developed by the British Columbia Children’s Hospital, “Healthy Buddies” (2007), which will be further described in the section “School-based nutrition education” of this literature review. Role modeling and observational learning will be further discussed in Chapter 2 of this thesis.

Other ways to develop children’s healthy eating behaviours include improving children’s self-efficacy and developing positive associations with desired behaviours (Bandura, 2004). Encouraging children to eat healthy foods while also ensuring they maintain some control over their food choices have also been found to enable children to develop healthy eating behaviours (Benton, 2003; Fisher & Birch, 1999). Given its importance in developing children’s healthy eating behaviours, one type of eating behaviour in particular - food preferences - will be discussed in detail below.

**Food preference development.** Unlike adults, children’s food preferences have been found to be based on taste, whereas adults consider such factors as nutritional content, cost, and preparation time (Birch, 1998). A review of children’s dietary behaviour development by Aldridge, Dovey, and Halford (2009), found that children who were introduced to healthy foods early in life had the best chance for developing healthy food preferences.

One of the most important ways children can be encouraged to develop healthy food preferences is by increasing children’s willingness to try new foods. This willingness is accomplished primarily through “food familiarity,” a concept which refers to children’s preference for foods that are familiar to them (Cooke, 2007). Introducing young children to new foods is critical because children possess a biological resistance to unfamiliar foods (Schwartz and Puhl, 2003), with the effect that children restrict themselves to familiar foods, a predisposition known as food neophobia (Birch, 1998; Cooke, 2007). However, repeated exposure to new foods has been shown to overcome this reflexive resistance (Patrick & Nicklas, 2005). For example, children’s initial rejections of new foods can be overcome by providing them with many opportunities to taste the foods (Sullivan & Birch 1994).
Children’s food preferences are also strongly influenced by learning and experience; for example, repeatedly presenting a food in a positive context results in an increased liking for that food (Birch 1998). Skinner, Carruth, Bounds, and Ziegler (2002) found that the most significant predictor of a child’s food preferences at age 8 was the child’s food preferences at age 4. Most importantly, they also found that children who were exposed to a wide variety of fruits and vegetables during the first 2 years of life continued with this type of diet. What this suggests is that children’s food preference formation is linked with their familiarity with foods during early childhood – the more familiar the food, the more it is liked (Birch & Marlin, 1982; Cooke, 2007).

**Visual familiarity.** Visual familiarity is a key concept in children’s decisions to try a novel food, as children prefer foods that they frequently see in their environments (Story, Neumark-Sztainer & French, 2002). With young children, research on the promotion of children’s food preferences suggests using the concept of visual familiarity is an effective strategy for reducing neophobia. Houston-Price, Butler, and Shiba (2009) explored how picture books featuring vegetables could be used to encourage children to try new foods. In their study, parents of 20 children aged 21 to 24 months read a picture book about foods every day for 2 weeks. They found that children who were exposed to vegetables via the picture books had a reduced aversion to unfamiliar foods relative to familiar foods, and an increased willingness to taste exposed foods than non-exposed foods. The researchers suggested that visual exposure could reduce the number of exposures needed to increase willingness to eat foods, and that visual exposure impacts on children’s willingness to taste foods. However, it is important to note that translating an increase in visual familiarity with novel foods into an increased willingness to actually taste the food requires more time than an intervention that may only last a few weeks (Hammond, McCargar, & Barr, 1998).

**School-based nutrition education**

For this part of my literature review, I aimed to gather evidence on evaluations of Canadian kindergarten healthy eating/nutrition education curricula. However, I quickly discovered that while there has been research into Canadian school-based nutrition programs (programs that
provide breakfast, snacks, and lunches to children in school settings), such as “Breakfast for Learning” (Russell, Evers, Dwyer, Utrecht, & Macaskill, 2007; Valaitis, Hanning, & Herrmann, 2013), little research has evaluated the nutrition components of Canadian kindergarten curricula (Lu & McLean, 2011; Paquette, 2005; Taylor, Evers, & McKenna, 2005). Thus, examining the curricula became an aim of my thesis. Still, apart from the official curricula, there has been research evaluating different types of nutrition education programs for Canadian kindergarten children. For example, one such initiative from British Columbia is the “Kids' Shop Smart Tours” (2003), a program developed by a team of dieticians, educators, parents and students that aims to promote the benefits of making healthy food choices. Teachers are provided with a kit that includes teaching guides, classroom activities, and grade specific materials. The main portion of the program involves an interactive supermarket tour led by a dietician. Research evaluating the program has revealed mixed results: the program was not found to increase children’s willingness to try new foods or eat a greater variety of food. However, interviews with parents revealed that some parents reported that they had observed their children being more willing to try new foods and demonstrate a greater knowledge of Canada's Food Guide to Healthy Eating (Smith & Kalina, 2004). The previously referenced nutrition education program developed by the British Columbia Children’s Hospital, “Healthy Buddies,” (2007) presents another kindergarten nutrition education program. In this program, grade nine students partnered with kindergarten students to teach them academic and practical knowledge about food and nutrition. Following a year-long intervention in two elementary schools, researchers evaluating the program found an improvement in kindergarten and grade nine students’ knowledge, behaviour, and attitude scores (Stock, et al., 2007). Through a search of the grey literature, I also found a number of school-based nutrition programs for kindergarten classes, such as the “Heart Healthy Lesson Plans” (2001) developed by the Heart and Stroke Foundation, the “Power to Play” (2003) program developed by the Dairy Farmers of Canada, and “Nutrition Tools for Schools” (2007) developed by the Ontario Society of Nutrition Professionals in Public Health. However, there have not been any independent reviews conducted of these programs. Consequently, while beyond the scope of my thesis, conducting evaluations of these programs should be of great interest for future research. Following this search, I looked into research that has evaluated school-based nutrition education programs in settings beyond Canada.
As previously introduced, researchers remain divided on the effectiveness of school-based nutrition education programs (Brown & Summerbell, 2009; Jaime & Lock, 2009; Thomas, 2006; Wadden, Brownell, & Foster, 2002). Due to the overwhelming number of school-based nutrition intervention research published, I focused mainly on review articles for this section, but supplemented with a number of original articles. Through critically analyzing reviews of early childhood school-based nutrition education programs, I found issues with school-based programs frequently appeared not to be related to the school setting, but could be organized into three areas: program content, program delivery, and program fit and sustainability.

First, there were questions regarding the fundamental content of the nutrition education programs. Second, how the content was organized and taught in classes had an impact on the success of the interventions. Third, there were a plethora of interventions that reported positive results; however, the intervention itself could not be maintained long-term due to issues between the program and the schools’ needs. The literature on these three areas present important considerations for researchers developing school-based nutrition education programs, such as SNAK, and will be described below.

**Program content.** First, the content of many past nutrition interventions involved teachers presenting knowledge-based messages focusing on food and food group identification (Benton, 2003; Brown & Ogden, 2004; Evers et al., 2007; Mata et al., 2007). Given this program content, it should come as no surprise that improving children’s abilities to memorize food groups and identify different fruits and vegetables were the most frequently described objectives in the Canadian Cancer Society Manitoba Division (2011) as well as Blom-Hoffman, Wilcox, and Dunn’s (2008) reviews of school-based nutrition education interventions. Likewise, both Cason’s (2001) and Contendo, Randell, and Bach’s (2002) evaluations of preschool nutrition-education programs noted that the main goals were to improve children’s abilities to identify different foods. Additionally, positive outcomes reported by nutrition intervention evaluations included that children knew more facts about the food guide and could recommend which foods should be consumed more frequently than others (Auld et al., 1998).
**Criticisms.** Unfortunately, despite this popular and prevailing focus, the popular teaching style used in these interventions that focuses on worksheets, memorization, and assessments of domain-specific lessons, is an approach that is known to result in short-term cognitive gains (Fisher et al., 2011). There exists little evidence demonstrating that improving children’s nutritional knowledge will result in behaviour changes (Baskale, Bahar, Baser, & Ari, 2009; Contendo, Randell, & Basch, 2002; Noble, Corney, Evers, Kipps, & Lumbers, 2000; Taylor, Evers, & McKenna, 2005). Indeed, Lytle and colleagues (1997) examined kindergarten-aged children’s abilities to explain nutrition education messages and found the children struggled to understand, explain, and apply abstract concepts such as food groups, variety, and moderation. Likewise, when asked to classify foods, children typically group them based on physical characteristics of foods, such as colour and shape (Baskale et al., 2009; Hart, Bishop, & Truby, 2002; Matheson, et al., 2002).

Why children are unable to translate nutritional knowledge into behavioural responses has been suggested to stem from children repeating the correct “learned” response regarding healthy nutrition without the knowledge of understanding how to use that information to make healthful food choices (Hart, Bishop, & Truby, 2002; Holub & Musher-Eizenman, 2010; Taylor, Evers, & McKenna, 2005). Such a view could explain why many interventions that rely upon BMI as the outcome indicator have been declared unsuccessful (Jaime & Lock, 2009; Kropski et al., 2008; Sharma, 2006; Thomas, 2006), as such an indicator could only improve after long term changes in behaviour.

**Recommendations.** In contrast, Bandura (2004) identified four components that are crucial to effective school-based health programs (such as programs that promote healthy eating and physical activity or discourage smoking and drugs): informational, social and self-management, self-efficacy, and social support.

The first component, informational, refers to teaching children about the benefits of healthy eating. Including information on the benefits of healthy eating has been described as an important component of any healthy eating program for children under six years of age (Mikkelsen et al., 2014). The second, social and self-management, involves translating this
healthy eating information into actual behaviours that children will encounter in their lives. The third, developing children’s self-efficacy, refers to improving children’s beliefs about their abilities to complete desired behaviours. And finally the fourth, social support, involves the students and teacher learning and practicing these behaviours together (Bandura, 2004; McAlister, Perry, & Parcel, 2008).

Additionally, as stated earlier, in the United States, the CDCP (2011) recommends that effective healthy eating curricula be theory-driven, focus on specific behavioural outcomes, aim to build students’ confidence in skills, draw upon teaching activities that are engaging and age and developmentally-appropriate, and increase students’ exposure to healthy foods.

**Program delivery.** Second, there were many questions surrounding not just the program content, but also how the content is organized and taught in classes. This section will focus on these two aspects of program content delivery: the activities used to teach the content (implementation activities) and how these activities are organized (theory).

**Theory.** A multitude of school-based nutrition programs stress the need for programs to be based on theoretical frameworks (Lytle, 2005; Lytle & Achterberg, 1995; Canadian Cancer Society Manitoba Division, 2011; Sharma, 2006). Complex settings, such as classrooms, that are part of schools that are further embedded in communities, require theory to form the basis for designing educational programs. But instead, many educational programs base their programs more on the nature of the subject matter being taught. The traditional approach of teachers instructing children nutrition lessons that lack theoretical grounding appears to inadequately prepare children to develop healthy eating behaviours used in their day-to-day lives (Bronfenbrenner, 2005; Lytle, 2005; Lytle et al., 1997; Matheson et al., 2002; Niehoff, 2009).

One of the most frequently cited theories in school-based nutrition education programs is Social Cognitive Theory (SCT). SCT is one of the most widely-used health behaviour change theories, is popular with traditional school-based nutrition programs, and has consistently been recommended as effective for research with young children and has been employed effectively in school-based interventions focusing on dietary behaviour change (Auld et al., 1998; Cole,
Theory related to the development of nutrition program concepts in general and SNAK specifically will be discussed in Chapters 2 and 4 of this thesis. Thus, the remainder of this section on program delivery will describe how in addition to theory, there is a need to deliver nutrition program content in classes in ways that engage students.

**Implementation activities.** The activities suggested to teachers for instructing the healthy eating lessons are referred to as “implementation activities.” Implementation activities are commonly grouped as being either “teacher-centred” or “student-centred.” Teacher-centred activities involve the teacher instructing a topic and the focus is on acquisition of information (Chandler, 1999). Teacher-centred instruction is often criticized for enabling only short-term cognitive gains (Fisher et al., 2011). Student-centred activities aim to actively involve students in their learning and give them opportunities to practice new behaviours in multiple contexts (Briggs, Fleischhacker, & Mueller, 2010; CDCP, 2011; Contedo et al., 1995; Lytle, 2005).

Characteristics of effective student-centred activities for teaching healthy eating lessons include enjoyable, interactive activities, and teaching in a context relevant to students where they have multiple opportunities to practice healthy eating behaviours (Briggs et al., 2010; CDCP, 2011; Perez-Rodrigo & Aranceta, 2001; Rickard, Gallahue, Gruen, Tridle, Bewley, & Steele, 1995). Play-based activities represent important opportunities for implementing healthy eating curricula (Matheson et al., 2002; Rickard et al., 1995). The opportunity play-based activities present for teaching healthy eating is described below.

**Play-based teaching.** Play has gained popularity as a student-centred teaching method in schools, as children often learn behaviours better when taught through experiential, hands-on learning, such as through role-playing with peers and adults, as opposed to formal instruction (Bronfenbrenner, 2005; Taylor, Evers, & McKenna, 2005). Play is a motivating teaching method because children find play enjoyable, but simultaneously demanding because it requires certain social and cognitive skills to participate (Pellegrini, 2009).
Play can be gently guided by a teacher to promote curricular goals while still maintaining the critical aspects of play (such as children being intrinsically motivated to engage in play). This guided play involves both planned teacher-enriched activities and child-directed emergent contexts over time. Guided play involves two critical aspects: first, adults enrich the environment with objects and toys that provide experiential learning opportunities. Second, adults sensitively guide learning, but are not intrusive, so that children are unaware that there is even a learning goal in mind. Consequently, guided play has been recommended as a teaching tool that deserves serious consideration by educators (Fisher et al., 2011).

**Dramatic play.** Researchers classify different types of play into categories such as locomotor and rough-and-tumble play (Burghardt, 2011). However, the most commonly studied form of human play is called “dramatic play” (also known as symbolic, pretend, fantasy, or make-believe play), and refers to behaviours taken out of their real-life context (Burghardt, 2011). What this means is that the play behaviours resemble real behaviours, but do not serve that purpose (Pellegrini, 2009). For example, dramatic play of healthy eating behaviours could involve a child pretending to cook a meal using toy foods and cookware.

**Sociodramatic play.** Dramatic play is referred to as “sociodramatic play” when the dramatic play occurs in a social context, such as a group of students in a classroom. Sociodramatic play has been described as enabling children to better understand the world they live in, as while engaged in dramatic play, children imitate roles and behaviours they have observed in their environments (Kavanaugh, 2011). Research suggests that children’s sociodramatic play fosters mathematics, language, literacy, and socio-emotional skills (Fisher et al., 2011) where it has been found to foster improvements in these skills for children from both low and high income environments (Duncan et al., 2007). Beyond the building of specific subject skills, a major outcome of play-based teaching is that children learn to cooperate with others and engage in socially appropriate behaviour. Over time, these competencies built through play are transferred to children’s everyday behaviours (Fisher et al., 2011). Social play enables opportunities for children to verbally explain meaning, become better at manipulation of different symbolic systems, and develop a sense of mastery and self-efficacy when experimenting with new activities, which enables them to practice opportunities for learning new skills (Bjorklund & Gardiner, 2011).
Additionally, correlations have been found between sociodramatic play and creativity (Pellegrini, 2009).

**Past research on kindergarten food-themed sociodramatic play centres.** Two studies specifically examined children’s play in food-themed sociodramatic play centres in school settings. While neither study examined sociodramatic play as a way to teach healthy eating, important aspects pertaining to the materials used, set-up of centres, activities, and children’s typical behaviours in the centres were drawn from these two studies.

First, Matheson, Spranger, and Saxe (2002) examined kindergarten children’s behaviours in play kitchens located in the children’s classrooms at school. In this study, the dramatic play areas of the classes were designed to model a kitchen and included play kitchen equipment such as a refrigerator, stove, oven, microwave, sink, cupboards, telephone, table and chairs, pots and pans, and cutlery. The kitchen was also filled with plastic food models such as fruit, vegetables, eggs, lunch meats, cheese, bread, noodles, milk, and juice. It is important to re-state that in this study, the researchers and teachers were not using the dramatic play kitchen to teach, so children’s behaviours were simply being observed.

Results found that the children’s kitchen play modelled the behaviours of their families. Children were described as engaging in realistic and appropriate food preparation methods when preparing different foods. Additionally, their behaviours when preparing meals mimicked those of busy adults in their lives: they could be observed relying on the microwave to cook food, talking on the phone while preparing food, and eating while standing up rather than seated at the table. In fact, some children, when asked by the research assistant to prepare a meal, used the play phone to order pizza or other fast food. Children were also observed to demonstrate a range of food safety behaviours. Finally, researchers also noted that the young children involved in their study were unable to apply abstract concepts (such as “grains” or “meat and alternatives”) to group foods. Instead, when the children were asked to classify foods, they grouped them based on physical characteristics such as colour and shape. Based on their findings, the researchers recommended examining if children’s play in these nutrition-themed play settings can be
practiced and translated to real-life, as well as studying if children’s food preferences change as a result of playing with toy foods.

Second, though not designed to examine children’s healthy eating behaviours per se, and instead focused on play from a consumer socialization perspective, Drenton, Oklesten, Peters, and Boyd Thomas (2008) observed the sociodramatic play of preschool children in sociodramatic play grocery store settings. The centres were set up to resemble real-life grocery stores, and included shelves filled with real food products and empty packages of real products, such as cereal boxes, as opposed to using toy foods.

Results again found that children successfully mimicked adult shopping behaviours during their dramatic play. Children demonstrated behaviours such as understanding the role of the shopping cart and check-out line etiquette. Researchers noted how in all the observed classrooms, children tended to avoid foods that were not “child-friendly” such as vegetables, and instead frequently selected products, such as ice cream and other desserts. Among fruit and vegetable selections, children preferred fruit and more well-known fruits such as bananas and apples rather than kiwis or pineapples. However, as was noted in the first study, it is important to recall that the purpose of this study was to observe children’s play behaviours in the grocery store without any teacher or older student guidance in selecting foods or discussing why certain foods might be preferred over others.

**Program fit and sustainability.** Third, many obstacles have been identified in implementing and sustaining programs in school settings that researchers commonly attribute to the challenges teachers experience when implementing intervention protocols (Haire-Joshu et al., 2003). Due to the challenges teachers describe in delivering intervention protocols, some researchers recommend school-based nutrition programs hire activity coordinators to run the programs (Taylor et al., 2007). Better impact has been documented when programs are taught by specialists rather than teachers (Auld et al., 1998; Thomas, 2006). Similarly, extensive teacher training has been found to promote more effective implementation (Lytle & Achterberg, 1995; Perez-Rodrigo & Aranceta, 2001). However, other researchers have emphasized the need for more research on teacher-led classroom nutrition programs (Watts et al., 2012). Additionally,
such recommendations and practices do beg the question of the long-term feasibility of such interventions (Dusenbury, Brannigan, Falco, & Hansen, 2003). This is particularly important in light of research that has examined nutrition program sustainability. Adams and colleagues (2007) evaluated a healthy eating preschool program’s sustainability three years following a one-year intervention. They found that the sustained program components were the ones that were easy for the school and teachers to implement. Program activities that were not sustained were ones that involved extra costs, were too rigid and could not be adapted to the school, or required efforts outside of class time (such as parent workshops).

Challenges teachers face in program implementation. Why are teachers unable to deliver many school-based nutrition program protocols? When interviewed, teachers have described feelings of scepticism and disbelief in programs developed by external groups (Datnow & Castellano, 2000). Moreover, teachers have reported they experience a variety of constraints in properly implementing interventions, with the main ones being a lack of time and resources (Day, Strange, McKay, & Naylor, 2008; Levine, Olenader, Lefevre, Cusik, Biesiadecki, & McGoldrick 2002). Teachers have described how they and their schools are inadequately equipped with the resources, training, and incentives to undertake complicated interventions in the long-term (Gryzwacz & Fuqua, 2000; Perez-Rodrigo & Aranceta, 2001).

These findings correspond with the criticism that multifaceted school-based interventions attempt to change too many aspects of schools, with too few resources, and over too short a time period (Bandura, 2004), resulting in interventions that cannot be maintained long-term. Thus, lack of improvement in many school-based interventions appears to be intertwined with interventions being focused entirely on increasing children’s nutritional knowledge and ignoring issues related to program implementation and sustainability, which could be exerting a stronger influence (Adams, Molyneux, & Squires, 2011; Butterfoss, Kegler, & Francisco, 2008; Gryzwacz & Fuqua, 2000).

More in-depth research with teachers, examining their perceptions of community factors, school climate, and program characteristics (Durlak & Dupre, 2008) can offer insights into the complexity of factors that need to be considered when developing kindergarten programs.
Research has indicated that kindergarten teachers believe in the benefits of nutrition education, but struggle to incorporate the subject into their classrooms, for a variety of reasons (Carraway-Sage et al., 2013). For SNAK specifically, as it was being developed to fit with the Ontario public school curriculum, a major aspect that I needed to investigate in terms of program fit was teachers’ experiences with the new Ontario Full Day Kindergarten Program (FDK).

**Ontario’s FDK.** The Ontario Ministry of Education recently established a comprehensive early learning system that included a FDK program (Pascal, 2009). The play-based curriculum for kindergarten classes is rooted in the principle that play and learning are not distinct experiences for young children. FDK is described as providing a child-focused and developmentally-appropriate curriculum for kindergartens in Ontario that motivates children to learn by using real-life contexts for activities, as opposed to using generic worksheets (Ontario Ministry of Education, 2010; Pascal, 2009).

**Alternative data collection in research**

My findings following this literature review of school-based nutrition education programs led me to conduct a third search of the literature on the topic of alternative methods to data collection, and eventually, the methodology of netnography. Netnography – or ethnography as applied to the internet – is unsolicited, unobtrusive, and less time- and resource-intensive than traditional methodologies (Kozinets, 2010). Netnography is described in detail in Chapter 3 of this thesis, and so its rationale will only be briefly introduced here.

**Challenges with traditional methods.** When attempting to learn teachers’ perspectives, researchers typically rely on interviews or questionnaires, even though these methods are often problematic, mainly due to self-representation biases. For instance, teachers’ self-reports regarding adaptations made to program curricula have been found to be negatively correlated with observations (Datnow & Castellano, 2000; Dusenbury, Brannigan, Hansen, Walsh, & Falco, 2004; Hansen & McNeal, 1999). Furthermore, Parker and Neuharth-Pritchett (2006) noted that a variety of methods are needed in order to more accurately portray the inconsistency between
teachers’ beliefs and practices. Lastly, researchers are often faced with recruitment challenges when using traditional methods, making the need for alternative data collection methods even more pressing (Kozinets, 2010; Meho, 2006; Murthy, 2008; Seeman, 2007).

**Advantages of social media discussions.** An interesting alternative to data collected through traditional methods can be found in social media discussions (Wilkinson & Thelwall, 2011). The increasing availability and accessibility of social media (also known as social technologies, social software, and Web 2.0), such as weblogs (blogs), message boards, and news groups, has greatly increased options for communicating (Norman, 2012). Social media discussions may provide some unique advantages to researchers developing school-based programs.

**Teachers’ social media discussions.** Within the last decade, researchers have been studying teachers’ social media discussions. The main research focus has been on describing and explaining why teachers choose to engage in social media discussions. Online, teachers may reveal more information than they would through offline methods (Kidd, 2013). Teachers have described the convenience and support of message boards in enabling them to overcome barriers of time and distance (Hur & Brush, 2009; Nicholson & Bond, 2003; Stitzlein & Quinn, 2012), and they have increasingly been turning to online discussions because of perceived limitations on their freedom of speech regarding educational policies (Reichman & Atzi, 2012; Stitzlein & Quinn, 2012). Additionally, online discussions enable teachers to discuss their opinions with a wider range of associates than any means provided in their physical environments. This last point is especially significant, as teachers often describe themselves feeling isolated from other teachers who share their views (Hur & Brush, 2009; Stitzlein & Quinn, 2012).

However, what is currently missing is research that examines teachers’ social media discussions on a particular topic and then further explores the gathered insights with offline teachers (Kulavuz-Onal & Vasquez, 2013; Puri, 2007). In contrast, consumer and marketing researchers have already used this approach of integrating social media discussions and offline insights when developing and designing new products and services (Fuller, Bartl, Ernst, & Muhlbacher, 2006; Hagen & Robertson, 2009; Kozinets, 2010).
Summary

Resulting from this literature review, I identified a number of gaps that I sought to address in, and while developing, SNAK. First, I observed that nutrition education for kindergarten children has traditionally focused on students memorizing concepts such as food groups and portion sizes, even though children in this age group are unable to grasp these abstract concepts (Baskale et al., 2009; Lytle et al. 1997; Matheson et al., 2002). In contrast, the literature points to the benefits of a theoretically-grounded, play-based program that emphasizes food familiarity, behaviours, and skills.

Second, I found a need to develop SNAK from the very beginning with long-term sustainability in mind. In a similar vein, during this literature review I became aware that little is known about Canadian kindergarten nutrition curricula (Lu & McLean, 2011; Paquette, 2005; Taylor, Evers, & McKenna, 2005), and that learning about Canadian kindergarten healthy eating curricula (and Ontario specifically) would be crucial in order to develop SNAK to fit with current curricula. Third, given the exponential growth of social media discourse, I identified netnography as an innovative and timely methodology that I could use to learn from kindergarten teachers in order to develop and tailor SNAK.

References


Brown, T., & Summerbell, C. (2009). Systematic review of school-based interventions that focus on changing dietary intake and physical activity levels to prevent childhood obesity: An
update to the obesity guidance produced by the National Institute for Health and Clinical Excellence. *Obesity Review, 10*(1), 110-141.


Healthy Buddies: Go Move! Go Fuel! Go Feel Good! Available at: www.healthybuddies.ca.
Heart & Stroke Foundation. (2001). Kindergarten Lesson Package. Available at:
http://www.heartandstroke.com/site/c.ikIQLcMWJtE/b.6278057/k.F09D/Healthy_Kids__Heart_Healthy_Lesson_Plans__Kindergarten.htm

Hendy, H. M. (1999). Comparison of five teacher actions to encourage children’s new food

using a meal creation and food group classification task: Age and gender differences. Early
Child Development and Care, 180(6), 786-798.

teachers want to participate in self-generated online communities of K-12 teachers?

Jaime, P. C., & Lock, K. (2009). Do school based food and nutrition policies improve diet and
reduce obesity? Preventive Medicine, 48(1), 45-53.

Journal of Preventive Medicine, 3, 1-7.

University Press.

Ethnography and Education, 8(2), 210-223.


Sage.


online community of English language teachers. Ethnography and Education, 8(2), 224-238.

The team nutrition pilot study: Lessons learned from implementing a comprehensive


Chapter 2: Research Objectives, Theoretical Approach, and SNAK

Preliminary Outline

In this chapter I first present my research objectives and overall research approach. I then describe and justify the selection of the three theoretical frameworks that were employed during my dissertation. Finally, I present an initial outline of SNAK that was based on theory and relevant research.

Research Objectives

The purpose of my research was to develop a draft of SNAK, a play-based kindergarten nutrition education program. SNAK was developed specifically for Ontario’s public schools. SNAK consists of teacher-led sociodramatic play activities that direct messages about healthy eating in concrete ways, by focusing on specific behaviours and aiming to equip children with the abilities to translate nutritional knowledge into behavioural responses (Bandura, 2004; Birch, 1998).

In addition to developing a program rooted in theory, more in-depth research with teachers, examining their perceptions of community factors, school climate, and program characteristics (Durlak & Dupre, 2008) offered insights into the complexity of factors that needed to be considered when developing a kindergarten program. Rather than searching for teachers’ perspectives through interviews alone, I drew upon the vast data available online in a netnography of kindergarten teachers’ social media discussions. This combination of traditional and alternative methods was essential since SNAK was created for real-world settings (Kozinets, 2010; Puri, 2007; Wilson, 2009)

Thus, by examining the current Canadian kindergarten nutrition curricula, and combining a netnography of teachers’ social media discussions and interviews with teachers, my study aimed to understand the many social factors that need to be considered during program development. Specifically, my research aimed at answering the following primary research questions and sub questions:
1. What is the kindergarten teaching climate in Canada and specifically Ontario?
   a. How do the provincial and territorial Ministries of Education address healthy eating and/or nutrition in their kindergarten curricula?
   b. How does a sample of Ontario kindergarten teachers perceive the new play-based FDK?

2. What are kindergarten teachers’ attitudes towards, understandings of, and experiences with kindergarten play-based teaching and nutrition/healthy eating?
   a. What are the perspectives of a sample of kindergarten teacher social media discussions and a sample of kindergarten teacher interviews on play based-teaching healthy eating/nutrition?

3. Can insights gathered from a netnography of teachers’ social media discussions uniquely contribute to the development of a kindergarten program?
   a. How do findings compare with past research?
   b. Do findings reveal any new insights (to explore in future research)?

To answer these questions I conducted an investigation in two phases, with the following specific goals corresponding with each phase:

Phase 1: Program Landscaping. Aims were to:
   - Analyze kindergarten healthy eating/nutrition curricula from provincial/territorial Ministries of Education
   - Analyze kindergarten teachers’ social media discussions regarding play-based teaching and healthy eating/nutrition in kindergartens, including a specific focus on Ontario kindergarten teachers’ discussions about the newly implemented FDK program
   - Interview kindergarten teachers based on findings from the social media analysis

Phase 2: Program Development. Aim was to:
   - Develop SNAK based on review and synthesis of findings from Phase 1 (curricula analysis, social media discussion analysis, and interviews with teachers).
Overall Research Approach

Qualitative research

In this section I provide a brief description of my overall research approach. When the research aim is to explore experiences from the participants’ perspectives and determine how these views formed, the most effective research approach is often a qualitative one (Ashworth, 2008; Smith, 2008). Qualitative research aims to generate rich, descriptive accounts of the topic being studied, differing from quantitative research where the aim is to count occurrences or the size of associations between entities (Smith, 2008). Remaining true to the participants’ voices throughout the research process, qualitative researchers provide participants with the ability to describe issues in their own terms, resulting in a greater understanding of their behaviour (Lytle, et al., 1997) and thereby creating information useful for both research and practice (Denzin & Lincoln, 2005; Stake, 2000).

Moreover, Fleischacker, Cason, and Achterberg (2007) recommended qualitative research as the ideal approach when researching stakeholders’ perspectives of early childhood nutrition, citing how this approach enabled building trust with participants. Following a review of the literature on parents’ perceptions of childhood obesity, Towns and D’Auria (2009) further championed the importance of qualitative research, concluding that many of the quantitative research techniques prevented a full understanding of participants’ perceptions’ of factors related to obesity. Appropriately, then, in my thesis I used a qualitative research approach as I aimed to understand kindergarten teachers’ perceptions of factors that were important to consider when developing SNAK.
**Constructionist epistemology**

In line with a qualitative research approach, this thesis is rooted in a constructionist epistemology. This is to say, I placed importance in exploring people’s meanings of actions and interactions. However, even though I was not seeking to discover an objective “truth” or “right answer,” according to a constructionist viewpoint, I also believed knowledge is not completely subjective either. Instead, knowledge is constructed by people as they interact with the world they are interpreting (Charmaz, 2014; Crotty, 1998). Consequently, different people can have different perspectives, even regarding the same topic or experience (Crotty, 1998). In light of these positions, throughout my dissertation I will be using the concept of “credibility” instead of “validity,” as I was not seeking out a single reality.

In addition to seeing people as actively constructing representations of the world, a constructionist viewpoint also means that I acknowledge that in my results, I constructed representations of those being studied (Charmaz, 2014). Still, even with the perspective that all research is subjective and represents different constructions, I aimed to demonstrate adequate representations of these constructions of reality under study, as will be detailed in Chapter 3 (Lincoln & Guba, 1986; Wallendorf & Belk, 1989).

**Theoretical Approach**

The first two theories, SCT and Diffusion of Innovations (DI), were used together to develop the core components of SNAK and anticipate issues that may arise during SNAK’s implementation in kindergartens. A program’s “core components” refer to the theoretically important aspects of the program that need to be emphasized in terms of teacher fidelity (Durlak & Dupre, 2008).

Unlike the first two theories which were drawn upon prior to data collection, one third theory was used exclusively during data analysis. Specifically, in Chapter 6, Social Ecological Theory
(SET) was used during the final phases of data analysis to achieve a stronger understanding of teachers’ perspectives on play-based teaching in kindergartens.

Social Cognitive Theory: Developing SNAK’s Core Components

As previously described in Chapter 1, the importance of theory-based educational programs cannot be overstated. Theory adds structure to programs through identifying facilitating situations, relevant processes, and guiding the timing and sequencing of events (McClain, Chappuis, Nguyen-Rodriguez, Yaroch, & Spruijt-Metz, 2009). I drew upon two theories during SNAK’s development.

The first theory guided the development of SNAK’s core components. SCT is one of the most successful health behaviour change theories, is popular with traditional school-based nutrition programs, particularly with school-based interventions focusing on dietary behaviour change (Auld et al., 1998; Cole, Waldrop, D’Auria, & Garner, 2006; Glanz, Rimer, & Viswanath, 2008). SCT consists of concepts, such as self-efficacy and self-regulation, which have been established as crucial factors in children’s nutritional behaviour development (Aldridge et al., 2009; Brown & Ogden, 2004; Johnson, 2000). Two systematic reviews of school-based nutrition interventions revealed that the majority were based in SCT (with the remaining interventions either having no theoretical basis or being interventions focused on older youth) (Canadian Cancer Society Manitoba Division, 2011; Mikkelsen, Husby, Skov, & Perez-Cueto, 2014). Thus, I was drawn to SCT not only for its success in other nutrition interventions (Auld et al., 1998; Canadian Cancer Society Manitoba Division, 2011; Cole et al., 2006), but also for its conceptual fit with healthy nutritional behaviour research (Aldridge et al., 2009; Brown & Ogden, 2004; Johnson, 2000, Perez-Rodrigo & Aranceta, 2001). The following section will outline how all concepts from SCT were used to guide the development of SNAK, with the exception of moral disengagement, a concept that refers to ways of thinking about harmful behaviours (McAlister, Perry, & Parcel, 2008), and is clearly not applicable to a kindergarten nutrition program (See Table 2.1 for a summary of SCT concept definitions).
Table 2.1: Social Cognitive Theory Concepts

<table>
<thead>
<tr>
<th>SCT Concept</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Reciprocal determinism</td>
<td>People’s active involvement in their learning and environment</td>
</tr>
<tr>
<td>Facilitation</td>
<td>Providing tools, resources, or environmental changes that make new behaviours easier to perform</td>
</tr>
<tr>
<td>Outcome Expectations</td>
<td>Beliefs about the likelihood and value of the consequences of behavioural choices</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>Beliefs about one’s abilities to perform behaviours that result in the desired behaviours</td>
</tr>
<tr>
<td>Collective efficacy</td>
<td>Beliefs about the group’s ability to perform actions that result in desired behaviours</td>
</tr>
<tr>
<td>Observational learning</td>
<td>Learning new behaviours through exposure to others displaying them</td>
</tr>
<tr>
<td>Self-regulation</td>
<td>Controlling oneself through self-monitoring, goal-setting, feedback, self-reward, self-instruction, and enlistment of social support</td>
</tr>
<tr>
<td>Incentive motivation</td>
<td>Modifying behaviours through rewards and punishments</td>
</tr>
</tbody>
</table>

**Reciprocal determinism**

First, the concept “reciprocal determinism” represents the active role people play in both their learning experiences and shaping their environments, and is a surprisingly underused concept in many kindergarten nutrition programs. Perhaps due to young children’s limited verbal and reading skills, the majority of nutrition programs tend to focus on teachers delivering knowledge-based messages, rather than involving children’s inputs (Benton, 2003; Brown & Ogden, 2004; Evers, Arnold, Hamilton, & Midgett, 2007; Mata, Scheibehenne, & Todd, 2007).
Facilitation

The second concept, “facilitation,” refers to providing children with the resources or environments that enable desired behaviours.

Outcome expectations

The third concept, “outcome expectations,” represents people’s beliefs that certain outcomes will occur based on their behaviours (Bandura, 2004). Positive outcome expectations can be actively developed through improving children’s “self-efficacy,” the fourth concept.

Self-efficacy

Self-efficacy refers to people’s beliefs about their abilities to influence the events in their lives (Bandura, 2004). Improving children’s self-efficacy with desired behaviours is crucial, as self-efficacy determines how obstacles are viewed. Children with higher levels of self-efficacy view obstacles as surmountable and are able to pursue goals even when faced with challenges (Bandura, 2004). In classroom settings, teachers play crucial roles in cultivating children’s self-efficacy in four ways:

Mastery experiences. First, teachers can provide children with opportunities to successfully complete activities (McAlister, Perry, & Parcel, 2008). The more behavioural mastery experiences provided in the intervention, the greater the beneficial effect (Bandura, 2004).

Social modeling. Second, children’s self-efficacy, in particular, can be developed through social modeling. In schools, social modeling can be harnessed by drawing upon the older students in the school to aid with programs. Engaging older students, from a theoretical perspective is
essential, as much research has confirmed the enhanced benefits of children learning from models who are similar to themselves (McAlister et al., 2008).

**Physical and emotional states.** Third, improving children’s physical and emotional states can be achieved through maintaining a positive atmosphere, by reducing stress and frustration, and by not progressing people to activities that are too challenging for their abilities (Bandura, 2004).

**Verbal persuasion.** Finally, the fourth way teachers can improve children’s self-efficacy is by verbal persuasion. For instance, by encouraging children when they succeed as well as making sure children do not progress to activities before they are ready (Bandura, 2004).

**Collective efficacy**

The fifth concept, “collective efficacy,” refers to children’s beliefs about a group’s abilities to reach certain goals (Bandura, 2004).

**Observational learning**

The sixth concept, “observational learning,” refers to learning new behaviours through observing others, especially peers, perform the desired behaviours, will be a central tenet of SNAK. One of the more successful ways to increase children’s fruit and vegetable intake is through role modeling (Birch, 1998; Mikkelsen et al., 2014).

**Self-regulation**

Broadly speaking, the seventh concept, “self-regulation,” refers to helping people develop the skills for managing themselves (McAlister, Perry, &Parcel, 2008). In the specific context of developing healthy eating behaviours, self-regulation refers to a person’s ability to eat based on
physiological hunger (Schwartz & Puhl, 2003). Encouraging the consumption of healthy foods and giving children some control over their food choices has been found to allow children to continue to develop self-regulation regarding food intake (Benton, 2003; Fisher & Birch, 1999). Furthermore, with children, play is in itself known for developing children’s self-regulation, that is, their abilities to set limits for themselves and have positive social interactions (Pellegrini, 2009). For example, one study found that sociodramatic play predicted the development of self-regulation during class clean-up periods (Elias & Berk, 2002).

Incentive motivation

Finally, it will also be important to communicate with teachers the importance of these concepts, including the last one - maintaining a positive atmosphere in the play setting to improve children’s physical and emotional states, and build “incentive motivation,” the eighth concept, which refers to changing people’s behaviours through rewards. Teachers need to be aware of the importance in recognizing and acknowledging when children are staying on-task with activities.

Limitations of SCT

A limitation of developing SNAK using a basis of SCT involves measuring changes in constructs, such as improvements in self-efficacy (Ogden, 2003). Additionally, by building a program based on SCT, there is risk in focusing only on individual-level determinants, which is why research using theories such as SCT have been criticized for failing to take sufficient account of the relationship between behaviour development and the social environment (Baum, 1995; Evers, Arnold, Hamilton, & Midgett, 2007; Leung, Yen, & Minkler, 2004).

To focus solely on the individual is to assume that behaviour is wholly under his/her control and that a person can act wilfully exclusive of environmental influences (Stokols, 1996). Such a focus on individual agency fails indeed to acknowledge those environmental and social factors that, for present purposes, have an especially strong influence on children’s eating behaviours.
(Mikkelsen & Chehimi, 2007; Twiss et al., 2003). However, as will be further discussed in the ethics section in the following chapter, this focus on the individual is why it will be important to stress to school communities that SNAK represents one part of an overall healthy community and that it needs to be combined with other initiatives that target families and communities.

**Application of SCT concepts to SNAK**

A description of how SCT was used to develop SNAK’s core components will be detailed in the final section of this chapter (SNAK Preliminary Outline).

**Diffusion of Innovations Theory: Planning for Implementation in Schools**

The second theory was identified during a similar process during the early stages of my thesis design. DI (Rogers, 2003; Oldenburg & Glanz, 2008), an organizational theory, is useful when understanding how to implement a program in an organization (such as a school). DI was selected in response to the potential challenge of developing a program that teachers are unable to implement. For example, researchers often develop programs based on findings from controlled studies that neglect the reality of teachers’ classroom situations, such as time, resource constraints, and other stressful factors that limit the capacity of teachers to implement such programs (Beets et al., 2008; Butterfoss, Kegler, & Francisco, 2008; Gryzwacz & Fuqua, 2000).

In light of Diffusion Theories, it was necessary to consider first how teachers would respond to the concept of a play-based nutrition education program. Thus, I selected DI (Rogers, 2003) as a theoretical framework in order to shift the emphasis from impelling teachers to adopt new programs to encouraging them to contribute to designing programs that fit their real-world needs. By considering teachers’ needs while developing SNAK, the program can aim to improve children’s as well as teachers’ health.
DI stresses the importance of gaining support from the school staff, and primarily the teachers (Beets et al., 2008; Rogers, 2003). Before a program can be implemented, it is imperative to determine how the program would be maintained in the schools long-term (Rogers, 2003; Whelan-Berry & Somerville, 2010). According to DI, there are three factors (See Table 2.2 for a summary of factors) in particular that determine whether a program will be accepted by teachers, all of which need to be given due consideration during program development prior to implementing a program in a school: the innovation itself, the adopters, and the setting/environmental context (Dearing, 2008; Oldenburg & Glanz, 2008).

### Table 2.2: Diffusion of Innovations Factors

<table>
<thead>
<tr>
<th>Factors influencing implementation process</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Community Factors</td>
<td>Positive work climate, organizational norms, integration of new programming, shared vision</td>
</tr>
<tr>
<td>Teacher’s Personal Characteristics</td>
<td>Perceived need for program, perceived benefits, self-efficacy</td>
</tr>
<tr>
<td>Program Characteristics</td>
<td>Compatibility, adaptability</td>
</tr>
</tbody>
</table>

**School community factors**

First, before introducing a program into a school, it is necessary to examine the fit between the program and the school, by learning about the school’s culture and available resources (Beets et al., 2008; Dearing, 2008; Pentz, 2004). Additionally, as Oldenburg & Glanz (2008) have stressed, it is necessary to understand the broader social environment of the school, thereby considering the different barriers to adoption, implementation, and sustainability. For example, Beets and colleagues (2008) found the necessity of program developers considering the importance of a supportive environment in program implementation. They also found it was essential to attempt to foster a school climate promoting cohesiveness and shared visions.
Teacher’s personal characteristics

Second, it is highly useful to learn as much as possible about teachers’ opinions on the rest of the school staff, as the support of others in the school is much needed for programs to succeed (Oldenburg & Glanz, 2008; Pentz, 2004; Rogers, 2003).

Program characteristics

Third, to improve the chances of successful adoption, certain characteristics of the program itself will need to be explored with teachers. Teachers’ acceptance of programs is known to be influenced by their perception of its relative advantages, compatibility, complexity, and observability (Dusenbury et al., 2005; Rogers, 2003). Programs perceived to be radical departures from present practices are especially likely to be rejected (Dearing, 2008; Rogers, 2003), or programs that include materials or activities that do not align with teachers’ preferred way of doing things (Datnow & Castellano, 2000). This can result in unplanned adaptation or “reinvention,” which refers to a teacher deviating from a program’s implementation plan (Dusenbury et al., 2005; Pentz, 2004; Ennett et al., 2011; Rogers, 2003). However, perfect implementation is an unrealistic expectation, as researchers have cautioned that program adaptations are inevitable (Datnow & Castellano, 2000; Durlak & Dupre, 2008). Therefore, developing flexible programs are encouraged to facilitate adoption (Wiecha et al., 2004).

Limitations of DI

One general limitation of DI in my study is the exclusive focus on teachers’ roles in the process of adopting an innovation, which relegates to lower status the influential roles played by the rest of the school staff and community (Lee, 2004). However, as detailed earlier, teachers have been identified as playing pivotal roles in program success. In fact, some researchers have concluded that teachers’ beliefs can prove much more influential than official policies or reforms in determining whether a program is implemented successfully or not (Quance, Lehrer, & Stathopoulos, 2008).
Application of DI to SNAK

Thus, in light of DI, a number of steps were taken while developing SNAK. To understand the broader social environment of schools (particularly the different barriers to adoption, implementation, and sustainability), I examined kindergarten teachers’ attitudes towards, preferences regarding, understandings of, and experiences with kindergarten play-based teaching and healthy eating programs. Additionally, I completed a document analysis of Canadian kindergarten healthy eating curricula that enabled me to better understand the current kindergarten curricula. SNAK was also intentionally created to be adaptable to different classes and teachers’ needs, which will be further discussed in Chapter 9 of this thesis.

Social Ecological Theory: Analyzing Teachers’ Perspectives

Finally, the third theoretical approach used in my thesis was SET. (Birch & Davidson, 2001; Bronfenbrenner, 2005; Gregson et al., 2000; McLeroy, Bibeau, Steckler, & Glanz, 1988). This theory was applied after the data had been collected, towards the end of my data analysis process, after I began to observe (in the data as well as the related literature) how often teachers described factors beyond their personal beliefs that impacted their decisions to use play in kindergarten classes.

I found SET particularly useful when trying to understand teachers’ decisions to use play in their classes, because it illustrated how a range of different variables impact behaviours, beyond a narrow focus on individual beliefs (Sallis, Owen, & Fisher, 2008). Examining people’s behaviours solely from the perspective of individual-level determinants presents many limitations, such as a failure to recognize social environmental influences (McLeroy et al., 1988). To better understand people’s behaviours and perceptions, it is essential to consider the variety of factors and interactions in their immediate and extended environments (Bronfenbrenner 2005; Gregson et al., 2001).
SET holds that behaviours are determined by multiple levels of influence. Researchers need to be aware of more factors, beyond just individual variables, in order to have a more complete understanding of the influences and relationships in people’s lives (Sallis, Owen, & Fisher, 2008). Without an understanding of social environmental factors, researchers are left with incomplete, and thus undependable, descriptions, because the constraining and enabling structures that affect the development of certain behaviours and perceptions remain unknown (Bronfenbrenner, 2005; Pentland, 1999). McLeroy and colleagues (1988) identified five interrelated factors that influence an individual’s behaviours as they relate to health (Table 2.3).

**Table 2.3: Social Ecological Theory Factors (McLeroy et al., 1988)**

<table>
<thead>
<tr>
<th>Factors influencing implementation process</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrapersonal</td>
<td>Individual characteristics such as knowledge, attitudes, behaviours</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Social network groups such as family, friends, work group</td>
</tr>
<tr>
<td>Institutional/Organizational</td>
<td>Social institutions with organizational characteristics</td>
</tr>
<tr>
<td>Community</td>
<td>Relationships among organizations and informal networks within boundaries</td>
</tr>
<tr>
<td>Policy</td>
<td>Local, state, and national laws and policies</td>
</tr>
</tbody>
</table>

1) Intrapersonal factors include an individual’s characteristics including behaviours, knowledge, and attitudes.
2) Interpersonal factors include social networks, such as colleagues, friends, and family.
3) Institutional and organizational factors include formal and informal rules and regulations.
4) Community factors include norms and standards that exist among groups and organizations.
5) Policy factors include local, provincial, and national policies (McLeroy et al., 1988).
Even though McLeroy and colleagues’ (1988) model was designed to examine health promotion programs, I found it provided a useful framework for analyzing teachers’ insights (McLeroy et al., 1988).

Limitations of SET

One of SET’s greatest strengths is how it enables researchers to reveal how many different factors influence people’s behaviours; however, this is also one of its greatest limitations. For example, journal manuscript word limitations can make it challenging to describe the full scope of SET factors in a single manuscript (Sallis, Cervero, Ascher, Henderson, Kraft, & Kerr, 2006). Still, SET can be made more feasible by focusing on certain theory aspects (Gryzwacz & Fuqua; Wium & Wold, 2009). In fact, a review of the past 20 years of health promotion research by Golden and Earp (2012) concluded that the majority of researchers who used SET limited their research to focus intrapersonal and interpersonal factors.

Application of SET

I applied SET specifically when analysing teachers’ descriptions about what influenced their decisions about play-based teaching in kindergarten settings. In Chapter 6 I report on Intrapersonal, Organizational, and Policy factors in my manuscript on teachers’ views of play-based teaching in kindergartens. Specifically, teachers’ behaviours are understood as the outcome of the combined influences of environment, policy, and the individual’s innate characteristics. While every teacher will face different obstacles to practicing play-based teaching, common challenges identified include pressure from sources, such as administrators, school or state curriculum, and standardized achievement tests which influenced their practices (Goldstein, 2007; Moore, 2010; Stipek & Byler, 1997).

By applying SET, I became aware of whether teachers can use play-based teaching in school depends on the support around them, and specifically, their perceptions of support from those in
their environments. These aspects are then further related to social-level factors such as educational policies. Desired behaviours can be expected only when factors such as environments and policies support choices, when social norms and social support are strong, and when individuals are motivated and educated. When the various environments are not supportive, results are often weakly incorporated and short-term (Salallis et al., 2008).

**Theory Summary**

To conclude, given the importance of theory in nutrition programs (Lytle & Achterberg, 1995; Canadian Cancer Society Manitoba Division, 2011; Sharma, 2006), choosing appropriate theoretical paradigms involved considering the value and potential contribution of various behaviour change theories during the first stages of my dissertation. Because SNAK will use play in a social context, I was drawn to SCT not only for its success in other nutrition education programs (Auld et al., 1998; Canadian Cancer Society Manitoba Division, 2011; Cole, Waldrop, D’Auria, & Garner, 2006), but also for its conceptual fit with healthy nutritional behaviour research (Aldridge et al., 2009; Brown & Ogden, 2004; Johnson, 2000, Perez-Rodrigo & Aranceta, 2001).

In addition to SCT, and in view of the challenges of past school-based interventions, DI was also used during program design (after the framework of the program has been developed according to SCT). Finally, while I did not anticipate using any further theories in my dissertation, during the data analysis phase of research I encountered a need for theory to enable me to better explain my findings and I drew upon SET.
SNAK Preliminary Outline

This section will describe the preliminary outline of SNAK that was developed following my literature review but prior to the curricula analysis and netnography. Thus, the goal was to develop SNAK’s core components based on relevant research and theory (Table 2.4). As described below, SNAK was initially structured according to relevant research, SCT concepts, and four components Bandura (2004) identified as being crucial to effective school-based health programs (such as programs that promote healthy eating and physical activity or discourage smoking and drugs): informational, social and self-management, self-efficacy, and social support. SNAK’s objectives focused on having children role-play a variety of healthy eating concepts and behaviours, such as preparing meals and grocery shopping, in food-themed sociodramatic play centres, such as kitchens, grocery stores, and restaurants.

Application of relevant research

The current literature on developing children’s healthy eating behaviours and school-based nutrition education programs suggests a potentially fruitful approach to nutrition education would be to develop a theoretically-grounded, play-based program focused on behaviours and skills, as opposed to memorizing concepts.

Moreover, one of the most important ways to encourage the development of healthy food preferences is by increasing children’s familiarity with new foods. And not surprisingly, research recommends more nutrition interventions focus on increasing familiarity with healthy foods (Wardle & Cooke, 2008). Food-themed play-based settings offer one such way to capitalize on the concept of visual familiarity to improve children’s food preference development by having children play with food models, photos, and even food packaging (such as empty cans of beans, boxes of pasta, etc.).
Application of Bandura’s health program components

**Informational.** The informational component is seen in the crucial role teachers’ play in initiating discussions about healthy eating and foods in the sociodramatic play centres.

**Social and self-management** involved translating the healthy eating and food information into actual behaviours and situations that children encounter in their real lives. This translation was achieved by having children dramatize healthy eating behaviours and skills in the play centres. Developing children’s **self-efficacy** involved organizing SNAK to include mastery experiences, social modeling, improving emotional and physical states, and verbal persuasion.

Finally, **social support** was drawn upon by having the students engaging in the program together in the sociodramatic play centres.

Application of SCT concepts

**Reciprocal determinism** will be integrated into SNAK by encouraging the children to be involved in shaping their environments. SNAK proposes having the children choose the type of restaurant or what activities to focus on in the centre.

**Facilitation** will be achieved by providing children with environments through dramatic play centres and materials that are needed to develop healthy nutritional behaviours and skills. Importantly, the centres must be equipped with enough materials to enable children to be exposed to a variety of healthy foods and be able to engage in role-playing various behaviours, such as choosing healthy foods from a play grocery store.

**Outcome expectations** will be fostered by having the children interact - and observe others interacting - with healthy toy foods and behaviours in a positive manner (having fun through play and resulting in teacher praise). Not only will teachers be encouraged to model healthy behaviours in the play setting, but older students from the school could provide additional peer models.

**Self-efficacy** will be developed in SNAK through teachers guiding the children to first simply interact with the healthy foods, and then gradually encouraging them to engage in increasingly
more complex and realistic behaviours, such as pretending to make a list of foods, grocery shopping, and preparing and serving others healthy meals.

**Collective efficacy** will be encouraged by having children model behaviours and work on activities together. Having older students from the school lead the different play situations and act out the desirable effects of healthy nutritional behaviours is an approach that will also address social approval of behaviours (Bandura, 2004).

**Self-regulation** will again be developed in SNAK as the children will be encouraged to practice behaviours that reflect healthy eating in real-life situations.
<table>
<thead>
<tr>
<th>Core Component</th>
<th>How the component is incorporated into SNAK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informational</td>
<td>Teachers initiate discussions about healthy eating and healthy foods in the sociodramatic play centres</td>
</tr>
<tr>
<td>Reciprocal determinism</td>
<td>Involve students in the design and ongoing activities in the play centres; for example, students can choose the theme of the restaurant</td>
</tr>
<tr>
<td>Facilitation</td>
<td>Sociodramatic play centres must be equipped with enough materials (toy food models, toy cookware, etc.) to foster behaviours</td>
</tr>
<tr>
<td>Outcome Expectations</td>
<td>Teachers can encourage students to develop positive associations with healthy eating behaviours through modelling positive emotions when they demonstrate healthy food choices and behaviours</td>
</tr>
</tbody>
</table>
| Self-efficacy                 | Teachers can provide:  
|                               | 1. opportunities for mastery experiences  
|                               | 2. social modeling  
|                               | 3. improving physical and emotional states  
|                               | 4. verbal persuasion |
| Social support/Collective efficacy | Teachers can encourage students to work together. Need to have a small group of students in the sociodramatic play centre |
| Observational learning        | Teachers can engage with students in the sociodramatic play centres and teach through modeling healthy eating behaviours |
| Self-regulation               | Students need to take turns with different roles (such as shopper in grocery store) and activities (such as cooking a meal) in centres and working together as a group |
| Incentive motivation          | Teachers can acknowledge and encourage students when they demonstrate healthy food choices and behaviours |
References


Chapter 3: Research Design and Methodology

In this chapter I describe the research rigour, methodologies, methods, data collection procedures, data analysis, and ethical issues that guided my research. The research design reflects the overall purpose of my thesis: to develop the protocol for SNAK with the specific objective of striking a balance between developing a program that is theoretically sound but also modifiable to the varying needs of different kindergarten classes and teachers. Put another way, I aimed to balance: 1. developing the theory-based core components of the program; and 2. understanding kindergarten teachers’ needs and preferences regarding play-based teaching and healthy eating/nutrition in kindergartens.

Research Rigour

Prior to detailing the design of my study, I would like to provide information on the techniques I applied to ensure that I conducted rigorous research (but not objective research). In my thesis research I drew upon a number of methods (document analysis of curricula, analysis of social media discussions, and interviews with kindergarten teachers) for two reasons: to ensure research rigour and because I aimed to have findings applicable to kindergarten teachers beyond those that participate in social media discussions. Traditional positivist research validates findings by using triangulation to draw upon different methods (Yin, 2009). Within a positivist approach, the aim is to reveal a perceived single truth, whereas within post-positivist approaches, such as mine, the aim is never to discover a universal truth, and triangulation is seen as a way to find multiple accounts of a phenomenon (Anzen, 2000; Ellingston, 2009; Richardson, 1997).

As introduced in Chapter 2, in contrast, constructionist research deconstructs the concept of validity by providing a deeper, more complex, and openly partial understanding of a topic (Richardson, 1997). The combination of methodological practices, materials, and perspectives in a single study can be understood as a useful strategy for ensuring rigour (Flick, 2009), which I
will further elaborate on in the following section by describing the various techniques I applied throughout the research process to ensure research rigour.

As will be discussed in the following netnography section, I spent an extended amount of time immersed in the data collection and analysis process (whether gathered through offline or online data collection methods) in order to improve the credibility of my research findings (Kozinets, 1998, 2010; McMillan & Schumacher, 1997). Prolonged engagement in the field has been advised in order to be able to judge the distortion that might be occurring in the data (Wallendorf & Belk, 1989). Based on past netnographers’ recommendations, I chose to spend one year examining the teacher social media discussions (Kozinets, 2010; Puri, 2007). This period included selecting message boards and news articles, collecting data, and preliminary analysis, which involved periodically returning to the message boards.

**Essential features of qualitative research**

**The researcher.** In qualitative research, the researcher is seen as playing an active role throughout the entire research process, from shaping the research questions to writing up the results articles (Strauss & Corbin, 1998). For this reason, in the following paragraphs I provide information on relevant aspects of my life and interests, in order for readers to better understand why I made certain decisions throughout the research process. I focus on my interest in both the development of early childhood eating behaviours and social media research.

My interest in early childhood eating behaviours began during my undergraduate degree in Human Kinetics when I took classes in nutrition and became particularly drawn to the social influences on children’s developing eating behaviours. I went on to focus my Master’s thesis research on the challenges facing childcare providers in supporting healthy eating in childcare settings. The Ontario play-based FDK was just being implemented as I was finishing up my Master’s thesis research. Through the extensive media coverage describing the new play-based curriculum, I learned about, and became interested in, the many benefits of play-based teaching.
I wondered if play-based teaching could be used to teach healthy eating behaviours, and the concept for my doctoral research study was born.

Prior to completing my doctoral thesis research, my knowledge of what it was like to be a kindergarten teacher (particularly one working in Ontario’s FDK) derived from two main sources: First, the vast amount of information available on teachers and teaching available through the media and academic literature. Particularly in Ontario, due to the switch to the new play-based FDK curriculum, there had been a large amount of media coverage on kindergartens. In general, the information presented was positive and I was under the impression that FDK was a beneficial experience for both students and teachers. However, as I began reading academic literature that examined teachers’ and ECEs’ experiences in kindergartens, I was surprised by how the findings differed from the positive representations I had first encountered in the media regarding life in an Ontario FDK as well as the literature on play-based teaching. This furthered my interest in learning more from kindergarten teachers’ perspectives, particularly through alternative data sources (as past research had mainly used interviews), such as social media discussions (I will further describe my interests in social media research in a following paragraph). The second source that contributed to my understanding of what it is like to be a teacher came from the stories I heard throughout my life from family members and friends who work as elementary school teachers. Additionally, it is relevant to acknowledge that while I had spent time with friends’ and family members’ young children, I did not have any children of my own. However, I did have experience working with children, as I had spent many years coaching children as young as three-years-old in sports and volunteering in kindergarten classes while I was in school (although this was many years ago when I was in high school).

Without any personal experience working as a kindergarten teacher (and with no aspirations to become one in the future) I possessed a different background as a researcher examining kindergarten teachers’ perspectives compared to the literature I had read. While conducting my literature review of research that examined the Ontario FDK, I was struck by how the majority of the research had been conducted by researchers who were either currently or previously employed as teachers. Additionally, as far as I could discern, the research on Ontario’s FDK appeared to originate from researchers who were from educational departments, such as the
Ontario Institute for Studies in Education at the University of Toronto or Early Childhood Education at Ryerson. Being a researcher from Public Health Sciences (and previously, Human Kinetics for my undergraduate and Master’s degrees), gave me a different (though not any better) perspective than past researchers in this area, as I could not compare participants’ teaching experiences to my own experiences.

Another important aspect of my background that influenced my research decisions was my familiarity with using social media data in research. I had used social media data in a number of studies that I conducted and published in academic journals over the past six years. I felt comfortable using this unique type of data. For example, before starting data collection, I already knew how to examine message board participants’ profiles, use the search engines on specific message boards, and find related blogs through examining the comments on blogs. I also found it advantageous that I had already published research using social media data, as I knew what sorts of questions reviewers may have concerning this type of data. Having this prior knowledge enabled me to complete my research more efficiently than a researcher who was unfamiliar with this type of data.

Needless to say, I acknowledge that my analyses of the data were not the only ones possible. For example, the meanings I found related to the teacher interviews represent the interaction between myself and the interviews with the teachers—one researcher’s response—and consequently reflect my values and influences as well as those of the teachers. A researcher who had previously worked as a kindergarten teacher may have interpreted the data differently. Likewise, a researcher unfamiliar with social media research may not have chosen to examine this type of data.

Additionally, from the beginning of the research process I designed my study with a focus on ensuring what Flick (2009) described as the four essential features of qualitative research:
1) There is a need to choose methods that are appropriate and theories that involve not studying phenomena in isolation, but having a goal to discover and develop the new
2) There is the need to recognize different perspectives
3) Researchers’ reflections on their research are part of the research
4) There are more variety of approaches and methods than quantitative research.

In combination with Flick’s (2009) points, I included Wallendorf and Belk’s (1989) strategies for ensuring trustworthiness in naturalistic research (specifically, prolonged engagement, triangulation, debriefings by peers, and reflexive journaling). Kindergarten teachers’ views on play-based teaching and healthy eating were obtained from a variety of different data collection methods and sources representing different views on the same topics. I also frequently included examples of direct and lengthy quotations in my manuscripts to preserve teachers’ voices and allow readers to form their own judgements about the teachers’ discussions.

**Reflexivity.** Flick’s third point describes reflexivity, a technique also described by Wallendorf and Belk (1989), and many others (Ellingston, 2009; Giri, 2004; Lee, 2004) as being an important part of the research process. Reflexivity involves self-reflection throughout the entire process of data collection, analysis, and writing (Ellingston, 2009). Reflexivity encourages researchers to present a more open and transparent research process, which adds to study rigour. To “do” reflexivity I recorded notes and memos during data collection and analysis (Lee, 2004). During the interviews, these notes involved information such as the physical setting, what people other than the person being interviewed said and did, and anything else that may have been occurring at the same time as the interview.

**Memos.** Memos involved my initial thoughts and hunches about the data (Giri, 2004). Memos fell into two categories: Procedural memos helped me to recall how I did my coding and what kinds of categories I created, whereas analytic memos helped me think about the categories and themes I was developing, and why I might be developing them (Giri, 2004). A sample from my memo journal is included as Appendix D of my thesis. Regarding the netnographic portion of my study, even though my “field” was internet-based for almost a full year, I followed the recommendations of past netnographers and treated social media as a field (Kidd, 2013; Kozinets, 2010; Kulavuz-Onal & Vasquez, 2013). Immediately upon ending my data collection each day, whether it was online or offline, I wrote memos to have an account of what occurred that day along with interpretations and reflections. These included my personal reactions to anything that occurred during the day, reactions that I did not include in any results articles, but
were useful for understanding how my background affected the research process (Kulavuz-Onal & Vasquez, 2013).

**Additional strategies.** Other strategies I used to ensure my research was rigorous included having periodic discussions with colleagues, a strategy known as “peer debriefing.” I chose to not formally employ the strategy of member checking (a strategy that involves having the transcripts read by the participants to ensure data accuracy), primarily for the reasons provided by Angen (2000) and Morse (1994). In addition to these epistemological reasons, there were also strong feasibility reasons against employing member checking: due to the challenges in recruiting teachers to participate in interviews, time limitations on my thesis, and timing with when member checks would be conducted (at the end of the school year) contacting teachers for member checks was not feasible. Additionally, due to the variability of teachers who participated (three from an all-girls private school and the rest from public schools) and social desirability issues reported in past research with teachers, I reasoned that contacting a few teachers would be particularly fruitful. However, throughout my study, I did conduct informal member checks with teachers. For example, during the in-person and email interviews, teachers were asked questions based on findings discussed by teachers in the social media discussions. This technique also served as a form of triangulation (Wallendorf & Belk, 1989). I was also able to periodically check my emerging interpretations with peers who were not involved in the research, but had insights into the teaching profession (Wallendorf & Belk, 1989). Specifically, I met with friends currently working as elementary school teachers in Ontario.

Finally, it is important to note that while I acknowledge that my research is biased and partial, this does not mean that I cannot make useful contributions to both research and practice. In fact, some have argued that researchers who employ a rigorous research process with a specific aim to consider more possibilities than traditional methodologies are better able to produce pragmatic results (Ellingston, 2009). With an understanding of the research rigour involved in my study, I will now turn to detailing the methodology.
Methodology

To accomplish my research objectives, I used a newer research methodology known as netnography. A large portion of this chapter is devoted to describing netnography, since it represents a shift in the traditional methodologies used in public health research. The aim of this section is to define and illustrate the opportunities in a netnographic methodology. I begin by describing how the distinctive characteristics of social media discussions, such as flexibility and communal aspects, encourage users to participate in discussions in ways that differ from traditional research methods. I then describe netnography’s strengths and limitations, and provide examples of netnographic research.

Social media

Before discussing the methodology of netnography, I will briefly describe its essential component: social media. The descriptor “social media” refers to a number of online tools and systems, such as blogs, chat rooms, and message boards (Norman, 2012). While social media can take many forms, my focus was on message boards, whose online communities should prove most useful to education or health researchers. Message boards are usually organized around a particular shared orientation or interest and consist of text-based exchanges between participants (Kozinets, 2010). Participants post messages, others reply, and over time an asynchronous conversational thread is formed (Kozinets, 2010). Key to remember, social media is reliant upon public participation to operate successfully (Hagen & Robertson, 2009; Norman, 2012). That is, if people do not post and reply to messages, there is no message-board conversation.

As a result of its widespread popularity, in the mid-1990s consumer and marketing researchers recognized social media discussions as another means of gaining insights into customers’ needs and preferences. Online discussions were viewed as useful in product and service design and development, and especially so in identifying potential product problems (Klein & Spiegel, 2013). In consumer and marketing research and in product design and development, social media
has come to offer new possibilities for the active participation of a wider group of people than ever before (Bullinger et al., 2012).

**Differences between in-person vs. social media discussions.** While I am not suggesting that message board discussion data could or should replace interviews or focus groups, they do have a number of advantages that make them attractive data sources for researchers. Reasons that have been identified for people participating in message board discussions are: flexibility, control, clarity, and community.

**Flexibility.** Message board discussions enable much flexibility in discussions between people with differing needs. Participation does not require travel, so the effort is much less in a virtual environment than in meeting with others in-person (Nakki et al., 2011; Seeman, 2007). Because social media allows people to participate regardless of time and location, more people are able to participate in a discussion, which can result in a geographically diverse group (Prandelli et al., 2006). In fact, for many participants, message board discussions enable them to connect to a more diverse group of people than they find in their actual lives (Evans et al., 2001).

**Control.** Participants can begin discussions about topics that are important to them and respond only to discussion topics when they choose to share information and advice (Klein & Spiegel, 2013; Scanfeld et al., 2010). As well, social media discussions allow people to participate at whatever time of day is convenient for them and at a pace with which they are comfortable (Brickart & Schindler, 20010; Sawney, Verona, & Prandelli, 2005). Perhaps these characteristics begin to explain why message board participants, in comparison to focus group participants, can be less inhibited and less affected by group thinking (Prandelli et al., 2006).

**Clarity.** Message board discussions might allow participants to explain themselves better than in-person discussions (Klein & Spiegel, 2013). A few reasons have been suggested to explain this finding: because they are writing on a public board, participants might explain their messages more clearly (Nakki et al., 2011). Additionally, social media discussions allow participants to quote others’ messages in their own messages, or to include links in their messages (Jiyao & Reynolds, 2010), practices which also improve clarity. Additionally, being able to refer to
previous postings in the discussion, to reflect in writing, enables participants to understand information better than is possible when engaged in a discussion in present time (Brickart & Schindler, 2001).

**Community.** Message board discussions also enable participants to develop a strong sense of belonging to their message board community, and such a sense of supportive community often encourages participants to reveal more information than through traditional methods (Sawney et al. 2005; Seeman, 2007). In a study of online communities, researchers found that many participants did not perceive such communities as “virtual” at all, but as an additional way to connect with others possessing a shared interest (Evans, Wedande, Ralston, & van’t Hul, 2001). In fact, the mutual support and empathy of participants in various health message boards were central factors in continued participation (Bullinger et al., 2012; Seeman, 2007). With this understanding of social media and its potential benefits, and with a broad understanding of what motivates its participants, I turn to a description of the qualitative research methodology that examines social media discussions: netnography.

**Netnography**

**Definition.** Ethnography is a qualitative research methodology whereby a researcher immerses herself in the everyday life of a community with the goal of understanding life from community members’ perspectives (Kozinets, 2010). Netnography is a methodology that adopts the practices of ethnography in an internet-based setting. Therefore, netnography is also a qualitative research methodology that maintains the same goal as ethnography but adapts its research to study social media, for present purposes the message board discussions described earlier (Kozinets, 2002).

A netnographic study follows a process that resembles an ethnographic study. (Kozinets, 2010). However, once a researcher has selected her research questions, the next step, instead of selecting a community site, is to identify relevant social media discussions and/or communities. Social media discussions are then saved and analyzed similarly to the handling of transcripts resulting from other qualitative data methods (Kozinets, 2010). Consequently, netnographic
research findings should be viewed in the same way as in-depth interviews and other qualitative approaches. As with other qualitative approaches, netnography aims to offer propositions that can inform future research, and be theoretically generalizable, rather than empirically generalizable (Draper & Swift, 2010). Its results increase the store of particular knowledge, encourage broader and new perspectives, and generate hypotheses (Kozinets, 2010).

Development in marketing and consumer research. Netnography was initially developed by Kozinets (1997) as a way to study fan culture occurring online. Soon after, marketing and consumer researchers adopted the methodology to gain advantage in product design from consumer discussions occurring on social media. But consumers have not always played such a prominent role in the product design process. Traditionally, product design and development was the undeviating process of design, create, and sell (Hagen & Robertson, 2009). Implicit in this process was the belief that the goal of the design phase was the development of products (Hagen & Robertson, 2009), with consumers in the role of “final inspectors” (Fuller & Matzler, 2007). Deviating from this traditional practice, companies began to think of product innovation as not solely the business of manufacturers but also, and even more so, of consumers themselves (Bilgram, Bartl, & Biel, 2011). Companies and consumers began to design and develop products together in a process that has become known as “co-creation” (Bilgram et al., 2011). Customers became known as co-creators and were recognized as valuable resources for companies designing new products (Fuller & Matzler, 2007).

Co-creation’s rapid development and advancement is attributable to marketing researchers using social media as a vast resource of consumer discussions and preferences (Kozinets 2002). By studying the naturally-occurring interactions in message boards and blogs (interactions which are not present in traditional focus groups or interviews), netnographic researchers elicited additional consumer insights (Kozinets, 2002). Examining social media enables companies to customize their products and services to meet customers’ more freely expressed demands and interests (Armstrong & Hagel, 2000; Bilgram et al., 2011). Consequently, social media discussions have become an important source of information for consumer and marketing researchers (Kozinets, 2002). Co-creation using social media has become essential in the development of innovative
products that match consumers’ needs (Bilgram et al., 2011). And netnography can be used by researchers developing school-based programs in a similar fashion.

Although netnography has not yet been used as a methodology to develop education or health programs, social media has been used to achieve other goals in health care settings, with the vast majority being descriptive in nature (Grajales, Sheps, Ho, Novak-Lausher, Eysenbach, 2014; Moorhead, Hazlett, Harrison, Carroll, Irwin, & Hoving, 2013). For example, social media discussions have been examined to help determine public perception of antibiotics and influenza, research that has revealed concerns which could then be raised in public health campaigns (Corley, Cook, Mikler, & Singh, 2010; Scanfeld, Scanfeld, & Larson, 2010). Scanfeld and colleagues (2010) used a quantitative approach to examine 1000 twitter statuses containing the word “antibiotics” and concluded that twitter provided a way to identify potential misuse or misunderstanding of antibiotics. Given such success, along with calls for researchers to combine ideas and research tools from various disciplines, including online discussions (Corley et al., 2010; Eysenbach, 2009; Goulding, 2003), it is somewhat surprising that health researchers involved in program development have not adopted the methodology of netnography more extensively.

**Strengths**

**Less researcher influence.** First, netnography is unique in providing a process of observing people’s more naturally occurring discussions in a context that has not been created by the researcher (Kozinets, 2002; Puri, 2007). Passively and unobtrusively observing such online discussions enables researchers to gain insights that have not been influenced by the researcher’s presence (Kozinets, 2010).

**Time and cost effective.** Second, netnography enables researchers to include the public in program development in a timely and cost-effective manner. Researchers can obtain an extensive amount of conversational data more quickly than from interviews, because netnographers benefit from the immediate transcription of online discussions (Kozinets, 2002; Nakki et al., 2011).
fact, through the use of netnography, researchers have developed products using fewer redesign cycles, and thus increased the cost-efficiency of the development process. This advantage is especially important given that arguments against involving the public in health research often focus on cost increases (Bullinger et al., 2012).

**Archival nature.** Third, blog posts and message board discussions are generally archived and stored (Jiyao & Reynolds, 2010; Puri, 2007). This means that researchers can access not only current but also past discussions (Kozinets, 2010). Automatic archiving of conversations offers researchers the opportunity of searching through collections of past conversations and examining the development of particular threads. Consequently, the availability of digitally archived data greatly increases the scope of research (Kozinets, 2010; Nakki et al., 2011).

Contrasting netnography with other research approaches further illustrates its advantages. Though a naturalistic technique, ethnography is time-consuming (for both researchers and participants) and resource intensive. Ethnography is also obtrusive, which is particularly relevant in studies of such subjects as teachers, who have been found to be influenced by observation, as researchers cannot invisibly observe classes (Kozinets, 2010; Puri, 2007). Ethnography is done on an episodic basis (Sawney et al., 2005), whereas netnography can include past archived discussions. Interviews, focus groups, and survey methods involve researchers asking preconceived questions and placing people in artificial situations, resulting in data that is somewhat decontextualized (Kozinets, 2010; Puri, 2007). Following such studies and comparisons, netnography can be said to be far less-time consuming, resource-intensive, and expensive than traditional research methods (Jiyao & Reynolds, 2010; Klein & Spiegel, 2013; Kozinets, 2002).

**Limitations**

**Online communities.** As with any methodology, netnography has limitations, and these need to be understood before beginning a netnographic study. It has been criticized for its focus on online communities, its inability to generalize results beyond the online community sample, and
the trustworthiness of its data (Kozinets, 2002). Netnographic research is limited to examining the perspectives of people who have internet access and are literate (Jones, 1999; Rowe, Hawkes, & Houghton, 2008; White & Dorman, 2001). With a focus on online communities, people who do not or cannot participate in social media are excluded from the study (Klein & Spiegel, 2013; Wilkinson & Thelwall, 2011; Rowe, Hawkes, & Houghton, 2008).

Other barriers (such as internet availability/accessibility/cost and computer literacy) existed to participating in social media when these virtual conversations first began. Currently, though, social media’s widespread availability and accessibility have greatly reduced barriers to the majority’s participation (Hagen & Robertson, 2009; Norman, 2012). Nevertheless, social media remains inaccessible to certain groups, such as those with certain disabilities, though people with mobility problems and care-giving responsibilities have found social media discussions to be inclusive (Seeman, 2007).

**Unbalanced view.** Additionally, in some cases it has been observed that netnographic research tends to result in an unbalanced view, because online discussions are typically more problem-driven, so researchers need to bear in mind that potential limitation of the content of online conversations. However, this problem can be addressed by combining traditional methods (such as interviews and observations) with netnography to develop a more well-rounded understanding of the topic (Klein & Spiegel, 2013).

**Transferability.** Issues of representativeness and, correspondingly, the transferability of findings, affect all qualitative research, and neither are the goals of a netnographic study. As with other qualitative research, it is important to acknowledge that the findings are to be interpreted in terms of the particular sample. Consequently, it is not necessary that the sample be representative of other populations (Kozinets, 2002). Therefore, researchers aiming to develop theory or transfer the findings of a netnography study to offline groups (for example, see Kidd (2013)) must employ multiple methods, such as in interviews, focus groups, surveys, and/or traditional in-person ethnographies (Kozinets, 2002; Puri, 2007). While it currently remains unknown how representative online findings are of offline individuals (Puri, 2007), the discussions examined show the ways in which people in a distinctive group of think about an important topic. The data
are qualitatively interesting, and the findings can make a significant contribution during program development (Rowe, Hawkes, & Houghton, 2008).

**Anonymity.** The main concerns researchers have with using social media discussions relate to the anonymous nature of participating in social media discussions. Specifically, the inability to verify the identity of online participants and the ability to trust that they are reporting actual behaviours (Scanfeld et al., 2010). Some researchers fear the anonymity of online data results in false postings of information on message boards, which would raise questions about the credibility of the research. But, again, participant honesty is a concern in any interview, survey, or focus group study (Kozinets, 2010). Granted, in netnographic research this concern is amplified by the fact that online communities are composed of people who might never meet outside the virtual community, who are largely unaccountable for the information they share, and who can remain anonymous (Kozinets, 1998). Additionally, social media data is text-based and therefore lacking in such details of in-person conversations as body language, eye contact, tone of voice, posture, general mood, and movements. But while credibility is a universal problem in research, it becomes critical when promoting the application of an innovative methodology such as netnography to a different field, such as health research.

Although it is widely believed that people falsify information on the internet, research suggests that online lying is not a major concern for researchers. The likelihood of participants posting false information has been closely correlated to the discussion topic, but in general, netnographers argue this happens much less than expected (Kozinets, 2010; McDermott et al., 2013). For example, it would be necessary to examine a discussion of dieting behaviours with suspicion. Still, even if genuine participants can be trusted, online anonymity makes it possible for manufacturers and retailers to create fake accounts and pose as participants while promoting their products. This is a legitimate concern, but it is relevant mainly to consumer and marketing research focused on discussions regarding products. That said, posts by participants that engage in promotion or linking to a particular product or company should be examined with suspicion (Kozinets, 2002).
Although participant anonymity should make netnographic researchers cautious (Kozinets, 2010), it can also be viewed favourably as an aspect that enables people to reveal more information. For instance, the condition of anonymity can encourage the dispositionally reserved to participate in discussions (Cooke, 2008; Jiyao & Reynold, 2010). Anonymity permits many participants, the more introverted say, the freedom and security to express aspects of themselves that otherwise they would not share (Kozinets, 2008).

**Recommendations for ensuring credible data.** Nonetheless, researchers using netnography should take precautions to ensure credible data. Wallendorf and Belk (1989) recommend dealing with questions of falsification in ethnographic research by means of well-developed field research techniques such as prolonged engagement, persistent observation, and researcher introspection. Similarly, such safeguards can be applied in netnographic research: careful and prolonged observation of the social media community will better enable the researcher to trust the online discussions (Kozinets, 1998, 2010). Additionally, Puri (2007) recommended three practices for ensuring credible data. First, she recommended using message boards that provide user profiles, second, she recommended examining the content of individual posts to check for consistency over time, and third she recommended using a number of boards, as opposed to relying only on one, to determine if the findings apply to more than one online setting.

**How netnography can be applied to health research.** Many parallels can be drawn between marketing and consumer researchers developing products and health researchers developing programs: both benefit from the involvement of end users early in the process, both benefit from studying varied data sources, and both suffer from falling response rates using traditional methods. Whether the end users are consumers or program participants, researchers need to understand the world from their perspectives, their attitudes and perceptions – a goal that has already been accomplished by marketing and consumer researchers using netnography (Kozinets, 1998, 2002). Similarly, health researchers are being increasingly encouraged to integrate the public’s knowledge and perspectives based on their experiences (Bullinger et al., 2012; Scanfeld, 2010; Seeman, 2007).
**Alternative data.** Moreover, to develop a dependable understanding of those who will use the product or service, and to gain a wider variety of perspectives, health researchers need to place greater emphasis on alternative forms of data (as differentiated from the views of people who can or will participate in focus groups or interviews) (Goulding, 2003; Seeman, 2007). Furthermore, alternative forms of data broaden debates in the field, allowing different kinds of input and conversations to take place (Goulding, 2003; Hagen & Robertson, 2009). For consumer and marketing researchers, the use of social media discussions has enabled them to develop products that are better centred on consumers’ needs and wants (Fuller & Matzler, 2007; Kozinets, 2002). However, as previously discussed, integrating social media data into research and development in health programs requires a conceptual shift away from the view that only certain research methodologies can benefit health program research and development. As has been realized in other fields, such data based upon message board participants’ knowledge and expertise can be revelatory and innovative in research (Kozinets, 2010).

**Public inclusion.** Finally, although it has been established that integrating the public improves the relevance of research and development in the health field (Bullinger et al., 2012), attempts to engage participants through traditional methods have not been successful. With difficulties in attracting willing participants and diminishing response rates, some researchers are questioning the usefulness of traditional methods (Burrows & Savage, 2007). Indeed, recruitment issues have been identified as a main justification of the need for netnography (Cooke, 2008). As will be detailed in the forthcoming sections, in my own research, recruitment problems were the driving force behind the search for alternative ways to integrate teachers’ opinions during program development. That said, my promotion of netnography does not advocate the replacement of interviews or focus groups but offers, rather, a means to greater involvement of potential program users’ insights (Scanfeld, 2010), especially when recruitment attempts through traditional methods fail (Kozinets, 1998).

Thus, for a number of reasons, then, netnography provides health researchers a promising and innovative methodology, but of course it is not appropriate or advantageous for all studies. As previously described, researchers must first determine if the population being studied has an online presence and determine if any descriptive research has been completed on their social
media uses. Furthermore, netnography is an ideal methodology when the primary goal is to understand perspectives (Bilgram et al., 2011) and generate insights to inform future research (Klein & Spiegel, 2013), not to validate hypotheses (Wilkinson & Thelwall, 2011). Nonetheless, netnography research can help researchers form hypotheses that can then be tested in future research (Kozinets, 2010). Likewise, attitudes and behaviours revealed in netnographic research can be the focus of future observational or interview studies. For such reasons, netnography is especially appropriate and insightful as an exploratory tool in the early stages of program development (Kozinets, 1998).

Examples. As observed above, health research program developers can gain insights into successful netnographic research by looking to the consumer and marketing field. Kozinet’s work (for example, 1997, 1998, 2002, 2006, 2010) would prove useful reading for all health researchers considering netnography. However, health researchers can also examine the use of netnography in product development by companies such as Nivea, Adidas, Audi, BMW, Siemens, and Swarovski. (Bilgram et al., 2011; Fuller, et al., 2006; Klein & Spiegel, 2013; Sawney et al., 2005). For example, Ducati motorcycle’s research team examined discussions on such message boards as the community of American Ducati fans hosted on Yahoo!, motorcyclist.com and motoride.com. Insights derived from these analyses were then tested with a broader sample of customers (Sawney et al., 2005). And recently, early in the product development phase, Nivea’s research team examined a variety of message boards so as better to understand consumers’ needs, concerns, and language, and eventually to offer possible product solutions. By immersing themselves in the message board discussions, such researchers developed a stronger understanding of consumers’ preferences and values. Researchers then developed and tested hypotheses and ideas with a broader range of consumers, along with completing a quantitative online co-creation study (Bilgram et al., 2011).

Additionally, a few examples of groups known to have a strong social media presence that has generated both research and interest for future work: researchers designing programs for groups who have expressed feelings of isolation, such as new mothers, child care providers, and teachers (Hur & Brush, 2009; Lynch, 2011; Lynch & Batal, 2011; Stitzlein & Quinn, 2012); programs designed for people with chronic illnesses, such as asthma, celiac disease, and depression, who
are also known to comprise active online communities (Copelton & Valle, 2009; Seeman, 2007); aboriginal women isolated by geography and culture, who use online social networks as a medium for health knowledge, support, and motivation within a virtual neighbourhood (Hoffman-Goetz & Donelle, 2007); and online groups of cancer survivors who discuss treatment information, communicating with healthcare providers, and negotiating with the healthcare system (Meier, Lyons, Freydman, & Rimer, 2007).

For my dissertation, I followed a five-step process developed by marketing researchers: definition of research field, social media selection, social media observation, data analysis and insights identification, and product solution (in my case the “product” was the SNAK program) (Bilgram, Bartl, & Biel, 2011). As a qualitative approach, netnography aims to offer propositions that can be further studies and inform future research, not to generalize to a wider population. Results can provide insights into new perspectives and generate hypotheses for future research (Kozinets, 2010; Puri, 2007).

Netnography summary. This section defined social media and netnography, and examined netnography’s strengths and limitations for health researchers. We already recognize the advantages gained when product- or program-developers combine their own expertise with end-users’ needs and knowledge (Fuller & Matzler, 2007). We also know that social media, such as message boards, have been successfully used by the consumer-research and marketing field as a rich source of information not found by traditional methods (Sawney et al., 2005). Lacking still is health researchers’ using netnography to improve program development and generate ideas for future research. And to repeat: I am not suggesting that valuable and time-tested traditional methods of data collection be replaced, only that netnography offers a significant complementary addition to the number of approaches currently in practice for assessing public opinion (Rowe, Hawkes, & Houghton, 2008).

Netnography represents an innovative methodology that encourages producing a range of representations suitable for a variety of stakeholders, both scholarly and more applied, which was a goal of my research. By thoroughly studying a variety of data sources, I was able to build rich descriptions of social factors and participants’ perceptions. Additionally, my use of
netnography was not limited to an analysis of social media discussions, but in addition to a variety of data collection methods: document analysis of Canadian kindergarten curricula and in-person and email interviews with a sample of kindergarten teachers. This approach allowed me to better understand the perceived barriers that teachers typically face in program implementation, and refine SNAK accordingly.

I was concerned with the critique that qualitative researchers risk having their work being rejected if they themselves reject notions of validity and reliability (Tobin & Begley, 2004). However, by being transparent in my research process, drawing upon terms and applying techniques applied by past qualitative researchers and netnographers (Kozinets, 2010; Lincoln & Guba, 1987; Puri, Wallendorf & Berk, 1989), my thesis produced findings that should be useful for both research and practice.

Data Collection Methods

In this section, I will be describing the two methods I combined for my netnographic study: 1) Document analysis and 2) Interviews. Following this section describing the methods, I will present a section detailing how I used these methods, in other words, the process of data collection. Combining data collection methods is a technique used to create a more complete understanding of the phenomenon being investigated (Yin, 2009). Furthermore, because the overall objective of my research was to develop a program, for the netnography part of my research, I needed to identify behaviours and attitudes present in teachers beyond those participating in online discussions (Kidd, 2013). Thus, it was crucial to draw upon a variety of data collection methods (Kozinets, 2010; Puri, 2007).

Document analysis

Document analysis is a systematic process for examining documents (Corbin and Strauss 2008) that combines elements of content analysis (organizing information into categories related to the
central questions) and thematic analysis (recognizing emerging themes and categories in the data) (Bowen, 2009). Document analysis is an example of an unobtrusive measure of behaviour, as unlike interviews or observations it does not involve direct contact with subjects. Since the materials analyzed were not written with the intention of having researchers analyze them, such documents can realistically represent the contexts in which they were composed and the motivations of those who wrote them. Examples of materials used in document analysis include articles in the mass media, websites, books, organizational records, and policy documents (Esterberg, 2002; Yin, 2009). Document analysis is well-suited to exploratory research into curricula and social media discussions, as it is an efficient, unobtrusive, and low-cost method (Corbin & Strauss, 2008). I collected two different types of documents for analysis: Canadian provincial and territorial Ministry of Education kindergarten curricula and teachers’ social media discussions regarding play-based teaching and healthy eating/nutrition.

**Kindergarten healthy eating curricula.** My first document analysis examined kindergarten curricula regarding healthy eating and/or nutrition from the 13 Canadian provincial and territorial governments. Data consisted of official curricula obtained from each provincial/territorial ministry of education website. My focus was on examining the data from an intended curriculum (Eisner, 2005) standpoint by analyzing how healthy eating lessons were described in the provincial/territorial curriculum guides. My examination of the intended curriculum should provide the necessary foundation from which future researchers can examine the operational curriculum – analyzing how the curriculum unfolds in the classroom (Eisner, 2005). It is important to note that though curricula were obtained from every provincial/territorial ministry of education website, they may not be fully representative of all curricula developed for each province/territory or used by teachers.

**Kindergarten teacher social media discussions.** My second document analysis examined kindergarten teachers’ social media discussions. As has already been described, the popularity of social media has resulted in another source of data through social media message boards, newsgroups, and blogs that offer qualitative researchers a wealth of data (Rowe, Hawkes, & Houghton, 2008) available in digital form (Krippendorf, 2004) and is readily available online.
**Limitations of document analysis.** Document analysis has been criticized for being biased and written for a specific specialist readership. To overcome this criticism, document analysis is a method recommended in combination with other methods (Esterberg, 2002), which I accomplished by combining document analysis with interviews. Through these publicly available documents, I aimed to develop insights into the cultural and social context of schools and teachers (Esterberg, 2002).

**Interviews**

I also conducted two types of interviews: in-person and email. The interviews were the section where I needed to adapt my methods (but not my overall thesis research goals) the most. My original research plan was to interview teachers from the public school board, but this soon became an unrealistic goal for my research, after I was able to discuss my research plan with graduate students at Ontario Institute for Studies in Education (OISE), teachers, a principal, and a professor at the University of Ottawa, all of whom advised against research with the public board, due to the ongoing unresolved issues between the school board and the provincial government regarding contract negotiations between the teachers union and the government, which ended up being resolved while I was well into my data collection, during 2013.

Despite this setback, I was able to look into the private school system in Toronto, and found I would be able to contact these schools for interviews. Consequently, my plan was revised to conduct interviews with a sample of kindergarten teachers from private schools in Toronto. In a later section of this chapter I present research on private schools in Canada and the different types of private schools in Toronto.

However, I was hesitant about interviewing teachers only from private schools, as my aim for SNAK was to have it become a part of Ontario’s public school curriculum, and so I continued to search for another way to contact public school teachers. Additionally, during the interview recruitment process, for a variety of reasons (with the predominant reason voiced by teachers being that they did not have time to participate), only three teachers from one private school
agreed to participate. I then sought to find another method to gather teachers’ insights and came across several studies describing email interviews as a way to deal with low recruitment rate (Kozinets, 2010; McCoyd & Kerson, 2006; Murthy, 2008; Seeman, 2007). With the goal of my study not being to generalize to a population, but to gain insights into the feasibility of my play-based nutrition program, I needed a varied sample of kindergarten teachers (Onwuegbuzie & Leech, 2007). Thus, the data source for this study was a combination of semi-structured interviews with private school kindergarten teachers as well as individual email-interviews with kindergarten teacher-bloggers.

**Interviews vs. questionnaires.** I chose interviews as opposed to questionnaires mainly because past research on program implementation has identified that seldom are the direct questions in a survey enough to understand the reasons behind why someone will or will not adopt a program (Rogers, 2003). While I knew that I would be able to obtain results from a much larger number of teachers if I used a questionnaire, I reasoned that there was much more of a need to understand in-depth what sorts of challenges teachers were facing with play-based teaching and healthy eating/nutrition in kindergartens. Additionally, as I was seeking teachers’ insights regarding the protocol for SNAK, I could not anticipate the sorts of issues teachers may have with it, the sort of information which is a prerequisite for developing a questionnaire.

**Types of interviews.** After deciding upon interviews, the next step was choosing which type of interview would be best suited to my research. Interviews can be either informal (arising spontaneously during the course of an observation) or formal (which can be further classified as structured, semi-structured, or unstructured). Because my aim was to understand the teachers’ perspectives, I employed semi-structured interviews.

In a semi-structured interview, a rapport is sought between the interviewer and the participant; while the interviewer has a general idea of what areas the interview should cover, the participant is viewed as the expert and allowed to relate his/her experiences without the researcher imposing views (Smith & Osborn, 2008). With the goal of engaging the participant in a dialogue, semi-structured interviews elicit richer descriptions of participants’ beliefs, enabling them to become more like partners in the research (Fontana & Frey, 2005). These interviews are much less rigid
than structured interviews, since the goal is to explore a topic more openly and to allow interviewees to express their opinions and ideas in their own words.

Second, I also conducted email interviews with Ontario kindergarten teacher-bloggers. Email interviews were done due to the previously described recruitment issues and to gather a wider variety of kindergarten teachers’ insights than would be achieved through only interviewing teachers from private schools. Email interviews seemed particularly well-suited to my research, as they have been suggested as a way to overcome the time barrier that prevents participants from agreeing to in-person interviews (Meho, 2006). I also knew that there was a significant number of kindergarten teacher blogs, and through my research into netnography, I had learned that directly emailing bloggers could be a way to recruit participants (Kozinets, 2010).

Before looking further into email interviews, I performed a preliminary search for Canadian kindergarten teacher blogs, and was surprised by the number I found. Not only were there a large number of Canadian kindergarten bloggers, but there appeared to be enough Ontario kindergarten bloggers (over 20), that I could focus specifically on these provincial bloggers.

Email interviews. Similar to the earlier section on netnography, the following section will provide more detailed information on email interviews, since it is also a newer and lesser-known method in public health research. I selected email interviews for a number of reasons: my research focus, my study population, and the advantages of email interviews specifically related to my study.

Research focus. My research focus was not one which required the detailed understanding gained through in-depth or long interviews (Kozinets, 2010). As the main focus of my thesis was developing the SNAK program through a multi-step process, gaining teachers’ insights through interviews was only one step in the process, and not the main focus of my thesis. Hence, I rationalized that interesting and useful conclusions could be drawn from a relatively short number of questions in email interviews, since these messages would contain a sufficient amount of descriptive richness for my specific research focus and I was aiming for carefully thought out answers (Kozinets, 2002).
Study population. Email interviews were also the best choice based on my study population of kindergarten teachers. My recruitment attempts with the private school kindergarten teachers had led me to suspect they fell into the category of participants who are too busy to stop for one or two hours required of a traditional interview (Kozinets, 2010). Additionally, email interviews have been recommended when dealing with inaccessible respondents (Murthy, 2008; Seeman, 2007). While most people would probably not consider kindergarten teachers an “inaccessible” population, I found the teachers I was trying to access for my study did fit this definition. Other researchers have had success with email interviews after getting extremely low response rates using traditional methods of requesting in-person interviews (McCoyd & Kerson, 2006; Murthy, 2008). I also considered how other research has found greater response rate when participants were offered options that met their desires for privacy (McCoyd & Kerson, 2006). While it is impossible for me to know the reasons why kindergarten teachers were not interested in participating for in-person interviews, privacy may have been a factor.

Email interview advantages. I was also drawn to email interviews for the number of advantages that make them especially suited to a graduate student’s research, such as the ease of storage and time and being cost effective, and having less interpretation errors (McCoyd & Kerson, 2006). They can also offer a larger reach than traditional interviews, and they are typically returned more quickly and have richer responses to open-ended questions (Murthy, 2008). However, besides being ideal for graduate student research, they also have other advantages that make them well-suited to my objective of teachers’ insights.

Email interviews have been known to provide unique qualitative data especially, as respondents sometimes provide more personal information which can be attributed to greater “intimacy” of data collected online compared to traditional methods (Murthy, 2008). Email interviews occur without pressures of face-to-face interactions, and there seems to be a sense of privacy or safety that allows greater disclosure of intimate information (McCoyd & Kerson, 2006). Participants have been found to provide more information because emailing provides them the protection and privacy to the possible repercussions from others knowing they participated in research (McCoyd & Kes, 2006). For my research, by contacting teachers directly, they were able to participate without having their principals or colleagues know they were participating.
Another advantage of email interviews was discussed in a unique study that used the same interview guide for in-person, telephone, or email interviews (McCoyd & Kerson, 2006). Email interviews tended to be more complete, to include more self-reflection respondents, and to be more candid. Researchers suggested these findings may result from participants feeling as though they were replying to a machine (that is perceived as being non-judgemental), as opposed to a person (McCoyd & Kerson, 2006). In fact, participants themselves reported distinct advantages to email interviews: they could complete interviews in parts, rather than having to set aside a large amount of time during normal working hours (McCoyd & Kerson, 2006).

Finally, the participants in my study would be teachers who also blog; individuals who are accustomed to and comfortable writing online, meaning that they all have access to the internet. This also meant they could complete the interviews in the privacy and comfort of their homes, a distinct advantage over other interview settings (McCoyd & Kerson, 2006).

**Email interview disadvantages.** As with the other methods, there are also disadvantages to email interviews that must be considered. These include that researchers cannot observe participants’ emotions during interviews, only what they choose to report. Although some may view this as a disadvantage, some have argued that researchers should trust respondents to inform the researcher of their experiences (McCoyd & Kerson, 2006). I would also argue that observing emotions is more of an issue with studies that are aiming to gain insights into sensitive or stigmatized topics, unlike the much more pragmatic nature of my research.

Another disadvantage of email interviews is that it is skewed toward studying economically advantaged groups (Murthy, 2008). Again, this is a disadvantage that is not really applicable to my study, as teachers are all gainfully employed. Other technical problems exclusive to email interviews do apply to my study, such as old email addresses and “disappearing text” (due to computers freezing or other technical errors occurring while the participant is completing the interview). Still, the advantages of email interviews outweighed the disadvantages, as email can generate particularly detailed and thoughtful responses. Email allows participants to reply on their own preferred time schedule. Email interviewing adds an additional tool for accessing populations who may not have the time or inclination to participate in face-to-face interviews.
(McCoyd & Kerson, 2006). Additionally, they appeared to be the best match for interviewing teacher-bloggers, due to their comfort with communicating online.

**Limitations of interviews.** While interviews (both in-person and email) were the best choice for my research, they are not without limitations. In terms of interviewing as a data collection method, regardless of whether interviewing occurs in-person or email, it is a method typically criticized for being biased; however, in line with my constructionist viewpoint, I was not searching for any objective truth and that all research (even those that claim otherwise) is biased and presents only a partial account of a situation (Ellingston, 2009). Different researchers will always produce findings that are not identical even when they study the same people or documents. Instead, the focus is on ensuring reflexivity throughout every stage of the research process (Ellingston, 2009).

Additionally, as stated earlier, I combined interviews with other methods (Esterberg, 2002). Interviews have also been criticized regarding the interviewees’ poor recall and poor or inaccurate articulation (Yin, 2009). While this is an aspect I was aware of, I did not foresee it as being as much a factor in my study as it could be in other studies, as my interviewees were all individuals with high levels of education. Please see Appendices A-G for documents used during the interviews.

**Data Collection Procedures**

The first phase aimed to generate a landscape analysis of current kindergarten play-based teaching strategies and nutrition/healthy eating programs in Canada and beyond. Three different types of publicly accessible media were sampled and analyzed using three different approaches and appropriate methods. I followed the recommendation of Hookway (2008) to set a time frame for collecting social media data, as opposed to setting a specific sample, as an issue with collecting social media data can be that there is so much data online, a truly exhaustive search is
not feasible or realistic, and can instead become “a disorientating, time-consuming and overwhelming experience that only reluctantly yields relevant data.” (p.107).

**Document analysis**

**Curriculum documents.** The first part of my document analysis section consisted of analyzing the content and frameworks of Canadian Ministry of Education kindergarten healthy eating/nutrition curricula and comparing these against the literature in the field of children’s nutritional behaviour development. For this part of the study, I followed the document analysis procedure as described by past researchers who have examined Canadian health curricula (Lu & McLean, 2011).

My first step was to develop a list of the key search terms to be used in the search for healthy eating curriculum documents on Ministry of Education websites. Key search terms, such as “KINDERGARTEN CURRICULUM,” “KINDERGARTEN LESSON PLANS,” and “KINDERGARTEN PROGRAM” were used to search for curriculum documents on provincial and territorial ministry of education websites. More terms were developed based on what was located in the curricula of these initial searches. In addition, I consulted with a research consultant at the OISE library to determine if my list of key terms was sufficient. Once I established the list of key terms, I searched for curriculum that was available through provincial and territorial ministry of education websites (full search details are provided in the results manuscript pertaining to this topic).

**Inclusion criteria.** To be included, curricula were required to i) be published from 2000) ii) involve kindergarten classes iii) be written in English iv) be administered in a school setting v) be part of the school curriculum and not simply a short-lived intervention. Curricula were excluded if they were published prior to 2000, did not include in the study population kindergarten classes, were published in a language other than English, did not involve a school setting, or were not described as being the curriculum. Curricula were rejected if any of the exclusion criteria are met. In total, 18 curricula were analyzed (Table 3.1).
Second, to develop an understanding of the issues teachers face with play-based curriculum teaching I examined social media message board discussions and comments to news articles about the Ontario Ministry of Education’s full-day kindergarten curriculum. For this part of the study, I followed the document analysis procedure as described by past researchers who have examined message board and news article comments (Henrich & Holmes, 2011; Kidd, 2013; Manose & Walker, 2009; McDermott et al., 2013; Porter & Ispa, 2012; Salzmann-Erikson & Eriksson, 2011), as well as researchers who have written specifically about how to conduct research using social media data (Hookway, 2008; Jones, 1999; Kozinets, 2010; Wilkinson & Thelwall, 2011).

**Message boards.** I employed a number of strategies to generate my web-based purposive sample of teachers’ social media discussions pertaining to play-based teaching. While no specialized software was required, collecting and filtering through the vast amount of data online is notoriously time-consuming (Wilkinson & Thelwall, 2011), which I certainly experienced during my search for discussions. Though I do not really remember it being tedious now, I was reading through my memo journal from these days and found the following quote: “I searched through the first 100 pages over the course of the day, taking breaks often, as I found my eyes would glaze over if I tried to go through too many in a row.”

First, the phrases (in quotations to result in an exact match) were typed into the commercial internet search engine Google with the filter “discussions,” as well as the forum search engines Omgili and Boardreader. While these forum search engines are not highly recommended, as they have been criticized for not providing information on the forums they index, and are not as extensive as a commercial search engine (Wilkinson & Thelwall, 2011), they were worthwhile for my search, in order to be as exhaustive as possible for all forum discussions relating to my topic. Second, I repeated the same search but applied Google’s “inurl: forum” command to get results from forums I may have missed in my initial search (Wilkinson & Thelwall, 2011). To do so I added the term “inurl: forum” to determine if my first search missed any discussions. Next, message boards identified from the Google and forum engines search were examined to remove any spurious matches, with the end result being a sample of relevant forums (Wilkinson & Thelwall, 2011).
Inclusion criteria. Message boards were selected for inclusion in the study using selection criteria as follows: i) required to identify as providing a discussion forum for teachers (identified through the name of the board) ii) discussions must be published from 2007 iii) be written in English. This was determined mainly through an examination of the descriptions of the boards, located on the main page. Message boards were excluded if they did not identify as being discussion boards for teachers, discussions are prior to 2007, or are written in a language other than English. Boards were rejected if any of the exclusion criteria are met. To locate any discussions that may have been missed from the Google search, keywords relating to the topic, such as “PLAY-BASED,” “KINDERGARTEN,” “NUTRITION,” and “FOOD” were used in the forum search function, where possible.

I decided to try another approach for finding discussions by instead searching for teacher message boards and then searching on the board itself for discussions related to my topic. To do so, I typed the search terms “teacher message boards” and “teacher forums” and “teacher chat” into the search engine Google. Finally, to supplement this search I used a page of statistics regarding web pages that included the phrase “teacher message boards” to ensure the message boards represented a wide and diverse sample of boards (Puri, 2007). This page contained the results from web search terms and thus allowed me to see all of the most popular pages with teacher message boards. I used this page to search manually through all the results returned to determine which were forums (as some were blogs discussing teacher forums). Even with all of these searches, I still do not claim they were exhaustive, but they do present a thorough search process employed by other researchers (Puri, 2007). From of the ten boards initially identified, three were rejected because they did not meet the inclusion criteria. One board was password-protected. Two boards were daycare/childcare/teacher boards which made it unclear when discussion participants were teachers. In total, seven message boards were included in the final sample.

Once I identified a teacher message board, the next step in the search differed depending on the organization of the board itself. The smaller boards had simple set-ups, sometimes with only one forum for discussion amongst all teachers, or divided into broad categories, such as elementary, middle, and high school. These boards often also did not have the option of searching the board,
so I was left to manually search through the topics for any that related to kindergarten play-based learning or teaching nutrition. The larger boards, on the other hand, were typically much more complex and were not only divided up into the school level, but would have separate forums for each grade level. These boards also typically had the option of searching the specific forum. Through this, I began by searching for discussions related to Ontario’s play-based kindergarten, and while this returned a few discussions on a couple of boards, much more often I came across discussions related to teaching through play in kindergarten classes. While reading through these discussions, I became interested in how teachers who identified as being from the States would participate and share their experiences and issues with play-based teaching in a kindergarten class setting. Based on this, I decided that I would open up my search to include any discussions related to play-based teaching in kindergartens, as well as any discussions related to teaching nutrition in kindergarten and full day kindergarten.

I returned to any of the boards I had previously searched and either searched manually or typed the keywords “play-based” “play” “full day” “nutrition” into the forum’s search engine. I also developed new search terms based on words that kept appearing in these posts: “stations” “centers/centres” “kitchen.”

I also discovered another searching option that I found on one board where I was not finding any results were being returned was to use the function which allowed me to search for posts depending on what words they were tagged with. After re-applying my search terms in the “tagged” search, dozens of pages of forums discussions were returned, whereas previously I was only able to find a couple discussions. This was surprising as I had not read about any researchers recommending a search strategy using this tagged function.

In sum, message board data were collected for three months at the beginning of 2013. In total, 7 publicly available message boards were identified as including 80 distinct discussions by kindergarten teachers about play-based teaching and healthy eating in kindergartens. All message board discussions were saved as PDFs and stored on a secure server and USB.
**Message board discussion topics.** I created a table (Table 3.2) to keep track of the different discussions and ensure that I was not duplicating any discussions. This became crucial as I would often return to the message boards several times using different search terms that would return the same results, additionally, some topics would have the same topic titles, but would be entirely different discussions (i.e. there were several, even on the same board, that were titled “Dramatic Play”). For each discussion I recorded 1) what message board community it originated from (A-G), 2) the topic, which was determined by the content of the discussion, though this categorization was only intended to be an initial way of keeping track of discussions. For instance, “Dramatic Play” could include discussions relating to both play and play involving food. 3) The number of messages in the discussion, and 4) the number of participants in the discussion.

As can be seen by the third and fourth points, the vast majority of discussions had similar number of messages and participants. This was due to most discussions being initiated by a direct question that required “instrumental support,” such as “How much time do you allow for snacks every day?” followed by participants responding. To a lesser extent, other discussions were initiated by a participant sharing an experience, such as a negative interaction with a co-worker, which was then followed by participants sharing advice and support, known as “emotional support.”

In both cases, the vast majority of the time discussions developed that extended beyond the original question. By this I mean that even when a participant asked a straightforward question that seemed to only seek instrumental support, discussion and debates developed. In the example provided above of the time for snacks, participants did not simply reply with the time they allotted, but began discussing whether or not they have time in their schedules for play, what is taking precedence over snack time, the obesity levels in schools, etc. Though beyond the scope of this thesis, there has been much research examining the types of support teachers receive and give on message boards (for further information, see Hur & Brush, 2009; Kidd, 2013).

**Participant characteristics.** As described earlier, I took a number of steps to be able to trust that the participants in the discussions were in fact kindergarten teachers. My main strategy was to
spend an extended amount of time observing the discussions. As recommended by other
netnographers, I found that this careful and prolonged observation of the social media
communities better enabled me to trust the online discussions. Additionally, I followed Puri’s
(2007) three recommended practices for ensuring credible data. First, I studied message boards
that provide user profiles, second, I examined the content of individual posts to check for
consistency over time, and third I used a number of boards, as opposed to relying only on one, to
determine if the findings apply to more than one online setting. By spending months immersed in
these conversations, I was able to develop a better sense of who the participants were and was
able to feel confident that they were in fact kindergarten teachers.

While limited information on the participating teachers was available (which is common in
message board discussion studies, such as Copelton and Valle, 2009; McDermott and colleagues,
2013), it was possible to collect some basic information on the teachers, depending of course on
what they chose to reveal in their user profiles and discussions. From the teachers who disclosed
describing themselves as being “new to K” or described themselves
as transferring to kindergarten after years at another grade asking questions. At the same time,
other posters described themselves as being “veteran teachers” or would begin posts by saying
they have “15 years of experience as a K teacher.”

Noteworthy, out of all of the discussions, I only read one post (quoted below) that raised my
suspicions that there were participants on these teacher message boards who were not teachers
but were actually manufacturers or retailers:
Summer vacation is in full swing, but before you know it, it’s back to school time which means lesson plans and classroom activities. We would like to introduce you to Verizon Thinkfinity, Verizon Foundation’s nationally recognized free digital program in support of education and literacy. This online education tool provides comprehensive teaching resources for teachers to help enhance effectiveness, engage learners and improve student achievement. The easy-to-navigate K-12 resources are grade-specific and are aligned with state standards. Also, Thinkfinity offers face-to-face and online training options that show educators how to use this tool to adapt to their specific needs and integrate into the classroom.

In addition, teachers have the opportunity to become a member of the free online community where they can find all the tools needed to organize resources, network with friends and other teachers, and share ideas, plans and advice with others in the education community.

Thinkfinity is a fun and engaging way to get a jump start on back to school lessons!

Below you can find their official site, direct link to the parents and kids section, an intro video and an image as well as further information on Thinkfinity.org.

You can watch the video here: http://www.youtube.com/watch?v=Yf0mz-4Czy4&

While it appears straightforward based on the content of the message alone that this was not a message posted by a kindergarten teacher, because I was studying message boards with user profiles, I was also able to see that this participant had posted in only one other discussion (and it was the same message). There were no replies to this message, which also led me to believe that the other participants were well aware that this was not a teacher.

News Articles. As with the message board study, to locate news articles, again, the phrases “ONTARIO PLAY-BASED KINDERGARTEN” and “ONTARIO FULL-DAY KINDERGARTEN” were typed into the commercial internet search engine Google with the filter “news.” Articles identified from the Google search were examined to remove any spurious matches, with the end result being a sample of relevant articles (Wilkinson & Thelwall, 2011).
**Inclusion criteria.** News article comments were included if the commenter identified him/herself as either a past or present kindergarten teacher. Articles were excluded if those commenting did not identify themselves as teachers. Articles were rejected if the exclusion criteria were met. From these two searches, hundreds of pages were returned. For time and manageability reasons, I searched through the first 100 pages of results.

However, unlike the message board discussions, which seemed infinite, I was less successful with the news article comments than I anticipated. I tried various strategies on Google and Yahoo. The most successful one for locating news articles was to use the search terms “kindergarten curriculum” or “full day kindergarten” and applying the filter “Only pages from Canada.” While there is a “News” filter, I found using it eliminated the vast majority of articles, and would, regardless of other terms I tried (“play-based kindergarten”, “Ontario kindergarten”) return less than ten pages of results.

Major national newspapers had articles on the FDK program with hundreds of comments to sift through. Unfortunately, reading through these often ended up being very time-consuming and did not result in any useable data. Frequently, commenters on major newspaper articles would debate issues they had with the Liberal government that had nothing to do with the kindergarten curriculum. Many articles were returned from smaller local papers, such as Sarnia, Windsor, Gananoque, and Hamilton, but often there would be no comments left on these articles. In the end, nine articles were identified from eight different online news sources with possible teacher comments, but only six had confirmed teachers participating, and 15 teacher comments in total (Table 3.3). All news article discussions were saved as PDFs and stored on a secure server and USB.

**Interviews**

I focused on understanding the experiences of Canadian kindergarten teachers (with a focus on Ontario teachers) with regards to their perceptions and experiences with play-based teaching and healthy eating/nutrition in kindergartens. As with most qualitative research studies, though I began without designating a specific sample size, I aimed to have a purposive sample of teachers
that could provide insights on my topics and was large enough to achieve data saturation (Onwuegbuzie & Leech, 2007). Purposive sampling is commonly used in qualitative research to select participants who are able to make a meaningful contribution to the study (Creswell, 2009). All study materials and procedures were granted ethical approval from the University of Toronto REB.

**In-person interviews.** The following section will briefly provide information on the context of Canadian private schools. In Canada, school curricula are not nationally set, but are instead developed separately by the Ministry of Education for each province or territory. While some provinces fund private schools, the Ontario Ministry of Education does not provide private schools with any funding or financial support (Ontario Ministry of Education, 2013). Additionally, unlike publicly-funded schools, private schools are not required to follow the Ontario curriculum and teachers and principals in private schools do not have to be certified by the Ontario College of Teachers (Ontario Ministry of Education, 2013).

**Education Act.** However, even though private schools operate independently of the Ministry of Education, they are still required to follow certain policies, procedures, and legislation, such as the legal requirements of the Education Act (Ontario Ministry of Education, 2013). For example, in order to legally operate in Ontario, all private schools must submit a yearly “Notice of Intention to operate a Private School” that includes information on school staff, students, and subjects taught (Ontario Ministry of Education: Field Services Branch, 2013). Principals of private schools must also provide statistical information regarding enrolment, staff, and courses taught to the Ministry of Education on a regular basis.

In order to pass the validation process set by The Education Act, private schools in Ontario must provide instruction between the hours of 9 a.m. and 4 p.m., on any school day for at least five students of school age (children aged six years and older) (Ontario Ministry of Education: Field Services Branch, 2013). Consequently, if the school only has children in junior and senior kindergarten (under compulsory school age) the school falls under the jurisdiction of the Day Nurseries Act (Ontario Ministry of Education: Field Services Branch, 2013). Six different types of private schools operate in Toronto: Montessori, faith-based, special needs, academic,
Waldorf/Reggio, and arts/sports (Our Kids, 2012). Each type of school has a different focus; for example, academic schools are focused on preparing students for university and feature smaller class sizes. They act on the assumption that all students will be attending university in the future (Our Kids, 2012).

Research into what compels Canadian parents to choose to enrol their children in private schools has revealed a number of findings that need to be acknowledged when using private schools in research. Perhaps least surprisingly, parents with higher incomes and levels of education are more likely to send their children to private schools (Bosetti & Pyryt, 2007; Davies & Aurini, 2011). Parents of children attending private schools have also been found to participate more in their children’s education (Davies & Aurini, 2011). In Ontario, about 37% of all children attending private schools come from households with incomes of $100,000 or more, the highest proportion of any province (Statistics Canada, 2001). Private school tuition range widely, but are primarily dependent on two factors: the location of the school and the type of private school. That is, schools located in downtown Toronto (where real estate prices are high) are at the high end of the tuition fee spectrum, whereas faith-based private schools are generally at the low end (Our Kids, 2013).

With the goal of my study not being to generalize the results to a population, but to gain insights into the feasibility of SNAK, I initially aimed to have a sample of kindergarten teachers from schools that differed on various characteristics (Onwuegbuzie & Leech, 2007). This variation can be seen in Table 3.4 that provides a description of the Toronto private schools organized according to Trost’s (1986) seven steps for creating a varied sample for qualitative studies. Three important school characteristics – school type, tuition, and class size – were selected to vary the sample of schools (Marshall, 1996):

1. Type of school: divided into traditional, Montessori, waldorf, special needs, faith-based, arts/sports
2. Tuition of school: divided into low and high, based on median value
3. Class size: divided into small and large, based on median value
I used Table 3.4 to attempt to select a purposive sample of teachers to interview who could provide insights into SNAK’s feasibility in kindergarten classes. A recruitment text was prepared for contacting school principals over the phone, or if this was not possible, by email (See Appendix B). Following this initial contact with the principal, if a kindergarten teacher was willing to meet for an interview, it was scheduled at a time and location of her choosing (all teachers requested interviews in their classrooms at the end of the school day).

However, as my recruitment progressed, time limitations became an important factor, and after months of recruitment efforts, I stopped attempting to recruit more private school teachers in order to be able to move forward with my dissertation. This issue of gathering additional data versus extending the time of a study beyond a reasonable time frame has been discussed by past researchers (Wallendorf & Berk, 1989). My final sample consisted of three teachers from the same all-girl school. The academic/reggio-inspired all-girl school included grades JK-12. It had an average class size of 18-20 students and a tuition rate for 2013-2014 of $28 400.

Semi-structured, in-person interviews were conducted with three teachers over the span of two days in January of 2013. The interviews lasted between 28 and 61 minutes in length and explored the personal experiences and perceptions of teachers with play-based teaching. I developed a semi-structured interview guide (see Appendix C) to ensure consistency while also allowing for flexibility to discuss topics the teachers themselves raise.

**Interview guide.** Questions were developed based on three sources: based upon DI Theory, past research examining factors affecting the implementation of programs in schools, and findings from the social media discussion analysis (Wilson, 2009). The questions I asked addressed specific beliefs and behaviours, an approach that has been found to be effective in decreasing distortion of participants’ responses (Babbie, 1999). While I developed an outline of the interview guide before completing the social media discussion analysis, questions were anticipated to be adapted and added depending on the findings from this part. Following the social media discussion analysis, I added in questions based on these findings, such as how teachers believe they are perceived by other teachers and principals at their schools. Prior to the actual interviews with participants, the interview guide was first pilot tested with
colleagues (two fellow grad students and one elementary school substitute teacher) to determine if there were any flaws in the wording of the research questions and to add or omit questions that did not make sense (Kvale, 2007). Feedback from this pilot testing resulted in refining a few questions to improve readability, as well as improving the presentation of the proposed “Teachers Guide” program protocol. As stated earlier, interviews were not all identical, as semi-structured interviews begin with some basic ideas about what the interview will cover, but the interviewee’s responses shape the course of the interview (Esterberg, 2002).

The interviews began with me briefly describing to the teacher SNAK, and then asking if they understood my description and had any questions or clarifications about what I have just described, before I asked them specific questions. I also asked if they had any suggestions, and told them that at any point in the interview, if they thought of anything, to let me know.

After this introduction I began asking the questions I created based on DI theory. In the in-person interviews I asked questions related to the first two DI factors. First, I asked teachers questions related to “Teacher’s Personal Characteristics.” For example, their perspectives are on play-based teaching and if they think it is a style of teaching relevant to their class needs. Then, I asked questions about the “School Community Factors” which involved the school’s openness to change and adopting new styles of teaching, how well they thought their school could adopt a new style of teaching, and how they think other teachers regard play-based teaching (Durlak & Dupre, 2008).

I ended by asking again if they had any suggestions or if there was anything they would like to add that I did not address in the interview. All participants were given consent forms in advance with my phone number and email address so they could contact me if they had any further questions or concerns. Finally, participants were asked their age and years of experience to contextualize their responses.

**Email interviews.** I employed a number of strategies to generate my web-based sample of Canadian, and primarily Ontario, kindergarten teacher-bloggers. While I knew of the large numbers of kindergarten teachers on message boards, I did not try and recruit any of these
teachers for a number of reasons. First, because I was aiming for a diverse sample of teachers, I did not want to interview teachers whose insights were already included in my research. Second, I was aiming to interview Canadian kindergarten teachers, and I knew there were less Canadians participating on the message boards. Finally, Meho (2006) argued that to conduct effective email interviews, it is preferred to contact teachers directly, as opposed to recruiting by posting publicly a call for participants on a message board. As the purpose of this research was to interview a sample of kindergarten teachers specifically from Ontario, purposive sampling was employed for collecting teacher-bloggers (Stake 2005; Kemper, Stringfield, and Teddlie 2003).

Three search strategies were used to identify Ontario kindergarten teacher-bloggers. First, the phrases “Ontario kindergarten teacher blog,” “Ontario kindergarten blogs,” and “Ontario kindergarten” were typed into the commercial internet search engine Google along with applying the filter “blogs.” I repeated the search using only “kindergarten teacher blog” and “kindergarten blogger” using Google’s “only pages from Canada” command to get results from blogs I may have missed in my initial search (Wilkinson & Thelwall, 2011). Next, blogs identified from the two Google searches were examined to remove any incorrect results, with the end result being a sample of relevant blogs (Wilkinson & Thelwall, 2011). Second, from these initial blogs, a snowball sampling technique was applied. By this I mean that comments on posts from the initially identified Ontario kindergarten teacher blogs were examined as a way to identify other Ontario kindergarten bloggers. Third, during this process I identified a blog that featured a page of Canadian teacher-blogs and divided them up based on their province. This blog provided me with a number of additional blogs.

**Inclusion criteria.** Blogs were selected for inclusion in the study using selection criteria as follows: i) required to be a personal blog written by a Canadian or Ontario kindergarten teacher and unattached to a school ii) blogs must be active (as defined being updated within three months) iii) be written in English iv) be from Canada, with a focus on Ontario and v) include an email address as a way to contact the teacher. This was determined mainly through an examination of the blogger profile or “About Me” section, located on the main blog page. Blogs were excluded if they did not identify as being written by kindergarten teachers from Canada/Ontario, were inactive, were written in a language other than English, or did not include
an email address. Blogs were rejected if any of the exclusion criteria were met. Unfortunately, I did not anticipate that so many teachers would not include an email address in their “About Me” or “Contact Me” pages, and my sample dropped from 23 to 13 based on this criterion alone.

Once an Ontario kindergarten teacher’s blog was identified as meeting all the inclusion criteria, the next step was contacting the blogger to see if s/he was interested in participating in an email interview. Using the email address provided on the blog, bloggers were emailed an invitation to participate in the study. The study information/consent form was attached to this initial email. Table 3.5 provides a brief summary of the recruitment process. All interested participants were asked to complete the consent forms and were given my and my supervisor’s phone numbers and email addresses and informed they could contact either of us if they had any questions or concerns. If a blogger agreed to participate, s/he was emailed the interview questions and asked to email me back with answers within two weeks.

Email interviews were conducted in late January following the in-person interviews (Appendix D) with some questions being eliminated from the in-person interview guide in order to lessen the amount of time demanded from teachers (Meho, 2006). Email interviews did not cover any questions about SNAK, and instead focused on play-based teaching and healthy eating/nutrition in kindergarten.

**Interviewed teacher characteristics.** In sum, the final sample of interviewed teachers (both in-person and via email) comprised of 7 females between the ages of 30 to 51 with between 7 and 26 years of experience (See Table 3.6). Six teachers were currently teaching in Ontario; one was from British Columbia (BC). The teacher from BC was contacted accidentally, as her blog was misidentified as being an Ontario blogger on the previously mentioned website. However, I decided to include her in the study due to the similarities in the BC and Ontario kindergarten curriculum and kindergarten histories (both have recently become full-day, play-based curricula), but I did not include any data from her interview in results that focus only on Ontario teachers’ insights.


Summary

In sum, through a unique combination of document analysis, social media data, and two types of interviews I aimed to better understand kindergarten teachers’ perceptions and the environment of kindergarten classes in order to develop a program that future research would be able to implement in kindergarten classes.

Data Analysis

Before describing my analysis process, it is important to note that with qualitative research data, analysis really began in the field, during data collection, as it was impossible to not start thinking about analysis ideas long before the “official” data analysis period. To capture these initial analysis ideas, I maintained a reflexive journal throughout the data collection and transcription process. Reflexive notes consist of the researchers’ hunches, insights, ideas, personal reactions, and thoughts regarding the research and can be thought of as a first step in data analysis. Memos were additionally useful during data analysis, as I was able to record what was shaping my thoughts and provide a record of my thought process which helped me to identify themes and categories. Memos also enabled me to create conditions wherein my motivation to think and analyze was open to new discoveries and ideas, as opposed to confirming preconceived beliefs about the research (Pellegrini, 2000; Fleming, 2011). Finally, since I was not dealing with a large data set for each analysis I found it more useful to analyze without the use computer software, such as NVivo.

Inductive analysis

Data from the kindergarten curricula, social media discussions and interviews were all analyzed similarly, as will be detailed below. Of course, this was following the initial stage of organizing
the data: The curricula and social media discussions were saved as PDF documents, the in-person interviews were digitally recorded and transcribed verbatim (I performed all transcription in order to pay attention to verbal cues), and the email interviews were saved as Word Documents. As I was taking a qualitative research approach, I followed an inductive process for data analysis (Creswell, 2009). Noteworthy is that while this process is overall considered to be inductive, at times deductive reasoning occurs as the researcher moves back and forth between analyzing raw data and building more abstract levels of synthesis (McMillan & Schumacher, 1997).

Additionally, I had performed a literature review prior to beginning the study, so I was aware of issues in kindergarten play-based learning and healthy eating/nutrition in kindergartens. However, I attempted to not allow this knowledge to guide my coding (by maintaining a memo journal to track my thought process), and did not return to related literature until the end of the coding process as themes were being generated and refined.

By using an inductive approach to analysis I was better able to draw an authentic picture of kindergarten teachers’ experiences, as my goal during analysis was to not use a theoretical framework to anticipate themes, but to develop themes as the study proceeded (Strauss & Corbin, 1990). During the process of my analysis, I moved from a description of the data, which involved organizing it to show themes, to interpreting the themes, to examining how underlying ideas and factors could be identified as influencing the content (Braun & Clarke, 2006).

**Steps in data analysis.** Specifically, first, I familiarized myself with the data through the process of transcribing (for the in-person interviews) and reading and re-reading the data, along with creating reflexive notes that, as previously stated, served to keep track of my initial ideas. For my first readings of the data, I simply read through the data without making any notes and tried to remain as non-judgemental as possible (Braun & Clark, 2006; Strauss & Corbin, 2008). Next, after I felt familiar with the data, I began coding. Coding began by writing down reflective notes pertaining to each data set separately (so during the curriculum analysis it was each curriculum document, during the interview analysis it was each interview transcript, etc.). I then made a list
of all the topics from these notes, and clustered similar topics together. These topics became my initial codes.

**Initial codes.** Initial codes were developed using my research questions as guides. For instance, I identified challenges that teachers described as preventing them from implementing play-based teaching. I labelled each type of challenge and, when appropriate, combined different challenges into one broad category (Braun & Clark, 2006). For example, the following excerpt is an example of text that was initially coded as “not enough time in day”: “no more time for show and tell, no time for holiday and special craft projects, not enough time for daily music and movement activities and the list goes on.” These initial codes were grouped together to form possible themes.

**Initial themes.** At this stage in my analysis, I also began the process of examining the literature more closely in order to refine and interpret the themes. There were two types of themes: anticipated themes (themes that I recognized from previous research on kindergarten teachers) or emergent themes. For example, themes identified by past research included issues between kindergarten teachers and ECEs, time challenges, misunderstandings of play-based teaching, and blaming parents for children’s unhealthy eating behaviours. In contrast, themes that I developed from the data included using unhealthy treats in lessons unrelated to nutrition and using fast food brands in food-themed dramatic play areas. In some instances, I re-labelled specific themes based on the literature.

**Theme evolution.** Initial themes sometimes needed to be revised until I had my final set of defined themes. As I was working under the recommendations of past netnographers (even during the offline portion of my research), Kozinets (2010) and Puri (2007), I spent a prolonged amount of time in this data collection and analysis process, time which I found greatly benefited my analysis. The more time I spent in the process of analyzing the data and referring back to related literature, the more I developed different insights. For example, with the message board data, I noticed more and more discussions describing challenges with school staff or parents that limited teachers’ abilities to use play-based teaching, which intertwined with other discussions teachers describing how children are academically unprepared for grade one (and beyond). Once
I noticed this in a couple quotations that I had labelled as “Outside pressures” I started seeing this constraint appear in many other discussions – teachers discussing how there is no time for children to be playing, resting, and even taking snack breaks anymore because every minute of their day in class must be spent learning academically to prepare them for grade one. I also began to see the themes “Parental Pressure,” “Principals Influence,” and “Administration” to appear frequently in literature on American teachers’ concerns with play-based kindergartens. Consequently, I expanded my initial theme of “Outside pressures” into several themes to better describe and explain each outside pressure (parents, school administration, principals, and teachers).

**Writing.** The final step in my analysis was producing the results chapters, a process that involved organizing the findings and selecting certain quotes and examples from the data that best-reflected the themes being discussed. I found this step to be challenging, and a testament to the richness of data resulting from purposive sampling, and particularly the social media discussions, as my first few versions of my results articles had an excessive number of quotations.

**Summary.** In conclusion, all data were analyzed using a primarily inductive approach that entailed classifying the data and then relating it to previous literature (Braun & Clark, 2006; Pope, Ziebland, & Mays, 2000; Strauss & Corbin, 1998). As patterns in the data developed, I worked to develop concepts that could explain them. Throughout the analysis, I found it important to spend a prolonged period of time immersed in the data, as the more familiar I became with the data, the better I was able to generate codes and themes and identify patterns along with looking for disconfirming instances and alternative explanations. Thus, by drawing concepts directly from the data and also having an idea of what I was looking for based on related literature, my analysis was not entirely inductive or deductive, but a combination of both.
Ethical Considerations

There were a number of ethical issues that I considered with regards to both creating SNAK in general, as well as the methods I used for collecting teachers’ insights through social media.

Ethics in program development

First, regarding SNAK, I considered the challenges in developing a program that could be maintained long-term in kindergarten classes. While it will remain unknown if these challenges will be relevant until implementation, it was important that they were considered during the development of SNAK.

Acceptance of new approach. Mainly I anticipated challenges in establishing the legitimacy of such a new approach to teaching nutrition. I considered how SNAK could be criticized for not producing immediate and observable benefits in children’s health, a very real challenge that is known in the diffusion of innovations literature (Rogers, 2003).

Competing issues. Another obstacle to implementation I considered, which I briefly touched on in the previous chapter on SCT, was the view that while SNAK focuses on improving children’s nutritional behaviours through play-based instruction, it will not be working to improve other conditions that prevent children from healthy eating such as availability of foods (O’Dea, 2003). Children may be willing to try the new healthy foods they encounter in SNAK’s play environment, but for various economic and social-cultural reasons the required foods may not be available for children at home. Such children would not have the opportunity to continue eating these foods. Equally problematic, parents could suffer embarrassment if they do not provide, or are unable to provide, the healthy foods their children request.

For such reasons, SNAK was developed to provide kindergarten teachers with a play-based method for encouraging children to develop healthy eating behaviours. Much research has found
that the benefits of play-based instruction are promisingly long-term in nature; stressing the lasting benefits and focusing less on looking for evidence of immediate changes in children’s behaviours. It should prove helpful to show that studies with older children have successfully implemented similar game-based approaches to improving children’s abilities to manage diabetes, cystic fibrosis, and asthma (Bandura, 2004).

Moreover (as described in the play-based teaching literature review of this thesis), similar improvements have been found in children’s math, literacy, and social skills (Goncu & Gaskins, 2011). School staff and parents can be informed that SNAK focuses on improving children’s eating behaviours, and that it will only be effective when combined with other strategies for improving food security and healthy eating. In short, SNAK represents one aspect of an overall healthy school curriculum and should not be viewed as threatening dominance or exclusivity but as seeking cooperation. Specifically, SNAK would fit better into schools that have adopted a “Comprehensive School Health” (CSH) approach. CSH is an internationally recognized framework that aims to support both education and health in a planned, integrated and holistic way that has been shown to be effective in preventing childhood overweight and obesity (Veuglers & Schwartz, 2010). Of note, “CSH” is the term used for this approach in Canada, but it is the same as “Health Promoting Schools,” which is more commonly used in Europe and Australia, and “Coordinated School Health,” which is more commonly used in the United States (Veuglers & Schwartz, 2010).

Ethics in netnography

Initial ethical considerations. I will now turn to discussing the ethics involved in the collection of social media data that became a larger part of my study than initially anticipated. My knowledge of the ethics involved in social media research changed throughout my thesis as I became more aware of the murky ethics involved in social media research. Before beginning my research, my beliefs on ethics in social media research were based on the ethics presented in the Guidelines and Practices Manual for Research Involving Human Subjects (University of Toronto, 2007) and some preliminary articles on the topic and were as follows: Research that
consists of analyzing publicly available data, such as the non-intrusive analysis of internet data, is not required to undergo ethics review, as long as no interaction or participation with the online posters occurs (Blackstone, Given, Levy, McGinn, O’Neill, & Palys, 2008; University of Toronto, 2007; Walther, 2002; Wilkinson & Thelwall, 2011). Unlike the recommendations for netnography that involves actively engaging with participants (Driscoll & Gregg, 2010), I planned to conduct a netnography that involved passive observation of (almost exclusively) archived discussions. Additionally, all analyzed data were posted publicly on the internet, no password was required to view them, and while the data relates to personal opinions, I would argue that no data contained controversial or sensitive topics or opinions (Bruckman, 2002; Wilkinson & Thelwall, 2011). Indeed, one could argue that the discussions analyzed were intended to be as public as possible; after all, their intended purpose was to generate public discussions.

**Recommendations.** That said, I did consider the ethical recommendations of past internet researchers. The most pertinent recommendation was the need to consider if the social media discussions could be presumed by the contributor to be a safe space for sharing and support. This consideration required determining if there was any indication that the contributor intended his/her online communications as private or restricted to a small community (Association of Internet Researchers, 2002; Baker & Moore, 2008). However, as described earlier, these sites are made as publicly accessible as possible. If that were not the case, the message board could be made private, by becoming password-protected.

Another ethical consideration was in relation to the quoting of material from the message boards, as in some cases of social media data research it has been recommended that anonymity and confidentiality remain in effect to protect the people who posted information online (Berry, 2004; Blackstone et al., 2008; Walther, 2002; Wilkinson & Thelwall, 2011), and even though message boards and online news article discussions are obviously offered as a public domain, I determined that I would protect individual privacy by making the data anonymous. Therefore, the social media part of my research study was exempt because there was no interaction with any of the participant authors of the examined social media data and I was granted IRB approval easily with no questions or clarifications required.
**Developing knowledge of netnography.** However, my views on ethics in social media research began to change following further reading into netnography (Kozinets, 2010) as well as attending a “Social Media and Research” workshop offered at the University of Toronto in late 2013. Here I learned ethics in social media research were not as simplistic as I previously believed. In fact, whether or not researchers are required to seek the informed consent of social media discussion participants is a topic of debate amongst scholars in the field. These debates mainly centre on how a researcher can truly decide whether or not online discussions are considered private or public, and consequently what ethical obligations do researchers examining these discussions possess.

Currently, there is no clear consensus on how to ethically carry out ethics in netnography research (Kozinets, 2010; Langer & Beckman, 2005; Paechter, 2012; Reichman & Atzi, 2012). The question of informed consent arises when one considers the most appealing aspects of netnographic research: the unobtrusiveness of the researcher collecting data and the participants discussing topics. Some researchers describe contacting message board administrators to obtain permission to study the message board discussions (Brady & Guerin, 2010; Hur & Brush, 2009). Other researchers simply do not even mention any ethical issue at all, stating that they are examining data posted in a public domain (Copelton & Valle, 2009; Hoffman-Goetz & Donelle, 2007; Langer & Beckman, 2005; O’Reilly, Berger, Hernandez, Parent, & Seguin, 2012; Stitzlein & Quinn, 2012). However, Kozinets (2010) made a strong argument that by not seeking consent from participants, researchers can be causing harm, and provided a scenario in his own netnographic research where participants asked to allow him to use their online quotations did not consent. He claimed this illustrated how not all those who post online consider their material in the public domain, and that by publishing their discussions without consent can do psychological harm. A similar experience was reported by Hur and Brush (2009) who described how one message board administrator did not grant them permission to conduct their study.

**British Psychological Society’s guidelines.** Moreover, while researching further into the topic of netnography ethics I came across the British Psychological Society’s (BPS) guidelines for conducting internet mediated research. The document was mainly aimed at researchers conducting studies that involved recruiting participants through internet settings. Additionally
these guidelines are directed at researchers examining topics of a more sensitive nature, as their examples of research involved vulnerable populations, or topics such as discussions about recreational drug use or self-harm, and such issues as informing research participants that law enforcement can subpoena research data.

Additionally, netnography articles that discuss needing to consider the ethics of netnography typically involve sensitive topics and vulnerable populations, for example, see McDermott, Roen, and Piela (2013) and Paetcher (2012). However, I still found the BPS guidelines and articles to present useful considerations for my own research. In particular, the section covering specific suggestions for researching message board discussions. BPS recommended considering the nature of the research, the intrusiveness and privacy of the data collected and reported, and possible harms caused by the research.

**Ethical considerations.** In considering these issues, I followed the ethical questions addressed by McDermott and colleagues (2013) when selecting what message boards to include in their netnography. First, I considered: What are the participants likely expectations of privacy? In order to only include discussions that could not be expected private, I included in my study inclusion criteria to only include message boards that did not require membership, registration, sign-in, and were publicly accessible through a popular search engine. Second, I considered: To what extent may observations potentially harm participants? In answering this question, I rationalized that my research did not pose a threat to participants on the message board. As stated earlier, I was not researching a topic that would be considered sensitive and the participants were all literate adults.

Additionally, while researchers have argued that quotations used in articles could be typed into search engines and lead the reader directly to the original document, I reasoned that this would not result in a harmful loss of anonymity for the participants in my study. Should someone search for the quotations, they would be led to the message board discussion, where the participant already has an anonymized profile. That is, teachers are not using their real names or providing personally identifying information in their profiles (or posts, as far as I observed
during my netnography). Therefore, no one would be able to identify the actual teacher based on any information I reported.

**My ethical approach.** Consequently, for my netnographic research I did not seek informed consent from participants, as I concluded that the social media I was analyzing was considered to be in the public sphere and netnographers who have conducted similar research have concluded that it is ethical to conduct research in public places. Again in line with past netnographers, I still anonymized the data by not reporting any of the names of the message boards or participants studied (Reichman & Atzi, 2012), and additionally, the majority of the discussions analyzed were archived. Based on this experience, one of my recommendations from this dissertation is that the University of Toronto updates the document describing researchers examining internet-mediated data, as will be discussed in the conclusion of this thesis.

**Results Chapters**

My goals for the research manuscripts were to target a variety of stakeholders by writing manuscripts that were designed for both researchers as well as practitioners. Since the goal of my dissertation was to develop a draft of SNAK, a kindergarten program, my main focus was on the education field. However, I also targeted other fields where appropriate, such as early child development and nutrition.

The following seven results chapters are organized in the following manner: the first five chapters are the research manuscripts in their entirety. However, each chapter begins with a personal reflection that describes how that particular chapter shaped SNAK in order to better illustrate how the chapters link together. The final two results chapters consists of a description of how SNAK was further developed following the curricula analysis and netnography along with a preliminary draft of the proposed teacher protocol for SNAK that considers all of the insights derived from the netnography of kindergarten teachers’ experiences and perspectives on healthy eating in kindergartens, play-based teaching, and Ontario’s FDK.
Table 3.1: Provincial or Territorial Kindergarten Nutrition/Healthy Eating Curricula

<table>
<thead>
<tr>
<th>Province or Territory</th>
<th>Curricula Documents</th>
</tr>
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<tbody>
<tr>
<td>Alberta</td>
<td>• 3 documents - 2 curricula + 1 implementation guide</td>
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<tr>
<td>New Brunswick</td>
<td>• 2 documents - 2 curriculum guides that include suggestions for implementation activities</td>
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<tr>
<td>Nova Scotia</td>
<td>• 2 documents – curriculum + resource – no resources on implementation activities were found</td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>• 2 documents - curriculum guide + lesson plans</td>
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<tr>
<td>Prince Edward Island</td>
<td>• 1 document - curriculum guide that includes suggestions for implementation activities</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>• 1 document – curriculum guide – no suggestions for implementation activities were found</td>
</tr>
<tr>
<td>British Columbia</td>
<td>• 3 documents – curriculum guide + program outcomes guide + healthy eating learning resource</td>
</tr>
<tr>
<td>Newfoundland and Labrador</td>
<td>• 1 document- curriculum guide that includes suggestions for implementation activities</td>
</tr>
<tr>
<td>Ontario</td>
<td>• 1 document - curriculum guide that includes suggestions for implementation activities</td>
</tr>
<tr>
<td>Quebec</td>
<td>• 2 documents - curriculum guide + resource – no suggestions for implementation activities were found</td>
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<tr>
<td>Nunavut</td>
<td>• Uses NWT and Manitoba’s curricula</td>
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<tr>
<td>Yukon</td>
<td>• Uses BC’s curriculum</td>
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<td>What does inquiry look like in kindergarten</td>
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Table 3.4: Private Kindergartens in Toronto

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<thead>
<tr>
<th>Type of school</th>
<th>Traditional/Faith-based</th>
<th>Montessori/Waldorf/Reggio</th>
<th>Arts/Sports/Special needs</th>
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<td>Tuition</td>
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<tr>
<td>Low tuition</td>
<td>Low</td>
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<td>Low</td>
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<tr>
<td>&lt; 14 000</td>
<td>High</td>
<td>High</td>
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<tr>
<td>High tuition</td>
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<tr>
<td>&gt; 14 000</td>
<td>Low</td>
<td>High</td>
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<tr>
<td>Class size</td>
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<tr>
<td>Large class</td>
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<tr>
<td>&gt;15</td>
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<td>Small class</td>
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<td>&lt; 15</td>
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<td>Total # of schools in each cell</td>
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<tr>
<td>A</td>
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<td>Emailed invite again</td>
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<td></td>
<td>Replied no</td>
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<td>Emailed invite again</td>
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<td>No reply</td>
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<td>C</td>
<td>Emailed invite</td>
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<tr>
<td></td>
<td>Replied yes, and sent answers one week later</td>
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<tr>
<td>D</td>
<td>Emailed invite</td>
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<td></td>
<td>Replied and sent questions</td>
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<td></td>
<td>Sent reminder email</td>
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<td></td>
<td>Replied with answers</td>
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<td>E</td>
<td>Emailed invite</td>
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<td></td>
<td>Emailed invite again</td>
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<td></td>
<td>Replied no</td>
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<td>F</td>
<td>Emailed invite via contact form on blog</td>
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<td>Replied saying currently 1st grade, but replied inviting to participate as has worked as a K teacher</td>
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<td>Emailed interview questions</td>
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<td>Replied with answers</td>
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<td>Replied no</td>
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Table 3.6: Characteristics of Interviewed Teachers

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<th>Province</th>
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<tr>
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References


Association of Internet Researchers. (2002). *Ethical decision-making and Internet research*. Available at: www.aoir.org/reports/ethics.pdf


Ellingston, Laura L. 2009. *Engaging Crystallization in Qualitative Research*.


Chapter 4: Results - Developing long-term healthy eating behaviours in Canadian kindergarten curricula

Chapter 4 presents the results of the curricula analysis, which involved examining how healthy eating is presented in kindergarten curricula from each of the different provincial and territorial ministries of education. This analysis provides a partial answer to my first research question: What is the kindergarten climate in Canada and specifically Ontario?

This manuscript was accepted for publication in the journal *Physical and Health Education Canada* (PHEnex). PHEnex covers a range of issues on health and physical education by Canadian and international authors using quantitative and qualitative methodologies.

This analysis changed my preliminary draft of SNAK from not including CFG to seeing the importance in including it in SNAK, albeit not with a focus on memorizing food groups, but by translating the recommendations of “Eating Well with Canada’s Food Guide” (2007) into behaviours children can enact in SNAK’s centres. This change occurred as I realized how central certain nutrition and health concepts are in Canadian kindergarten curricula. To gain teachers’ acceptance, it would be better to include familiar concepts (such as introducing CFG), but in ways that focus on specific behaviours, as opposed to memorizing food groups for the purposes of knowledge acquisition.

Additionally, throughout my curricula analysis I was able to read about upper grade nutrition programs in addition to kindergarten nutrition programs. By reading more about what children learn in higher grades, I became better aware of the importance in streamlining nutrition education, and that children will be expected to know about CFG once they are in grade one (and beyond). Therefore, it made more sense not only for my program to maintain certain aspects of current nutrition education programs, not only for the students to be prepared for upper grade nutrition education, but also for teachers, who are expected to be providing children with these foundations.
Finally, this analysis also introduced me to developing a better understanding of the current overall kindergarten curriculum in Ontario, which ended up being vitally important knowledge further on in my thesis, when I realized how important it was for a new program to fit in with the current curriculum, and to draw upon current concepts so as not to be introducing a brand new program that does not tie in with any other kindergarten objectives. Finally, in this section I learned about British Columbia’s Ministry of Education’s (2010) play-based nutrition program.
Abstract

This document analysis examines kindergarten curricula documents regarding healthy eating from the 13 Canadian provincial and territorial governments. Curricula are analyzed using a framework composed of five concepts drawn from the healthy eating behaviour development literature and kindergarten pedagogical literature. Results reveal the variability in the healthy eating curricula in Canadian educational jurisdictions. Many healthy eating curricula developed for kindergarten programs across Canada are designed to help teachers’ foster children’s lifelong healthy eating behaviours. Present findings identify current gaps in knowledge about kindergarten healthy eating curricula across Canada. This article concludes with a call for the development of kindergarten curricula to better match current research knowledge regarding children’s long-term healthy eating behaviour development and suggestions for future research in this area.

Keywords: healthy eating curricula, kindergarten education, healthy eating, document analysis

Introduction

Canada has one of the highest rates of childhood obesity in the developed world, with close to a third of 5- to 17-year-old Canadians identified as overweight or obese (Roberts, Shields, de Groah, Aziz, & Gilbert, 2012). A well-established body of literature has concurred that there are numerous negative consequences of childhood obesity, where the term covers a range of physical, psychological, and social health issues (Biro & Wien, 2013; Karnik & Kanekar, 2012; Public Health Agency of Canada, 2011; Rogers, Shields, de Groah, Aziz, & Gilbert, 2012). Additionally, it is estimated that obesity-related complications cost the Canadian economy over a billion dollars annually (Public Health Agency of Canada, 2011; Tran, Nair, Kuhle, Ohinmaa & Veuglers, 2013). Though the origins of childhood obesity stem from an indeterminate combination of genetic and environmental factors (Lytle, 2005; Stunkard, Berkowitz, Stallings, & Schoeller, 1999; Wells & Ritz, 2001), one major contributing and modifiable factor is children’s eating behaviours, such as food preferences, food choices, and mealtime behaviours (which will be referred to collectively in this article as ‘eating behaviours’) (Brown & Ogden, 2004; Schwarz & Puhl, 2003; Wells & Ritz, 2001). Eating behaviours are matters of much
concern, as they have been linked not only with healthy weight status but also with improved cognitive function, physical performance levels, and psychosocial health (O’Dea, 2003).

Early childhood —under-six-years of age— has been described as a period when development occurs at a rate faster than any other (Shonkoff & Phillips, 2000). This makes kindergarten a critical time for creating long-term biases for certain behaviours, including eating behaviours (Faith & Kral, 2009). Though a preference for the sweet and salty and a rejection of the sour and bitter are innate, nearly all other food preferences are learned (Addessi, Galloway, Visalberghi, & Birch, 2005; Patrick & Nicklas, 2005). Much research has confirmed the influence of the social environment (that is, the influence of parents, teachers, childcare providers, and peers) in the development and maintenance of children’s eating behaviours (Brown & Ogden, 2004; Faith, 2005; Liem & Menella, 2002). For example, adults around them can shape children’s eating behaviours in a variety of ways, such as through modelling, use of food as rewards, repeated exposure to new foods, and how food is discussed (Faith, 2005; Lytle et al., 1997; Patrick & Nicklas, 2005; Schwartz & Puhl, 2003). In response to the continuing rise in childhood obesity rates, a variety of programs for teaching healthy eating have been developed for elementary schools; however, reviews of these programs have reported minimal effectiveness for developing healthy, long-lasting eating behaviours (Brown & Summerbell, 2009; Jaime & Lock, 2009; Thomas, 2006; Wadden, Brownell, & Foster, 2002). Current implementation activities for teaching healthy nutrition can confuse kindergarten children, who are unable to grasp abstract concepts of food groups and portion sizes; in any case, the rote learning involved is ineffective in developing healthy behaviours (Baskale, Bahar, Baser, & Ari, 2009; Lytle, Eldredge, Kotz, Piper, Williams, & Kalina, 1997; Matheson, Spranger, & Saxe, 2002). Consequently, in spite of the many obvious benefits of healthy eating behaviours, progress in supporting improved nutritional behaviours through school-based curricula remains limited because of continuing knowledge gaps in choosing effective activities. This point is particularly salient in Canada, where minimal research has examined the different elementary school health curricula used in each province or territory (Lu & McLean, 2011; Paquette, 2005; Taylor, Evers, & McKenna, 2005). Canadian school curricula are not nationally set but are developed by each individual provincial or territorial ministry of education. There are ten provincial kindergarten curricula [Alberta, British Columbia (BC), Manitoba, New Brunswick, Newfoundland and Labrador,
Nova Scotia, Ontario, Prince Edward Island (PEI), Quebec, and Saskatchewan]. Two of the three territories (Nunavut and Yukon) use kindergarten curricula developed by two provinces (Yukon follows BC and Nunavut follows Alberta [Lu & McLean, 2011]). In the past, Northwest Territories (NWT) followed Alberta’s kindergarten curriculum (Lu & McLean, 2011). However, in 2012, NWT developed its own “Integrated Kindergarten Curriculum: A holistic approach to children’s early learning” (2012) that was piloted over the 2012-2013 school year.

The purpose, therefore, of this research was to gain insight into provincial and territorial Canadian kindergarten healthy eating curricula using the analysis framework described in the following section. Specifically, the goals were to examine the healthy eating features of each curriculum and determine how these features align with research-based literature on children’s healthy eating behaviour development. As this study was exploratory, data consisted of official curricula and additional resources (where needed and possible), obtained from each provincial/territorial ministry of education website (for the remainder of this article both curricula and resources will be referred to as “curricula” to eliminate repetition). The focus was on examining the data from an intended curriculum (Eisner, 2005) standpoint; which is to say, analyzing how healthy eating lessons are described in the provincial/territorial curricula. While teaching healthy eating involves more than simply following these guides, the guides nonetheless constitute important influences on teachers’ practice, since they represent official expectations regarding children’s learning (Heydon, 2013). This examination of the intended curriculum helps to provide the necessary foundation from which future researchers can examine the operational curriculum – analyzing how the curriculum unfolds in the classroom (Eisner, 2005).

**Analysis framework**

This section briefly describes the five concepts that formed the analysis framework of the present study. Working from the review of the literature, the five identified concepts represent the salient research-based considerations for developing children’s lifelong healthy eating behaviours. In particular, suggestions were drawn from the Guidelines for School Health Programs to Promote Lifelong Healthy Eating [Centers for Disease Control and Prevention (CDCP, 2011)]. CDCP (2011) recommends that effective healthy eating curricula be theory-driven, focus on specific
behavioural outcomes, aim to build students’ confidence in skills, and draw upon implementation
activities that are engaging and age and developmentally-appropriate, such as increasing
students’ exposure to healthy foods. Even though the guidelines (CDCP, 2011) were created for
schools in the United States, the comprehensive section on recommended healthy eating
curricula characteristics can be applied to Canadian curricula. Drawing upon the CDCP
guidelines and other relevant literature, five identified concepts were organized into a framework
that was then used to analyze each province/territory’s curriculum documents (See Table 4.1 for
a summary of analysis framework concepts and the specific questions that guided the analysis of
the curricula for each concept): Theoretical basis, learning outcomes, implementation activities,
play-based activities (and sociodramatic play), and food familiarity.

**Theoretical basis.** The first concept examined was whether the document in question described
using theory (apparent or inferred) to build the healthy eating curriculum. A theoretical basis is
one of the most frequently cited and stressed recommendations for school-based nutrition
education programs (Anonymous, 1997; Lytle, 2005; Lytle & Achterberg, 1995; Canadian
Cancer Society Manitoba Division, 2011; Contendo et al., 1995; CDCP, 2011; Perez-Rodrigo &
Aranceta, 2001; Sharma, 2006; Zenzen & Kridli, 2009). Theory-based programs are critical for
understanding health behaviours because theory provides a framework by which to study the
relationships among constructs. Theory also adds coherence to programs through identifying
facilitating situations and relevant processes. And finally, theory can guide timing and the
sequencing of events (McClain et al., 2009). But while it is widely known that theory should
form the basis for designing educational programs, many programs instead are based
pragmatically on the nature of the subject matter being taught (Pellegrini, 2009), such as abstract
nutrition concepts that kindergarten children cannot grasp (for example, concepts such as
vitamins) (Baskale et al., 2009; Lytle et al., 1997; Matheson et al., 2002). For this first concept,
examination of curricula was guided by the following two questions: Is there a theory used (or
implied) in describing how the healthy eating lessons were developed? Or do healthy eating
lessons consist of various implementation activities?

**Learning outcomes.** The second concept involved analyzing the goal(s) of the healthy eating
curricula, in other words, the learning outcomes students are expected to achieve. Many
kindergarten nutrition lessons focus on teaching students knowledge-based messages, such as food group identification (Benton, 2003; Brown & Ogden, 2004; Evers, Arnold, Hamilton, & Midgett, 2007; Mata, Scheibehenne, & Todd, 2007). Indeed, improving children’s abilities to memorize food groups and identify different fruits and vegetables are the most frequently cited learning outcomes of school-based nutrition education programs (Blom-Hoffman, Wilcox, Dunn, Leff, & Power, 2008; Canadian Cancer Society Manitoba Division, 2011; Cason, 2001; Contendo et al., 2002). Unfortunately, despite this popular and prevailing focus in nutrition education, little evidence exists to demonstrate that an improvement in children’s nutritional knowledge corresponds with behaviour changes (Baskale et al., 2009; Contendo et al., 2002; Noble, Corney, Evers, Kipps, & Lumbers 2000; Taylor et al., 2005). It has been suggested that this problem of children being unable to translate nutritional knowledge into behaviour stems from their simply repeating the correct ‘learned’ response regarding healthy nutrition rather than possessing the understanding of how to use that information to make healthful food choices (Hart, Bishop, & Truby, 2002; Holub & Musher-Eizenman, 2010; Taylor et al., 2005). For instance, Lytle and colleagues (1997) found that kindergarten children struggled to understand, explain, and apply abstract concepts such as food groups, variety, and moderation. In light of these findings, they recommended that learning outcomes focus on children learning about specific healthy foods, and not abstract concepts, such as “low-fat” or “protein.” Other researchers have noted that when children are asked to classify foods, they typically group them based on such physical characteristics as colour and shape (Baskale et al., 2009; Hart et al., 2002; Matheson et al., 2002). Thus, the traditional approach of knowledge transfer appears to prepare children inadequately to develop healthy eating behaviours in their day-to-day lives (Bronfenbrenner, 2005; Contendo et al., 1995; Lytle, 2005; Lytle et al., 1997; Matheson et al., 2002; Niehoff, 2009).

Curricula were examined with the following question in mind: What are students expected to learn from the lessons? Learning outcomes were further grouped into three categories slightly adapted from a previous study that similarly examined nutrition curricula (Hernandez-Garbanzo et al., 2013): increase knowledge of healthy eating, increase motivation to eat healthy, and teach/practice healthy eating behaviours. Learning outcomes were categorized as “increase knowledge of healthy eating” if the goal is for students to know the recommended daily servings
from each food group, know a variety of foods from each food group, or name examples of healthy foods. Increasing students’ motivation to eat healthy can be accomplished through focusing on the benefits of healthy eating (Hernandez-Garbanzo et al., 2013); consequently, learning outcomes were categorized under “increase motivation to eat healthy learning” if outcomes included students learning about the benefits of eating healthy foods. Finally, learning outcomes were categorized as “teach/practice healthy eating behaviours” if the goal is for students to taste new foods or plan and prepare healthy meals (Hernandez-Garbanzo et al., 2013).

**Implementation activities.** The third concept focused on analyzing the activities suggested to teachers for instructing the healthy eating lessons. The popular teaching style of teacher-centred instruction that focuses on worksheets, memorization, and assessments of domain-specific lessons, is known to result only in short-term cognitive gains (Fisher, Hirsh-Pasek, Golinkoff, Singer, & Berk, 2011). In contrast, student-centred activities aim to actively involve students in their learning and give them opportunities to practice new behaviours in multiple contexts (Briggs, Fleischhacker, & Mueller, 2010; CDCP, 2011; Contendo et al., 1995; Lytle, 2005).

Curricula were analyzed with the question: What types of suggestions are provided for teaching healthy eating lessons? The suggested implementation activities were then categorized as being either teacher-centred or student-centred. Activities were categorized as teacher-centred if they possessed the following characteristics: teacher instructs a topic and the focus is on acquisition of information (Chandler, 1999). Activities were categorized as student-centred if the activity gives students opportunities to actively learn, problem-solve, use manipulatives, and explore materials (Brooks & Brooks, 1999; Capraro, 2001). Characteristics of effective student-centred learning strategies for teaching healthy eating lessons include enjoyable, interactive activities (as opposed to lectures) and teaching healthy eating in a context relevant to students where they have multiple opportunities to practice healthy eating behaviours (Briggs et al., 2010; CDCP, 2011; Perez-Rodrigo & Aranceta, 2001; Rickard, Gallahue, Gruen, Tridle, Bewley, & Steele, 1995). These characteristics can be achieved through food tasting and cooking activities, drama activities, and shopping exercises (Perez-Rodrigo & Aranceta, 2001). Play-based activities, including food-themed sociodramatic areas, represent important opportunities for implementing healthy eating curricula (Matheson et al., 2002; Rickard et al., 1995). The opportunity play-based
activities present for teaching healthy eating is explored in the following concept “Play-based learning” (and its sub-theme “Sociodramatic play.”).

**Play-based activities.** Drawing upon pedagogical research, the fourth concept emerges from the previously described limitations of teacher-centred instruction, and potential strengths of student-centred teaching styles (Briggs et al., 2010; Rickard et al., 1995). Through play, children develop an increased awareness of their social lives and better understand the skills that they can use in everyday life (Pellegrini, 2011). Play thus provides children with an opportunity to practice newly developed behaviours and strategies (Pellegrini, 2009). Indeed, play should be of particular interest to those involved in teaching children healthy eating behaviours, given research recommendations to teach healthy eating in developmentally appropriate, fun, and participatory ways that focus on actual experiences (Anonymous, 1997; Briggs et al., 2010; Lytle et al., 1997; Perez-Rodrigo & Aranceta, 2001).

A couple of examples from the literature serve to illustrate an approach to nutrition that employs play activities (sociodramatic play activities are given their own distinct sub-theme and are therefore not included here). Baskale and colleagues (2009) used Piaget’s Cognitive Development Theory in developing a nutrition education program for preschool children. Their program aimed to have children play an active role in their nutrition education. Like others (Lytle et al., 1997), they recommended not using abstract words and concepts such as nutritious, healthy, and unhealthy, and instead encouraged teaching through games. Likewise, Rickard and colleagues (1995) advised a developmentally-based (again Piaget-based) play approach to teach nutrition; they posited that the play of young children offers an effective vehicle for learning healthful eating behaviours. Thus, curricula were examined with the following question: Have play-based activities been suggested? Activities were classified as play-based if they possessed the characteristics of being fun and participatory and did not consist of teacher instruction or classifying foods into food groups (Anonymous, 1997; Briggs, et al., 2010; Lytle et al., 1997; Perez-Rodrigo & Aranceta, 2001).

**Sociodramatic play.** Researchers classify different types of play into categories such as locomotor and rough-and-tumble play (Burghardt, 2011). However, the most commonly studied
form of human play is called “dramatic play” (also known as symbolic, pretend, fantasy, or make-believe play), and refers to behaviours taken out of their real-life context (Burghardt, 2011). What this means is that the play behaviours resemble real behaviours, but do not serve that purpose (Pellegrini, 2009). For example, dramatic play of healthy eating behaviours could involve a child pretending to cook a meal using toy foods and cookware. Dramatic play is referred to as “sociodramatic play” when the dramatic play occurs in a social context, such as students in a classroom. Sociodramatic play has been described as enabling children to better understand the world they live in, as while engaged in dramatic play, children imitate roles and behaviours they have observed in their environments (Kavanaugh, 2011). Research suggests that children’s sociodramatic play fosters mathematics, language, literacy, and socio-emotional skills (Fisher et al., 2011). As described previously, this may be because children learn behaviours better when taught through experiential, hands-on learning, such as through role-playing with peers and adults, as opposed to teacher-centred instruction (Bronfenbrenner, 2005; Taylor et al., 2005). Curricula were examined to determine: Is sociodramatic play suggested as a strategy for teaching any of the lessons? Activities were classified under sociodramatic play if they involved the dramatic play centre or role playing.

**Food familiarity.** The fifth concept examined whether the curriculum used the concept of “food familiarity,” which refers to children’s preference for foods that are already known to them (Cooke, 2007). Research has shown that food familiarity is one of the most important means of encouraging children to develop healthy food preferences by increasing their willingness to try new foods. Introducing children to new foods is critical because biological factors influencing childhood eating behaviours include a resistance to unfamiliar foods (Schwartz & Puhl, 2003), with the result that children restrict themselves to familiar foods (Cooke, 2007). There is a very strong affective aspect to food preferences: children learn what to like and dislike (Birch, 1998; Birch & Davidson, 2001). Birch (1998) suggested it is essential for those in children’s social environments to understand that children’s initial rejections of new foods do not represent innate food preferences, but transient reactions that can be changed and developed through exposure and learning. Which is to say, children’s initial rejections of new foods can be overcome by providing them with multiple opportunities to taste those foods (Sullivan & Birch, 1994). What this suggests is that the formation of children’s food preferences is linked to their exposure to
certain foods during early childhood – the more familiar the food, the more it is liked (Birch & Marlin, 1982; Cooke, 2007). It is to be expected, then, that exposing children to unfamiliar foods has been recommended as an important aspect of healthy eating programs in schools (Anonymous, 1997; CDCP, 2011; Knai, Pomerleau, Lock, & McKee, 2006). Curricula were thus analyzed to determine: Is an objective of the curriculum to familiarize students with new foods?

In sum, an emerging consensus of research suggests that for children to learn long-lasting healthy eating behaviours, the curricula should include these features: (a) a basis in theory; (b) learning outcomes focused on behaviours (as opposed to the memorization of facts); (c) student-centred implementation activities (d) play and sociodramatic play; and (e) food familiarity.

**Methods**

**Data collection and analysis**

This study draws upon document analysis — a systematic process for examining documents (Corbin & Strauss, 2008) that combines elements of content analysis (organizing information into categories related to the central questions) and thematic analysis (recognizing emerging themes and categories in the data) (Bowen, 2009). Document analysis is well-suited to exploratory research into curricula such as the present study enacts, as it is an efficient, unobtrusive, and low-cost method (Corbin & Strauss, 2008).

Using the analysis framework described above, provincial and territorial kindergarten healthy eating curricula available from the provincial/territorial education websites were examined. While the main focus was an analysis using this framework, similarities, differences, re-occurring themes and ideas in the curricula were also examined (Bowen, 2009; Hollander & Gordon, 2006). Regardless, this study was not designed to be a discourse analysis of curricula, as such an analysis would involve looking beyond the literal meanings in order to analyze the emphasis an issue is given within the documents (O'Connor & Payne, 2006). That being said, as
has been previously described, curricula were examined to discern if any theory had been applied, but not explicitly described, which will be explained shortly.

Specifically, key search terms, such as “Kindergarten curriculum,” “Kindergarten lesson plans,” and “Kindergarten program” were used to search for curriculum documents on provincial and territorial ministry of education websites. More terms were developed based on what was located in the curricula of these initial searches. To be included, curricula were required to be the most recently available, designed specifically for kindergarten classes, and available in English. Curricula were excluded if they were not the most recently available, did not include sections for kindergarten classes, or were only available in a language other than English. Curricula were excluded from analysis if any of the exclusion criteria were met. All digitally accessible kindergarten curricula from each provincial and territorial ministry of education website were then accessed and catalogued.

Next, any part of the kindergarten curriculum that pertained to healthy eating was examined. To be included, the healthy eating curriculum component was required to be administered in the school setting, part of the school curriculum, and not simply a time-limited intervention. Components were excluded if they did not involve a school setting or were not described as being part of the official curriculum. Healthy eating components were examined according to data analysis procedures described by Corbin and Strauss (2008), a process that will be briefly outlined here. Analysis began with reading each healthy eating component in the curricula documents. Next, the components were re-read numerous times and a general overview of each province/territory’s healthy eating section was developed and refined. Then, guided by the framework outlined above, the documents were examined to determine if they included any of the five framework concepts, and if they did, to what extent. For example, analysis for the third concept, implementation activities, involved examining and categorizing any lesson activity suggestion for teachers. First, any part of the curriculum document that involved a lesson activity suggestion for teachers was coded. Next, the activity was classified as being either student-centred or teacher-centred, based on the previously described characteristics. This activity classification then led into analysis for the fourth concept, play-based activities, as any student-
centred activity was examined to determine if it involved play, and finally, the activity was analyzed if it could be categorized as sociodramatic play.

Following this initial analysis of curricula, it became clear that a high degree of variability exists in the healthy eating curricula components of Canadian educational jurisdictions. For example, some components include detailed information on implementation activities for teachers, whereas others only include general outcome expectations. Consequently, to gain a more complete understanding of the intended curriculum in each province/territory, two additional steps were taken. First, depending on what was found in the healthy eating curricula components, the introductory sections of the overall kindergarten curricula (not specific to healthy eating) were also analyzed. This step was taken to determine if theory was described as an element of the overall kindergarten curricula. If theory was described, then the healthy eating component was re-examined for elements of the theory. Second, the ministry of education websites were searched again to determine if any additional official resources were available that related to implementing the healthy eating curricula. This was particularly necessary if the curricula did not include specific implementation activity suggestions for teachers. For this second search, resources were included if the ministry of education developed them and specifically pertained to the healthy eating component of the curriculum. Any resources meeting these criteria were stored and analyzed in a process similar to the one described above. Finally, a descriptive summary of the findings was developed, as follows.

Results and Discussion

General overview

Before turning to the results of the framework analysis, this section provides the results from the general overview of the curricula (for the remainder of the article, unless otherwise specified, “curricula” will refer to the health eating components of curricula). Every ministry of education website had a kindergarten curriculum document readily accessible, some also had additional documents, such as resources and implementation guides which were designed to aid teachers in implementing curricula (See Table 4.2 for a summary of the curricula documents analyzed in this
It was beyond the scope of this article to analyze all of the resources available beyond those developed by the ministries of education (for example, several websites included links to resources for teachers that had been developed by Canadian Dairy Farmers, Heart & Stroke Foundation, and Dieticians of Canada), and it is therefore important to bear in mind that the documents analyzed represent a sample of the resources available to teachers. As already described, a range—in terms of information and number—of kindergarten healthy eating curricula documents were retrieved from provincial and territorial education websites. For example, Nova Scotia’s (1998) curriculum consists of series of curriculum statements describing what students are expected to demonstrate with a separate document describing the learning outcomes (Nova Scotia Department of Education, 2012). In contrast, PEI’s (2008) curriculum provides both overall outcomes and implementation activities in one single document.

Additionally, virtually all kindergarten curricula detail how curriculum development was a collaborative effort involving the ministry of education, teachers, education professors, early childhood educators, and other health professionals (BC, 2010; Newfoundland & Labrador, 2010; New Brunswick, 2005; NWT, 2012; Ontario, 2010; PEI, 2008; Saskatchewan, 2010). Others also include information on pilot testing and revisions prior to the final document (BC; 2009; NWT, 2012; Ontario, 2010). Space constraints limit the amount of information that can be provided on how the curricula were developed, beyond the limited information provided here. Readers interested in the kindergarten curriculum development process are encouraged to visit the provincial and territorial ministry of education websites for information [for example, see Ontario Ministry of Education (2012)].

A few of the curricula did not make any, or very little, reference to healthy eating. In contrast, other provinces had one comprehensive or several different healthy eating curricula. On the scanted healthy eating curricula end of the spectrum, Saskatchewan’s “Kindergarten Curriculum” (2010) health section discusses healthy habits and choices, but does not refer to healthy eating, with food mentioned only as examples of “factors that individuals have in common” (p. 65) and for when “sharing is not advisable” (due to allergies) (p. 68). Similarly, Quebec’s “Education Program – Preschool and Elementary Education” (2001) document does not mention healthy eating. The most relevant section was the Physical Education and
Health/Personal Development Section, whose goal is “To adopt a healthy, active lifestyle” (p. 272). Of note, some provinces, such as Quebec (2012) included resources that described ensuring the availability of healthy foods in the school setting. Although these documents describe a much-needed aspect of healthy school environment, they were not the focus of the present study and were therefore not included in the analysis.

On the other hand, some provinces have comprehensive curricula for kindergarten programs. BC’s “Kindergarten: Healthy Eating and Physical Activity Learning Resource” (2010) describes a sociodramatic play-based healthy eating program involving four food-themed sociodramatic play areas. This program provides teachers with healthy eating lesson plans described as being based on the latest research in healthy eating, physical activity, and social learning theory. The document not only describes the program but also includes background information on the principles and benefits of healthy eating. Though not as well-developed as BC’s, Ontario’s “Full-Day Early Learning – Kindergarten Program” (2010) includes a Health and Physical Activity Unit that stresses both the need for children to develop positive attitudes toward health from a young age and the importance of introducing children to concepts and behaviours that promote healthy lifestyles, referring to these aspects of their education as making them “health literate” (Ontario Ministry of Education, 2010, p. 128). The healthy eating component of the program focuses on the acquisition of nutritional knowledge. For example, teachers are encouraged to question children thusly: “Why do we need to eat lots of fruit and vegetables?” “Why is pizza a better snack than a doughnut?” (Ontario Ministry of Education, 2010, p. 131).

Additionally, a few provinces had two or three documents with kindergarten healthy eating components. However, it was not always clear how teachers are expected to integrate the various recommendations into the general kindergarten curriculum, except in BC’s “Kindergarten: Healthy Eating and Physical Activity Learning Resource” (2010), where it is explicitly stated that the healthy eating program was designed to be integrated as part of the overall kindergarten curriculum outcomes. In summary, these results indicate that teaching healthy eating varies widely from province to province, and that children have varying opportunities to learn healthy behaviours depending on their provincial/territorial residence.
To provide a more focused discussion, the following section describes the results of the analysis framework. For each of the five concepts, the main findings are highlighted and followed by a table that summarizes the findings from each provincial/territorial healthy eating curriculum.

Framework analysis findings

Theoretical basis. No theoretical basis was mentioned in any kindergarten healthy eating curricula, with the lone exception of BC’s “Kindergarten: Healthy Eating and Physical Activity Learning Resource” (2010), where the healthy eating program is described as being based on social learning theory. However, resulting from this observation that applies specifically to the healthy eating component of the curricula, the introductory sections of each kindergarten curricula was re-examined for any reference to a theoretical basis (Table 4.3). In contrast to the healthy eating components, all curricula were found to either describe their overall kindergarten curricula as being based in theory and/or research, as was attested in the introductions of Nova Scotia’s “Foundation for Active, Healthy Living,” “Physical and Health Education Curriculum” (1998) and PEI’s “Kindergarten Integrated Curriculum” (2008). For example, both Quebec (2001) and Alberta’s (2008) kindergarten curricula introductory sections describe the curricula as being based in theory and were found to include elements of social ecological theory, through descriptions of ways to target individuals, families, and communities. Thus, if it was established that theory was described in the overall kindergarten curriculum, attempts were made to determine, based on the lessons and descriptions, if theory had indeed been used in the healthy eating components. This involved examining the curricula for elements beyond simply listing student-centred implementation activities. For example, Alberta’s “Kindergarten Program Statement” (2008) includes elements that demonstrate concepts from social ecological theory (McLeroy, Bibeau, Steckler, & Glanz, 1988), such as suggestions for how to include parents and communities in the healthy eating curricula. Although the overall kindergarten curricula often describe being grounded in theory and play-based research, according to this analysis, these elements were not applied in the healthy eating component of many curricula. The lack of obvious translation of theory into practice was somewhat surprising, given the emphasis research places on school-based nutrition education programs needing to be based on a theoretical
framework (Anonymous, 1997; Lytle, 2005; Lytle & Achterberg, 1995; Canadian Cancer Society Manitoba Division, 2011; Sharma, 2006; Zenzen & Kridli, 2009).

**Learning outcomes.** Learning outcomes were categorized to fit into three main groups: Increase knowledge of healthy eating, increase motivation to eat healthy, and learn/practice behaviour strategies (Table 4.4). In some provinces, outcomes are unclear or unspecified. Learning outcomes often focus partially or entirely on increasing knowledge of healthy eating knowledge acquisition through categorizing foods and learning about Canada’s Food Guide (CFG). Many examples can be drawn from the examined curricula. In Manitoba, the objective of the lesson plan for “Food, Growth, and Feeling Good” (Healthy Lifestyle Practices, 2001) has students identifying healthy eating goals. In New Brunswick “You and your world – Kindergarten” (2005) focuses on having students identify healthy practices.

Two particular learning outcomes within the increase knowledge of healthy eating category emerged in nearly all the curricula documents. The first is the importance placed on introducing children to CFG, an objective of nearly every curriculum. With this came a number of activities that used CFG, such as Alberta’s “Nutrition Resource Kit Kindergarten Lesson Plans” (2012), whose learning outcomes include introducing students to CFG, reviewing it, and teaching food groups. Similarly, Manitoba’s “Healthy Lifestyle Practices” (2001) steers students towards identifying different colours of the food rainbow and sorting foods into groups. Such findings are typical, as interventions often aim to have children gain knowledge about food guides and food group recommendations (Auld, Romaniello, Heimendinger, Hambidge, Hambidge, 1998). The second theme emphasizes teaching children to categorize foods as “sometimes,” “everyday,” or “most of the time” as opposed to “good” and “bad.” For instance, New Brunswick’s “You and Your World Curriculum” (2005) suggests that students group pictures of foods into “sometimes” and “everyday” foods. Alberta likewise recommends teachers avoid terminology such as “good” and “bad” foods and instead use “every day” and “sometimes” (Nutrition Resource Kit Kindergarten Lesson Plans, 2012). PEI’s “Kindergarten Integrated Curriculum Document” (2008) aims to have students name food choices that can be made daily or on certain occasions. Likewise, Newfoundland and Labrador’s “Completely Kindergarten” (2010) also has “food I should eat daily” and “foods I should eat once in a while.”
Fewer learning outcomes were found to fall under the second category, which involved outcomes that aimed to increase students’ motivations to eat healthy foods. PEI’s “Kindergarten Integrated Curriculum Document” (2008) states that by the end of kindergarten children are expected to recognize the benefits of healthy food choices, such as Alberta’s “Health & Life Skills - Kindergarten” (2002) that aims to teach students that eating healthy would result in them feeling good and being energetic. NWT’s “Kindergarten Integrated Curriculum” (2012) similarly aims to teach students about the benefits of growing healthy and strong.

The third category involved outcomes that focused on having students learn and practice healthy eating behaviours. Behaviour-focused learning outcomes include activities that aim to teach students to plan and prepare healthy snacks, such as Alberta’s “Nutrition Resource Kit Kindergarten Lesson Plans” (2012) that aims for students to learn about selecting healthy snacks. Similarly, BC’s “Kindergarten: Healthy Eating and Physical Activity Learning Resource” (2010) involves students preparing healthy meals in the sociodramatic play centre. Other behaviour-focused learning outcomes can be found in Nova Scotia’s “Learning Outcomes Framework P-6” (April 2012) that describes an objective of students using their senses to explore a variety of healthy foods. And Ontario’s “Full-Day Early Learning - Kindergarten Program” (2010) likewise describes students learning to explore ways of healthy eating.

Implementation activities. In the next step, the curricula were examined for the types of activities suggested for teachers to implement the healthy eating lessons. Three provinces, Nova Scotia, Saskatchewan, and Quebec, did not include resources on their ministry of education websites involving implementation activities. The remaining provincial/territorial curricula draw on a range of implementation activities for teaching healthy eating lessons. Activities were categorized as being either teacher-centred or student-centred.

As illustrated in Table 4.5, there are implementation activities that rely on teacher-centred instruction whereby teachers present knowledge-based messages, but these are far less common than activities that involve students, or the teacher-centred method is but one of a variety of different ways students are taught healthy eating. For example, in Newfoundland and Labrador’s “Completely Kindergarten: Kindergarten Curriculum Guide” (2010) and Alberta’s “Nutrition
Resource Kit Kindergarten” (2012), teachers are encouraged to teach through both teacher-centred instruction and group activities such as playing games and singing songs. In fact, the majority of curricula described teaching nutrition in student-centred, interactive ways, such as Manitoba’s “Healthy Lifestyle Practices” (2001), where children are taught to play healthy eating games in physical education class, and NWT’s “Health Program” (1991), where students prepare a healthy snack with parents or older students. While many curricula involve students playing an active role, the activities typically do not involve students practising actual healthy eating skills or behaviours. Instead, they involve students sorting pictures of food or food models into food groups (or other designated food categories).

**Play-based activities.** Student-centred implementation activities were further categorized as being play-based or sociodramatic play (Table 4.6). As stated earlier, the importance of play in kindergarten was found to be commonly described in the introductory sections of the overall kindergarten curricula. Play-based implementation activities are also suggested in the healthy eating curricula. For example, in NWT’s “Integrated Kindergarten Curriculum” (2012), Alberta’s “Health & Life Skills: K Wellness choices: Kindergarten illustrative examples” (2002), and PEI’s “Kindergarten Integrated Curriculum Document” (2008) play-based activities consisted of creating collages out of pictures of foods or creating CFG rainbows or cereal boxes.

**Sociodramatic play.** BC’s “Kindergarten: Healthy Eating and Physical Activity Learning Resource” (2010) presents a thorough sociodramatic play nutrition education curriculum for kindergarten children, and there were other provinces that involved teaching healthy eating through sociodramatic play as one aspect of their curricula. In Ontario, the “Full-Day Early Learning – Kindergarten Program” (2010) curricula suggests that “After the children set up a store in the dramatic play centre, the teacher is encouraged to observe the kinds of items they have chosen to sell and ask them to talk about their choices” (p. 131). A similar integration is made in PEI’s ‘Kindergarten Integrated Curriculum’ (2008) where there is a suggestion to add healthy food props to the dramatic play area. Newfoundland and Labrador’s “Completely Kindergarten” (2010) additionally suggests role-play in the restaurant. Lastly, as previously stated, Saskatchewan (2010) did not have healthy eating implementation activities available
online, but it noteworthy that in the general health education section of the curricula sociodramatic play is suggested as a way for students to learn about healthy behaviours.

**Food familiarity.** Familiarizing students with new foods is rarely stated as an objective in the kindergarten curricula, though it is often an implicit part of lessons (Table 4.7). Noteworthy, food familiarization is explicitly listed as an objective in Newfoundland and Labrador’s “Completely Kindergarten Curriculum” (2010), where students are expected to taste familiar and unfamiliar foods. Likewise an objective of NWT’s “Kindergarten Integrated Curriculum” (2012) is to have children experience natural nutritious foods. Manitoba’s “Healthy Lifestyle Practices” (2001) similarly includes having students sample a variety of foods from each food group. In other curricula students could also be familiarized with different foods, though such experience would depend on the foods having been selected as props for various activities. For instance in BC’s “Kindergarten: Healthy Eating and Physical Activity Learning Resource” (2010), PEI’s ‘Kindergarten Integrated Curriculum’ (2008), and Ontario’s “Full-Day Early Learning – Kindergarten Program” (2010), the dramatic play area is described as offering food props and eating scenarios. Similarly, curricula that involve activities with food flyers and magazines, such as Alberta’s “Nutrition Resource Kit Kindergarten Lesson Plans” (2012) and New Brunswick’s “You and Your World Curriculum” (2005), could be visually exposing children to new foods, but again this would depend on the foods featured.

**Conclusions**

Kindergarten class offers a critical opportunity for establishing children’s lifelong eating behaviours that will promote health and prevent obesity. The school provides an ideal setting for teaching large groups of children healthy eating behaviours in age-appropriate and feasible ways. Following a document analysis that examined the extent to which official Canadian provincial/territorial kindergarten curricula includes concepts that are important for the development of lifelong healthy eating behaviours, the present study found that provinces and territories differ greatly in their kindergarten healthy eating curricula. The introductions to the overall kindergarten curricula typically describe how the curricula are based in theory. However, theory was rarely mentioned in the healthy eating curricula components, nor was it found to
translate into the design of the healthy eating learning outcomes or implementation activities. Instead of describing theoretically-organized opportunities for children to learn and practice healthy eating behaviours, many curricula consist of various implementation activities, such as introducing children to CFG and categorizing foods. Such activities are designed to achieve learning outcomes focused on improving children’s nutritional knowledge. Indeed, while curricula were found to include learning outcomes that focus on increasing students’ motivation to eat healthy and aiming to have students learn/practice healthy eating behaviours, out of the three categories of learning categories applied in this analysis, increasing students’ knowledge of healthy eating was the most frequently found outcome. These findings require further examination, because improving children’s nutritional knowledge through food identification and classification activities has been found not to result in lasting behavioural changes (Baskale et al., 2009; Contendo et al., 1995; Contendo et al., 2002; Noble et al., 2000; Taylor et al., 2005).

As Bandura (2004) argued, the acquisition of nutritional knowledge does little to develop the behaviours needed to counter the social, emotional, and advertising pressures that contribute to unhealthy eating behaviours.

Another key finding related to the implementation activities used to achieve healthy eating curricula outcomes. Almost all provinces and territories use student-centred implementation activities, many of which are play-based, that involve students in learning healthy eating through games, discussions, and creative activities such as creating food collages. Some curricula also involve teacher-centred activities, but these were found much less frequently and are suggested in combination with student-centred activities. Such findings are encouraging, given the importance of teaching children about nutrition in engaging interactive ways (Baskale et al., 2009; CDCP, 2011; Rickard et al., 1995). One specific type of implementation activity examined in this study was sociodramatic play. Sociodramatic play enables children to practice situations and acquire knowledge and skills needed later in life (Bateson & Martin, 2000). While BC included the most comprehensive kindergarten healthy eating curriculum, which included theory-based sociodramatic play lessons, other provincial curricula, such as those of PEI, Newfoundland and Labrador, and Ontario, also included some sociodramatic play activities that could be expanded into more comprehensive sociodramatic play-based healthy eating curricula. Equally noteworthy, even though many curricula do not include sociodramatic play as a
suggested implementation activity for teaching healthy eating, the majority do include play-based activities or describe play as forming the basis of their kindergarten curricula. This is an important finding (especially for future researchers looking to implement play-based healthy eating), as new programs—such as play-based nutritional learning—that fit with present practices are more likely to succeed with teachers (Dearing, 2008; Rogers, 2003). Consequently, a play-based healthy eating program would likely have a better chance at successful implementation in those curricula that already value play-based learning as opposed to those kindergarten classrooms where play-based curricula would be an innovative concept.

A final noteworthy finding involves the concept of food familiarization in the curricula. While few curricula explicitly state that familiarizing students with new foods is a learning outcome, in several it is implied that children could become familiar with foods through activities using food props and pictures, the practice known as ‘visual familiarity.’ Visual familiarity has been found to be key to children’s trying novel foods, as they prefer foods that they frequently see in their environments (Story, Neumark-Sztainer, & French, 2002). It follows, then, that a key means of encouraging the development of healthy food preferences is to increase children’s exposure to new foods. Novel food familiarizing opportunities are crucial because children’s food preferences are strongly influenced by experience, and repeatedly presenting a food in a positive context results in increased preference for that food (Birch, 1998). Moreover, research recommends more nutrition programs that focus on increasing familiarity with healthy foods (Wardle & Cooke, 2008).

This study’s findings are relevant for both developers of kindergarten healthy eating curricula and future researchers. For curriculum developers, a curriculum that is based in theory, that focuses on improving students’ healthy eating motivation, skills, and behaviours in addition to healthy eating knowledge, and that includes food familiarization will experience a better chance for success in educating children with healthy eating behaviours in their day-to-day lives (Bronfenbrenner, 2005; Contedo et al., 1995; Lytle, 2005; GSHP, 2011; Lytle et al., 1997; Matheson et al., 2002; Niehoff, 2009; Perez-Rodrigo & Aranceta, 2001). Curricula developers need to be aware of the drawbacks entailed by a scarcity of theory, because teaching randomly-selected nutrition concepts with a view towards improving children’s knowledge leads to failure.
in achieving the goal of desired behavioural change (Anonymous, 1997). Despite research showing that targeting nutritional knowledge is not an effective way to develop long-term healthy eating behaviours in children, such teaching remains too much a focus of nutritional education programs (Baskale et al., 2009; Tuuri et al., 2009), as was the case with many of the curricula analyzed in the present study. The present study suggests further that curriculum developers should involve more sociodramatic play in healthy eating lessons as a means to fostering children’s long-term development, an outcome that has been achieved in BC’s healthy eating curriculum (2010). As other researchers have suggested, healthy eating programs need to use experiential, hands-on learning, and problem-solving in group settings (CDCP, 2011; Lytle & Achterberg, 1995; Taylor et al., 2005) – all of which can be realized through sociodramatic play (Fisher et al., 2011). Finally, curricula developers should consider including food familiarization in their curricula. The failure to explain to principals and teachers the importance of regularly exposing children to novel foods misses a handy opportunity to encourage the development of healthy food preferences. However, all of these suggestions for curriculum developers require greater understanding of complex kindergarten environments (for example, when incorporating theory into the practical situations of kindergartens), which involves implications for future research in this field.

The present study’s most significant conclusion can be stated as follows: the goal of nutrition education for kindergarten children should not be only focused on increasing nutritional knowledge, but also nurturing enduring retention through sociodramatic play and food familiarity; perhaps only by these means will their educational experiences be transferred to real-life situations over a lifetime. Of course, this conclusion must be considered within the limitations of the study. The curricula analyzed were chosen and the selection process justified for the reasons given earlier, and they represent but a sample of available provincial/territorial curricula. Though curricula were obtained from every provincial/territorial ministry of education website, they may not be fully representative of all curricula developed for each province/territory or those actually used by teachers. Thus this study’s conclusion pertains to official kindergarten curricula and a necessarily limited sample of resource documents. To increase understanding of what and how Canadian children are being taught about healthy eating in kindergarten classes, future research will need to build on the findings of the present study,
particularly in two areas. First, there is a need to examine resources developed to support the curriculum. It was beyond the scope of the present study to analyze all of the additional implementation guides, achievement indicators, and recommended resources in addition to considerable number retrieved from the official provincial or territorial ministry of education websites. Second, there is also pressing need to examine how such curricula are actually put into practice in the classroom. Following from this and other studies’ analyses of the intended curriculum (Eisner, 2005), researchers now need to know how kindergarten teachers interpret and implement the curricula in their classes, particularly with regards to categorizing implementation activities. For example, the present study found many curricula suggest students create their own CFG rainbow or food collages, but depending on how the teacher implements these activities, they could fit under either definition of student-centred or teacher-centred activity. Consequently, further research is much-needed. Classroom observations and interviews with teachers should enable us to understand whether kindergarten classes following these curricula are actually providing children with opportunities to learn about healthy eating in ways that encourage the development of healthy attitudes and behaviours that will last a lifetime. Following these suggestions for future research and development, curriculum developers, researchers, and school communities should be in a better position to cooperate in ensuring developmentally appropriate, evidence-based, and culturally sensitive healthy eating curricula.
Table 4.1: Summary of Analysis Framework Concepts

<table>
<thead>
<tr>
<th>Theoretical basis</th>
<th>Learning outcomes</th>
<th>Implementation activities</th>
<th>Play-based activities &amp; Sociodramatic play</th>
<th>Food familiarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a theory used (or implied) in describing how the healthy eating lessons were developed?</td>
<td>What are students expected to learn from the lessons?</td>
<td>What types of suggestions are provided for teaching healthy eating lessons?</td>
<td>Have play-based activities been suggested?</td>
<td>Is an objective of the curriculum to familiarize students with new foods?</td>
</tr>
<tr>
<td>Or do healthy eating lessons consist of various implementation activities?</td>
<td>- Increase knowledge of healthy eating</td>
<td>- Are activities teacher-centred or student-centred</td>
<td>- Is sociodramatic play suggested as a strategy for teaching any of the lessons?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increase motivation to eat healthy</td>
<td>- Teach/practice healthy eating behaviours</td>
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</tbody>
</table>
Table 4.2: Curricula obtained from each provincial/territorial ministry of education website

<table>
<thead>
<tr>
<th>Province or Territory</th>
<th>Curricula Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td>• 3 documents - 2 curricula + 1 implementation guide</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>• 2 documents - 2 curriculum guides that include suggestions for implementation activities</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>• 2 documents – curriculum + resource – no resources on implementation activities were found</td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>• 2 documents - curriculum guide + lesson plans</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>• 1 document - curriculum guide that includes suggestions for implementation activities</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>• 1 document – curriculum guide – no suggestions for implementation activities were found</td>
</tr>
<tr>
<td>British Columbia</td>
<td>• 3 documents – curriculum guide + program outcomes guide + healthy eating learning resource</td>
</tr>
<tr>
<td>Newfoundland and Labrador</td>
<td>• 1 document- curriculum guide that includes suggestions for implementation activities</td>
</tr>
<tr>
<td>Ontario</td>
<td>• 1 document - curriculum guide that includes suggestions for implementation activities</td>
</tr>
<tr>
<td>Quebec</td>
<td>• 2 documents - curriculum guide + resource – no suggestions for implementation activities were found</td>
</tr>
<tr>
<td>Nunavut</td>
<td>• Uses NWT and Manitoba’s curricula</td>
</tr>
<tr>
<td>Yukon</td>
<td>• Uses BC’s curriculum</td>
</tr>
<tr>
<td>Province or Territory</td>
<td>Theoretical basis</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------</td>
</tr>
</tbody>
</table>
| Alberta               | • Intro of kindergarten curriculum describes kindergarten program having theoretical basis  
                        • Can see social ecological theory elements in healthy eating component: information on how parents and communities can be included to promote students’ healthy eating development |
| New Brunswick         | • Theory used in overall health curriculum (Comprehensive School Health), but not discernable in healthy eating component |
| Nova Scotia           | • Intro of kindergarten curriculum describes how overall framework is built on ‘current research and theories’  
                        • Healthy eating component is described as being based ‘on movement’ |
| Northwest Territories | • Intro of kindergarten curriculum details many references to ‘research’  
                        • Healthy eating component based on 12 competencies, including ‘play and inquiry’ and ‘healthy lifestyle’ |
| Prince Edward Island  | • Intro of kindergarten curriculum describes play research |
| Saskatchewan          | • Intro of kindergarten curriculum play-based and inquiry-based  
                        • General ‘Health Education’ section does not refer to healthy eating or nutrition anywhere.  
                        • Only mention of food is describing ‘things people have in common’ and ‘things people shouldn’t share’ (due to allergies) |
| British Columbia      | • Intro of kindergarten curriculum describes research and value of play  
                        • Intro to healthy eating component describes how lessons are based on social learning theory |
| Newfoundland and Labrador | • Intro of kindergarten curriculum describes play research |
| Ontario               | • Intro of kindergarten curriculum describes being based on early childhood research and play research |
| Quebec | • Intro of kindergarten curriculum takes social ecological theory approach by targeting individual and environmental levels, but this is not for a healthy eating component |
Table 4.4: Learning outcomes

<table>
<thead>
<tr>
<th>Province or Territory</th>
<th>Increase knowledge</th>
<th>Increase motivation</th>
<th>Learn/practice behaviours</th>
</tr>
</thead>
</table>
| Alberta               | • Overall goal is to teach about Canada Food Guide  
                       • Recognize appropriate nutritional habits  
                       • Introduce/ review Canada Food Guide  
                       • Understand ‘everyday’ foods and ‘sometimes’ foods | • Recognize that nutritious foods are needed for growth and to feel good/have energy | • Learn about selecting healthy snacks |
| New Brunswick         | • Identify and explain types of activities that support a healthy lifestyle  
                       • Describe a healthy child | | |
| Nova Scotia           | • Identify good nutritional habits  
                       • Demonstrate knowledge of healthy eating | | • Use their senses to explore a variety of healthy foods |
| Northwest Territories | • Understand healthy foods vary in cultures  
                       • Understand Dene food system | • Describe how food will help grow healthy and strong | • Experience natural nutritious food |
<p>| Prince Edward Island  | | • Recognize and explore the benefits of healthy food choices | |
| Saskatchewan          | • Develop language with which to talk about healthy | | |</p>
<table>
<thead>
<tr>
<th>behaviours</th>
<th>British Columbia</th>
<th>Newfoundland and Labrador</th>
<th>Ontario</th>
<th>Quebec</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Recognize examples of healthy habits</td>
<td>• Identify opportunities to make choices: name choices that can be made daily or on certain occasions (one example is which snack to eat)</td>
<td>• Understand healthy foods, as defined by Canada Food Guide</td>
<td>• Investigate the benefits of nutritious foods</td>
<td>• Adopt a healthy, active lifestyle</td>
</tr>
<tr>
<td></td>
<td>• Identify practices that contribute to health, including healthy eating...name a variety of activities that promote physical health (choose foods from Canada Food Guide, choose healthy snacks)</td>
<td>• Assess the importance of healthy food and beverage choices</td>
<td>• Explore ways of ensuring healthy eating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Each of 4 learning centres has several different objectives, such as: Engage in conversation about choosing foods, create nutritious meals and menus, demonstrate appropriate hygiene such as proper hand washing</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
### Table 4.5: Implementation activities

<table>
<thead>
<tr>
<th>Province or Territory</th>
<th>Teacher-centred activities</th>
<th>Student-centred activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td>• Teacher instructs</td>
<td>• Brainstorm snack ideas</td>
</tr>
<tr>
<td></td>
<td>• Many pencil and paper activities</td>
<td>• Sing food song</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Create own Canada Food Guide Rainbow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Clip pictures from flyers to create art, design own cereal box</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Feature different food group each week and encourage students to bring in snacks from that group</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>• Introduce Canada Food Guide</td>
<td>• Class discussion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cut out pictures to create healthy collage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sort food pictures into “every day” and “sometimes” foods</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>• None available</td>
<td></td>
</tr>
<tr>
<td>Northwest Territories</td>
<td></td>
<td>• Learn food cheer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Make food collages</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sort items into food or non-food</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Make and eat fish soup</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prepare and discuss snacks</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>• Discuss importance of food choices</td>
<td>• Create class collage of healthy food</td>
</tr>
<tr>
<td></td>
<td>• Introduce Canada Food Guide, sort foods into food groups</td>
<td>• Add healthy food props to dramatic play area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Visit grocery store</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>• None available</td>
<td></td>
</tr>
<tr>
<td>Province</td>
<td>Activities</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>British Columbia</td>
<td>• Teach healthy eating through four different dramatic play centers:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Cut up grocery store flyers to create meal/grocery list</td>
<td></td>
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<tr>
<td></td>
<td>• Have students shop for items in play area grocery store</td>
<td></td>
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<tr>
<td></td>
<td>• Have students role play different roles in restaurant (chef, customer)</td>
<td></td>
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<tr>
<td></td>
<td>• Create collage of healthy food items for display in restaurant</td>
<td></td>
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<tr>
<td></td>
<td>• Have students role play preparing meals for each other in kitchen</td>
<td></td>
</tr>
<tr>
<td>Newfoundland and Labrador</td>
<td>• Teacher instructs</td>
<td></td>
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<tr>
<td></td>
<td>• Discuss with class healthy food and introduce Canada Food Guide</td>
<td></td>
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<tr>
<td></td>
<td>• Make a healthy pizza as a class</td>
<td></td>
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<tr>
<td></td>
<td>• Role play in restaurant suggested as activity</td>
<td></td>
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<tr>
<td></td>
<td>• Categorize food pictures into ‘foods I should eat daily’ and ‘foods I should eat once in a while’</td>
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<tr>
<td></td>
<td>• Pit Stop game</td>
<td></td>
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<tr>
<td></td>
<td>• Sort food pictures or food models</td>
<td></td>
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<tr>
<td>Ontario</td>
<td>• Introduce Canada Food Guide</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Role play in dramatic play centre</td>
<td></td>
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<tr>
<td></td>
<td>• Trip to grocery store</td>
<td></td>
</tr>
<tr>
<td>Quebec</td>
<td>• None available</td>
<td></td>
</tr>
<tr>
<td>Province or Territory</td>
<td>Play-based activities</td>
<td>Sociodramatic play</td>
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</tr>
<tr>
<td>Alberta</td>
<td>• Sing food song&lt;br&gt;• Create own Canada Food Guide Rainbow&lt;br&gt;• Clip pictures from flyers to create art, design own cereal box</td>
<td></td>
</tr>
<tr>
<td>New Brunswick</td>
<td>• Cut out pictures to create healthy collage</td>
<td></td>
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<tr>
<td>Nova Scotia</td>
<td>• None available</td>
<td></td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>• Learn food cheer&lt;br&gt;• Make food collages</td>
<td></td>
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<tr>
<td>Prince Edward Island</td>
<td>• Create class collage of healthy food</td>
<td>• Play suggested through adding food props to dramatic play area</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td></td>
<td>• Explore healthy behaviours through creative expression (e.g. dramatization)</td>
</tr>
<tr>
<td>British Columbia</td>
<td></td>
<td>• Food-themed sociodramatic play centres main component of curriculum</td>
</tr>
<tr>
<td>Newfoundland and Labrador</td>
<td>• Pit Stop game</td>
<td>• Role play in restaurant</td>
</tr>
<tr>
<td>Ontario</td>
<td></td>
<td>• Store in dramatic play centre where children encourage customers to buy fruits and vegetables&lt;br&gt;• Play suggested as way for children to ‘do’ healthy eating</td>
</tr>
<tr>
<td>Quebec</td>
<td>• None available</td>
<td></td>
</tr>
<tr>
<td>Province or Territory</td>
<td>Food familiarity</td>
<td></td>
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<td>-----------------------</td>
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<tr>
<td>Alberta</td>
<td>• Not explicitly stated, but possible through discussions about different snacks</td>
<td></td>
</tr>
<tr>
<td>New Brunswick</td>
<td>• Not explicitly stated but possible through sorting pictures of food</td>
<td></td>
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<tr>
<td>Nova Scotia</td>
<td>• No food familiarization</td>
<td></td>
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<tr>
<td>Northwest Territories</td>
<td>• Possible but not explicitly stated; recommends real-life household materials and play food in dramatic centre</td>
<td></td>
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<tr>
<td>Prince Edward Island</td>
<td>• Not explicitly stated but possible, as healthy food props suggested added to dramatic play for restaurant or store</td>
<td></td>
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<tr>
<td>Saskatchewan</td>
<td>• No food familiarization</td>
<td></td>
</tr>
<tr>
<td>British Columbia</td>
<td>• Not explicitly stated but possible, as dramatic play area described as having food, through real food props used in centres, clipping food flyers, etc.</td>
<td></td>
</tr>
<tr>
<td>Newfoundland and Labrador</td>
<td>• Yes, stated as Objective 2.3 “taste familiar and unfamiliar healthy foods”</td>
<td></td>
</tr>
<tr>
<td>Ontario</td>
<td>• Not explicitly stated but possible through dramatic play centre food props</td>
<td></td>
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References


Brown, T., & Summerbell, C. (2009). Systematic review of school-based interventions that focus on changing dietary intake and physical activity levels to prevent childhood obesity: An
update to the obesity guidance produced by the National Institute for Health and Clinical Excellence. *Obesity Review, 10*(1), 110-141.


Chapter 5: Results - Ontario kindergarten teachers’ social media discussions about Full Day Kindergarten

Chapter 5 focused on discussions specifically involving Ontario kindergarten teachers from the message board data, the online news article comments, and three of the seven kindergarten teacher interviews (I did not include the in-person interviews as they were all from the same private school and one teacher involved in the email interviews was from British Columbia).

This manuscript was accepted for publication in the *McGill Journal of Education*. This journal publishes research on theory, policy and practice from scholars and practitioners working in diverse areas of education (from preschool to adult education) in Quebec, Canada, and internationally.

This analysis provides a partial answer to my first research question: What is the climate of kindergarten in Canada and specifically Ontario? This analysis, focused on Ontario kindergarten teachers, was vital to the program and interview development, as the previous analyses of the social media data involved teachers from all over North America.

From this analysis I realized how important it was for SNAK’s program protocol to clearly articulate the program. The Ontario teachers in this study (and importantly, in other research as well) frequently described feeling confused about how they should implement Ontario’s play-based kindergarten curriculum. I realized that while it is important to make SNAK flexible to different teacher and class needs, there also needs to be enough of an explanation of the food-themed play centres’ objectives and materials. Further, teachers also expressed being unable to include play due to perceived pressure to meet various subject goals. Consequently, SNAK was modified to include aspects from the other parts of the Ontario FDK curriculum, such as literacy and math skills.
Abstract

This exploratory netnographic study describes how a sample of Ontario kindergarten teachers perceives the new Ontario Full Day Kindergarten (FDK) curriculum. Discussions from teacher message boards, the comment sections of online news articles, and interviews with kindergarten teachers were analyzed and coded using a qualitative approach. Analysis revealed three major themes: 1) Class size concerns, 2) Team teaching concerns, and 3) Play-based curriculum concerns. Results are in broad agreement with those reported in existing research into Ontario’s FDK initiative. Findings highlight the need for further research with educators involved in Ontario’s FDK and also contribute to the burgeoning field of netnography research. Suggestions for future research and practice are included.

Keywords: full day kindergarten, Ontario, teachers’ perspectives, social media, qualitative

Introduction

The government of Ontario recently established a comprehensive early learning system that includes a full-day kindergarten (FDK) program (Pascal, 2009). In September 2010, the first group of four- and five-year-old children in Ontario participated in the FDK format (Grieve, 2012a). Formerly, children attended kindergarten on alternating days or half-days in Ontario schools (Tozer, 2012). In addition to the switch to a full-day format, the new FDK curriculum introduced a play-based approach to learning and a teaching team involving a kindergarten teacher and an early childhood educator (ECE) working together in the classroom (Pascal, 2009). Kindergarten teachers have training in the broader elementary school curriculum and student assessment (Gibson & Pelletier, 2012). On the other hand, ECEs have training specifically in the physical, emotional, social, and creative development of young children. Additionally, previous to the FDK program, ECEs worked in settings other than school classrooms, such as childcare centres (Goulden, 2012; Pascal, 2009). To work in FDK classrooms, teachers must be registered with the Ontario College of Teachers and have a 3-year post-secondary degree in addition to a 1-year teaching certificate, whereas ECEs must be registered with the College of Early Childhood
Educators and have completed a 2-year college diploma in early childhood education (Gibson & Pelletier, 2012). The official FDK policy states that the teacher and ECE are equal partners in the kindergarten classroom (Gananathan, 2011). However, a number of challenges have risen when these partnerships are put in practice (Corter, Bertrand, Pelletier, Griffin, McKay, Patel, & Ioannone, 2007; Ryan & Date, 2012). Concerns with cooperation, respect, conflict resolution, pedagogical differences, practical matters, sharing of space and resources, as well as communication problems between teachers and ECEs have all been reported (Gananathan, 2011; Goulden, 2012). The change to a play-based curriculum adds to the challenges for educators in Ontario’s FDKs (Tozer, 2012). Teachers and ECEs have described an inability to fully implement the play-based program, and they have described misconceptions about play-based teaching, such as that explicit instruction has no role in play-based learning (Tozer, 2012). Given the newness of the program, research examining the FDK program has just begun, and the present study intends to add to this growing area of study.

**Alternative data sources for understanding teachers’ perspectives**

Gaining an understanding of teachers’ perspectives can play a major role in the success of a new educational initiative. An alternative to traditional methods (i.e., interviews, focus groups) has been found in social media data (Wilkinson & Thelwall, 2011). Recent years have seen a dramatic increase in research examining social media discussions, such as online message boards, blogs, and news forums (Hadert & Rodham, 2008; Henrich & Holmes, 2011; Moorhead, Hazlett, Harrison, Carroll, Irwin, & Hoving, 2013; White & Dorman, 2001). Teachers have increasingly been participating in social media discussions to discuss their concerns regarding educational policies (Reichman & Atzi, 2012; Stitzlein & Quinn, 2012). Message boards have been described as an especially crucial outlet for teachers as they provide emotional support and a sense of community to this group of professionals who may not find it elsewhere due to time, scheduling, and geographical issues (Hur & Brush, 2009; Kidd, 2013; Nicolson & Bond, 2003). As an effect of perceived limitations on teachers’ freedom of speech respecting educational policies, online discussions are viewed as enabling teachers to discuss their opinions with a
wider range of teachers than those in their immediate environments; this benefit cannot be underestimated as teachers have described feeling isolated from other teachers who might share their views (Hur & Brush, 2009; Stitzlein & Quinn, 2012).

In addition to message board discussions, another avenue of social media discussions worth examining is online news article comments. Unlike traditional print news articles, online news articles feature interactivity through a comments section that allows readers to post comments at the end of the article, and this feature has been found to allow for diverse opinions (Manosevitch & Walker, 2009). By examining the discussions posted in response to news articles on the H1N1 vaccine, Henrich and Holmes (2011) discovered that the online themes were consistent with the findings from surveys and focus groups, and the authors conclude that online discussions provide reliable sources of data. Yet, in spite of such advantages, teachers’ social media discussions have remained an understudied area of education research (Stitzlein & Quinn, 2012). Moreover, to date, the limited educational social media research has focused on American teachers and educational policies (Stitzlein & Quinn, 2012). Consequently what is currently needed is research on Canadian teachers’ social media discussions.

**Objective**

While many individuals play important roles in the successful implementation of educational initiatives, such as new curricula, teachers play a central role to successful implementation (Christou, Eliophotou-Menon, & Philippou, 2004; Fullan, 2007). Previous research into Ontario’s FDK has focused mainly on the partnership between the kindergarten teacher and the ECE using traditional methods such as interviews and focus groups (Katz & Dack, 2011; Gananathan, 2011; Goulden, 2012; Marsh, 2011; Tozer, 2012). However, there currently exists a large presence of kindergarten teachers discussing challenges they face in their working lives on social media. Thus, the objective of the present study was to use a netnographic approach. Netnography involves researchers observing social media discussions and/or using social media actively to elicit participants in product and services design, and will be further described in the
following research design section to explore Ontario kindergarten teachers’ discussions about their province’s new FDK program in two different types of social media: message boards and news article comments sections. Three themes were identified from this analysis. Following this analysis, three Ontario kindergarten teachers currently working in FDK classes were interviewed to learn more about their perspectives on the third theme (play-based teaching in kindergartens). This combination of traditional (interviews) and alternative methods (social media analysis) can enable a more comprehensive understanding of perspectives than either method could generate alone (Kozinets, 2010; Puri, 2007; Wilson, 2009). Being exploratory, the goal of this study was to develop areas for future researchers to examine and to compare the netnographic findings to previous research into teachers’ perspectives of the FDK.

**Research Design**

**Netnography**

To study social media discussions, researchers use a methodology that applies the practices of ethnography to an internet-based setting: this methodology has been called netnography. A qualitative research methodology, netnography maintains the same goal as ethnography (to understand life from community members’ perspectives) but adapts its perspective to study social media, for present purposes, the message board discussions and comment sections of online news articles described earlier (Kozinets, 2002). A netnographic study follows a process that resembles an ethnographic study, that is, it involves the study of distinctive meanings and practices of particular social groups (Kozinets, 2010). However, once a researcher has selected his / her research questions, the next step, instead of selecting a community site, is to identify relevant social media discussions (for the present study, Ontario kindergarten teachers’ discussions about FDK). Social media discussions are then analyzed using a process similar to those used for transcripts in other qualitative data methods, such as interviews (Kozinets, 2010). As a qualitative approach, netnography aims to offer propositions that can inform future
research, not to empirically generalize to a wider population. Its results can increase the store of particular knowledge, encourage broader and new perspectives, and generate hypotheses (Kozinets, 2010).

When attempting to learn from teachers, researchers have typically relied on interviews or questionnaires. These methods can be problematic due to self-representation biases. For instance, teachers’ self-reports regarding adaptations made to program curriculum have been found to be negatively correlated with observations of teachers’ classroom practice? (Datnow & Castellano, 2000; Dusenbury, Brannigan, Hansen, Walsh, & Falco, 2005; Hansen & McNeal, 1999). There are also some reliability concerns associated with online discussions, mainly, the possibility of participant fraud or misrepresentation. Wallendorf and Belk (1989) recommend dealing with questions of falsification in ethnographic research by means of well-developed field research techniques such as prolonged engagement, persistent observation, and researcher introspection. Similarly, such safeguards can be applied in netnographic research: careful and prolonged observation of the social media community will better enable the researcher to trust the online discussions (Kozinets, 1998, 2010). Additionally, Puri (2007) has provided three recommended practices when studying social media discussions: using message boards that provide user profiles, examining the content of individual posts to check for consistency over time, and using a number of boards, as opposed to relying only on one, to determine if the findings apply to more than one online setting. All of these recommendations were incorporated into the present study. Given the exponential growth of social media sites and online discourse, social media offer an innovative and timely data source for education researchers to derive insights into teachers’ views of their profession.

Data collection

McDermott, Roen, and Piela (2013) offer useful questions to consider when selecting social media data for a netnographic study: What are the participants’ likely expectations of privacy
and would participants experience any harm from their discussions being analyzed? For the present study, inclusion criteria were established to only include message boards and news articles that did not require membership, registration, sign-in, or password and were publicly accessible through a popular internet search engine. Additionally, while the data relates to personal opinions, one could argue that the data did not contain controversial or sensitive topics or opinions that would result in harming participants (particularly when compared to netnographies that have examined topics relating to recreational drug use or self-harm) (Bruckman, 2002; McDermott et al., 2013; Paetcher, 2012; Wilkinson & Thelwall, 2011). Consequently, this study was conducted in line with past netnographies: data was only included if they were publicly available, participants were not considered vulnerable individuals, and the topic was not considered sensitive. Further, by not reporting any of the names of the message boards or participants studied, no identifying information was provided on participants (Copelton & Valle, 2009; Hoffman-Goetz & Donelle, 2007; Langer & Beckman, 2005; Reichman & Atzi, 2012; Stitzlein & Quinn, 2012).

**Message boards.** To locate teacher discussion boards, phrases such as “teacher message boards” and “teacher chat” were entered into the internet search engine Google. This process was repeated as a second step, with two additional measures: applying the “discussions” filter and adding the term “inurl: forum,” which would provide results from forums that may have been missed in the first search (Wilkinson & Thelwall, 2011). These two searches returned hundreds of results. Finally, message boards identified from these searches were examined to remove any spurious matches, with the result producing a sample of relevant teacher message boards (Wilkinson & Thelwall, 2011).

Message boards were selected for inclusion in the study using selection criteria as follows: i) required to be publicly available with no membership, registration, sign-in, or password protection; ii) required to identify as providing a discussion forum for teachers (based on the name of the board and an examination of the board’s self-description, located on its main page); iii) required to be published from 2010; and iv) required to be written in English. As a result,
message boards were excluded from the study if they required a fee or password, did not self-identify as discussion boards for teachers, were published prior to 2010, or were written in a language other than English. Boards were rejected if any one of the exclusion criteria were met. In total, seven message boards were included. With these smaller boards discussion topics were searched to locate those that were posted by Ontario kindergarten teachers and related to the Ontario FDK. Larger boards usually included a search engine for key words, which were used to find discussions related to the Ontario FDK by entering keywords such as “Ontario kindergarten” and “Ontario full day early learning kindergarten.” Additional search terms such as “Ontario ELKP” and “Ontario FDK” were based on words that had frequently appeared in the initially identified discussions. Two teacher message boards met the study criteria and contained 10 Ontario kindergarten teachers participating in discussions about FDK. All discussions were saved for analysis as PDFs.

**News articles.** To locate news articles, the phrases “Ontario play-based kindergarten” and “Ontario full-day kindergarten” were again typed into the commercial internet search engine Google and then refined using its “news” filter. For each result that appeared to be from an online newspaper, the article comment section was examined to determine if there were comments at the end. If there were comments, they were read to determine if any were written by kindergarten teachers. The only way to determine so was that the commenter self-identified as a teacher. Comments were chosen for inclusion in the study using the following selection criteria: i) required to identify as having been written by a kindergarten teacher; ii) required to be published from 2010; and iii) required to be written in English. Conversely, comments were excluded from the study if the author did not self-identify as a kindergarten teacher, were made prior to 2010, or were written in a language other than English. Comments were rejected if any one of the exclusion criteria were met. Nine online news articles were found to include comments from 15 Ontario kindergarten teachers. All discussions were saved for analysis as PDFs.
Interviews. Email interviews were conducted in January 2014. Purposive sampling was used to identify ten Ontario teachers working in FDK classes. Teachers were contacted by email and asked to participate in the interview. The final sample consisted of three female teachers aged 30, 32, and 51 with 7, 9, and 9 years of experience, respectively. The three teachers were emailed the interview questions and asked to reply back by email with their answers within two weeks. Questions were open-ended and based on findings from the prior social media analysis that related to play-based teaching. For example, teachers were asked questions such as: “Other teachers have said they don’t like teaching through play because there is no “end product” to evaluate. What do you think?” and “Other teachers have expressed concerns about play not preparing children for grade 1. How do you feel about this?”

Data analysis

All data were analyzed using an inductive approach that entailed summarizing and classifying the data (Creswell, 2009; Pope, Ziebland, & Mays, 2000; Strauss & Corbin, 1998). First, data familiarization with the data was achieved by reading and re-reading the discussions or interview transcripts while creating reflexive notes. Next, interesting features of the data were noted by composing initial codes. The discussions were read line by line and coded under either anticipated themes (identified by previous research) or emergent themes. This was done by examining how information is presented in the discussions according to the use of key words, phrases, themes, metaphors, and analogies; by keeping alert to the ways in which ideas and patterned ways of thinking are imported from elsewhere; and by being prepared to draw upon a larger meaning through a connection to other discourses (Hollander & Gordon, 2006). Initial codes were applied to later data and additional codes were developed as new themes emerged, and some initial codes were revised. Related codes were then grouped together under the main themes identified in the data.
Results

In total, two teacher message-board discussions and nine online news-article discussion sections included Ontario kindergarten teachers discussing the Ontario FDK program. Three themes emerged through comprehensive analysis of teachers’ discussions. The first two themes, class size concerns and team teaching concerns, were not explored with interviewed teachers, and so these reflect only the kindergarten teachers’ social media discussions. The third theme, play-based curriculum concerns, was more complex and therefore was explored in interviews with teachers in addition to the social media discussions.

Class size concerns

One of the most common themes kindergarten teachers discussed in the social media discussions was the large class sizes that have come with the new program. They often described how, in spite of what they had been told regarding a cap on class size, they (or other teachers they interacted with) were experiencing a different reality: “So much for the cap of 26. I, like others, am worried about 26+ kids in one classroom even if there is a teacher and an ECE worker.” Teachers reported a number of problems with such large classes, especially constrained physical space. One teacher stated that “I don’t know if there is a cap on class size, but our ELP [Early Learning Program] classes had almost 30 kids. The teachers do not like it, mostly because of the huge class size and simply not having enough space to accommodate all those kids.” Another teacher agreed:

*classroom space is a concern - it seems unimaginable to “cram” so many students in one room not meant for those numbers, but we often have those numbers and more for our intermediate classes and those kids are a lot bigger!! We are currently sitting at 25 students, with me, an ECE and a full-time EA providing support to a couple of students. Real estate in our classroom is going to be a real commodity!!*
Not surprisingly, resultant noise levels, supervisory concerns, and general confusion affect instruction: “with such large classes (I have 28), it is almost impossible to have small group lessons at different centres, as the noise in such a small classroom is extremely distracting for the children. I have tried countless times to teach small groups as has the ECE, but it is quite different when children have to use the washroom and there is not a washroom in the classroom. The kids cannot be left unattended.” An interviewed teacher likewise commented that in the past, certain activities “worked well with the smaller class sizes.” But in the new FDK “having 27 students in the class (mixed JK/SK) this was very difficult.” One teacher even stated that she was considering changing grades as a result of such problems resulting from the large kindergarten classes. She begins:

*I have been informed by the lead Kindergarten Consultant that we have full day classes as large as 34 in our board. Visiting guest teachers to my school have informed me that the noise level in the classes is extremely high making programming very difficult.*

And continues:

*The noise levels keep the students agitated and fighting all day long. I am fully in support of full day Kindergarten and I love teaching this grade. But reports about the impact of cramming 34 small children into one small class have me thinking about switching to a different grade, if I am able to do so, before this program comes to my school.*

Teachers regularly described the negative impact large classes would have on children’s learning: “I have yet to see students being “equalized” by being in any large group setting. The ones that have had a solid background are far more ready to learn for a whole host of reasons. The ones who aren’t, have emotional and health issues which being with a crowd of children all day, whatever you call it, doesn’t fix.” While not a teacher himself, another poster described the potential challenges to his wife’s successful teaching as follows:

*My wife is a JK teacher, and every teacher she has spoken to does not agree with this move. They do not feel it is in the best interest of the child to be in school all day, in*
particular in a class of up to 26 kids, with only 2 adults present. My wife presently has 17 JKS [Junior Kindergarteners] in her class, one with autism and 1 with Down’s syndrome. She has one teacher aid assigned to her class. Between the two of them, it is a struggle to manage the two children with special needs and actually complete the curriculum. A class size of 26? Good luck. Maybe if special needs kids were not integrated into the regular classroom you’d have a chance

A teacher described her experience in writing to the Ministry of Education to voice her concerns about the large class size, reporting a frustrating outcome:

I am NOT a fan. The province funds based on one adult per 16 students. There is NO cap on class size. (I actually emailed the Ministry of Education about this, and they wrote back...to explain that there is no cap since we will have an ECE)

Team teaching concerns

Across all the discussions about FDK, teachers expressed challenges in working with ECEs:

I taught full time JK for 9 years...last year with the ELKP [Early Learning Kindergarten Program]. All I have to say is GOOD LUCK. I hope you get a good ECE in your room because mine was useless. It was like having a coop student in my room for the year. Not a good year. I am teaching Grade 4 this year!

Rarely did a teacher express unqualified positive emotion for the partnership, as in the following careful observation: “It’s a very tricky situation. Some work out well, others not so much.” A number of teachers pointed to a lack of shared planning time with ECEs as a major problem: “They are supposed to help plan units, and teach in small groups. But without planning time together this was impossible. Try to push for shared planning time, and be explicit in what you expect him/her to do when working with the children.” Another explained how ECEs “are angry
they get paid hourly, no prep and way less pay. Unfortunately, not the teachers fault, but it makes for very tense working conditions.” Further, the absence of defined roles for teachers and ECEs in the FDK program contributed to teachers’ resentment of ECEs and their view of ECEs as lacking the skills and knowledge to work in kindergartens. A few teachers were explicit about these perceived problems: “Some ECE’s feel they shouldn’t plan with the teachers, and others feel as if they ARE the teachers. However, the fact of the matter is their skill set is different than that of a trained teacher” (emphasis added). Another observed,

> The major thing I find wrong with this program is that there are NO explicitly defined roles for the Teacher and ECE. You can get ECE’s who think they know everything because they worked in a Daycare. Newsflash......it’s school not a day care. But try working with someone like that!

Comments such as the preceding two illustrate how power relations are undermining attempts to form pedagogical partnerships. Attempting to resolve such conflicts, one teacher wrote that if “the Ministry defined the roles a bit better, there would be more collaboration and productivity.”

**Play-based curriculum concerns**

**Curriculum uncertainties.** Teachers expressed anxiety not only about how to implement the new kindergarten program but also about the purpose of the new curriculum: “Although I am not currently in an all day everyday kindergarten class yet, I will be soon and I would like to be prepared for this inquiry based learning.” On another teacher message board, a teacher asked, “Can anyone recommend some resources on Emergent Learning/Inquiry Based Learning that they feel are “must have” in developing a solid understanding of how to best implement this approach in our Early Learning Programs?” And yet another teacher similarly inquired, “Would love to hear what worked, what didn’t, how you managed instructional times - large and small groups - etc. Also, I am very interested to hear what your planning teacher covered for you.” Once again the government was invoked as the solution: “It will certainly be interesting to see
what the government and school boards mandate teachers to do with the increased hours with the children - obviously, at the end of the day that will determine the worth of the full day program.”

**Beliefs about play-based learning.** A few teachers supported the idea of a play-based curriculum: “I support the full day program… The result of the more demanding curriculum has resulted in the gradual phasing out of play.” Another noted favourably:

> I would certainly hope that the jk/sk programs would have a strong play component in them. The Ontario government academic expectations for young children are often out of sync with their development. Play allows children to learn to socialize with other children in positive ways. As a veteran teacher I have watched JK/SK classrooms change dramatically over the years and I am glad my children went when sand, water and play were still an integral part of the half day (then) program

Teachers commonly spoke of the social benefits of play, a finding that was again observed with the interviewed teachers, as two of the three interviewed teachers’ spoke positively of teaching through play. For example, one interviewed teacher described play as a “natural thing to do at this stage,” and identified the benefits of play as being social in nature. Other interviewed teachers described students learning how to cooperate and solve conflicts through sociodramatic play. One interviewed teacher even described her opposition to non-play-based teaching, stating: “The ability to complete a worksheet, in my opinion, is not something that I will support or teach in Kindergarten as it will not support those children as learners.”

However, more frequently, kindergarten teachers viewed the play-based curriculum as a threat to children’s academic development. A teacher revealed that play does not fit with her view of a kindergarten class: “the Ontario model is fairly unstructured - children can choose to participate in “formal lessons” but really, there’s no “plan” for the day – it’s student directed learning. Is this great? Of course. But I think that children need structure, they need routine, and they need to learn how to behave in school and that it’s not completely play.” An interviewed teacher similarly described that she was “not interested” in teaching through play because she prefers
“teaching” and “seeing the growth and application of knowledge.” Interestingly, even teachers who supported play expressed the need not to describe their work as “play” but as “structured play,” and emphasized their roles as “qualified professionals” in this process. Teachers also repeatedly forwarded the view that a division between play and academics should be maintained. According to one such teacher,

_The social/emotional education that children gain through play in a structured environment while being supported and guided by a qualified professional is invaluable. Full day kindergarten could allow teachers to use the morning hours as prime academic time. The afternoon is an opportune time for structured play ... This enriched program can provide a more balanced and developmentally appropriate day and, ultimately, more well-rounded students. It is my genuine hope that they will allow us to slow the day down and find a balance of academics and play._

An interviewed teacher described a different challenge to teaching the new play-based curriculum. She explained how when she tries to teach by “following students interests” (a hallmark of inquiry-based learning) she encounters students who are too shy and will never participate in voicing their interests, whereas other students are dominant and always participating. The end result is that a segment of the class directs the interests of the whole class. How to meet these challenges? Recalling the proffered solutions for those of role definition and class size, one teacher requested that all problems associated with a play-based curriculum should be solved by the government: “The Ministry must rethink the play-based curriculum and make it more of a balanced program where children are learning to form letters, identify letters and sounds, print sight words and beginning sentences with teacher modeling. Children can only write numbers at play based centres for so long before they are incredibly bored and restless.”

**Grade 1 readiness.** The pressure that teachers felt to prepare children for the academic demands of grade one was perceived as an obstacle to supporting play-based teaching: “It is clear that a full day of play-based learning based on children’s interests is not meeting the academic needs of our kids. Grade 1 teachers and parents are telling us that the children are not ready to write or read when they enter grade 1. Literacy and numeracy is decreasing dramatically because there is
only so much we can do with play-based centres.” An interviewed teacher reported “I haven’t met a non-K teacher who thought positively of teaching through play.” These thoughts were voiced by another interviewed teacher who reported she feels that some of her fellow teachers “think that all we do is sing and dance all day. I have a Masters in “singing and dancing”!” Another teacher stated on the message boards that “as the Ontario curriculum has intensified, the academic demands can be felt as early as the kindergarten years.” In contrast, one interviewed teacher expressed the opposite sentiment, stating how “Grade 1 teachers need to be prepared for the children coming from Kindergarten, not the other way around.” She continued to explain how “children...entering Grade 1 with many skills that are better supported through play: self-regulation, personal social skills, and many literacy/numeracy skills. The problem lies, currently, around Grade 1 teachers having a completely different structure for learning.” One interviewed teacher, who presented a unique perspective as she had taught kindergarten and was recently moved to grade one described her view on play preparing children for grade one, “I have had students with learning disabilities that haven’t been identified because there was never any requirement to read or write or any assessment of skill or concepts.”

**Parental pressure.** Online, one teacher described how “parents feel pressure to prepare their young ones for the increasing demands of kindergarten.” This pressure was reported by all three interviewed teachers. One described how “Many parents are upset...When they come to first grade and can’t read or write, parents blame the kindergarten program for the reason - "all they did was play (and for 2 years)." Another explained how “Some parents realize that their kids play at school so they put them in tutoring programs or work at home with them. Other parents don't.” Finally, the final teacher interviewed also described parents as having misconceptions about learning through play. To combat these misconceptions, she explained how she has report cards that are “really really in-depth” and further described her strategy of having her students complete worksheet exercises that she can “file away...parents appreciate knowing what their child is learning.”
Discussion

This section will provide a detailed discussion of how the findings compare with past research with educators in Ontario’s FDK.

Class size concerns

Class size has been reported as a concern in past research on FDK, particularly when the classrooms do not have the necessary physical space (Ryan & Date, 2012). Teachers in the sample of the present study discussed it much more frequently, a finding that suggests future researchers may want to ask teachers directly if and how class size affects their teaching and relationship with the ECE. Future researchers can also examine the connections amongst these challenges. For example, one of the most common challenges described by teachers and ECEs was the lack of planning time allotted for implementing the FDK program. Some teachers reported that they do not have enough time to plan with their ECEs, and so have not implemented the curriculum in their classes (Katz & Dack, 2011). Consequently, how does a lack of planning time become problematic for classes operating with larger numbers than the recommended 26 children per class (Grieve, 2012b)?

Team teaching concerns

Unfortunately, many of the challenges identified in the present study regarding team teaching relationships have been identified in past research. It should come as no surprise that with teaching, planning, and assessing being shared among two different educators, conflict has resulted (Goulden, 2012). Concerns about a status hierarchy persisted among some ECEs working with kindergarten teachers (Corter et al., 2007). Indeed, Marsh (2011) reported that the teacher and ECE “team” was not a collaborative effort at all. Despite the intent of shared responsibility to plan and implement curriculum together, the teacher presumed authority and the ECE was relegated to a supportive role. Adding to this contentious issue, as was voiced by the teachers in the present study, others have found educators report a lack of clarity regarding the
specific roles and responsibilities of ECEs and teachers in the classroom, especially with regard to the role of the ECE (Katz & Dack, 2011). Both ECEs and teachers were unsure of the role of each educator in the classroom and reported that there was no role description for each’s classroom duties and responsibilities (Katz & Dack, 2011). Without a clear understanding of their roles, teachers and ECEs relied on advice from colleagues about how the FDK program should operate (Tozer, 2012). With both teacher and ECE in the kindergarten classroom and with neither trained in working collaboratively to create new teaching practices, role confusion has inevitably ensued. Teachers struggled with relinquishing tasks and responsibilities that they have had for years, and ECEs struggled to find their place in the school system. Again, such challenges are understandable, as traditionally kindergarten teachers have been the only educators in charge of their classrooms, if often with help from supporting staff (Marsh, 2011).

Even though the present study involved only the views of kindergarten teachers and not ECEs, there were some remarkable similarities with research that used focus groups comprising both teachers and ECEs. In one such study an ECE described feeling treated as if she were a co-op student (Tozer, 2012). In another study, working with an ECE was identified as a concern for all kindergarten teachers (Goulden, 2012). From the ECEs perspectives’, teachers lack an understanding of the ECE’s role in the school system; consequently, ECEs were frustrated over the inability to transfer their knowledge and skills in child development from the childcare sector to the education setting (Gananathan, 2011; Ryan & Date, 2012). In accordance with past research, the findings of the present study suggest that kindergarten teacher-ECE relationships would benefit greatly from clearer provincial-level direction as to each’s role (Tozer, 2012). This this suggestion – on the need for clearer direction from the provincial Ministry of Education – was repeatedly voiced by the teachers themselves in the social media discussions studied here. However, teachers’ descriptions of ECEs and the difficulties in working collaboratively in the classroom reveal a more complex problem of what might be termed “power relationships,” and that problem most likely cannot be solved through government regulation respecting role clarification. With teacher and ECE partnerships not established on a foundation of mutual respect, with roles remaining unclearly defined, partnerships will continue unequal and working environments will remain fraught with tensions. This finding requires more study, as such
problems in team relations directly affect student success, whereas increased collaboration between educators has been related directly to greater program quality (Corter, et al., 2007; Goulden, 2012).

**Play-based curriculum concerns**

Teachers have expressed uncertainties with how to implement the FDK play-based curriculum (Goulden, 2012). Katz and Dack (2011) also found that teachers and ECEs believed that they have not received enough information and training on implementing play-based learning and that, as a result, they did not know what to do in their classrooms. Such confusion resulted in uncertainty about what exactly they should be doing in a play-based kindergarten class and about how to implement the FDK curriculum.

Past research has also reported much confusion teachers are experiencing over how children learn through play, how play supports math and literacy development, and their puzzlement regarding the practical and pedagogical meaning of a “play-based” approach (Goulden, 2012; Tozer, 2012). Previous research has found that Ontario FDK teachers have the misconception that play-based learning involves no explicit teaching (Tozer, 2012). Other research has reported that play-based learning in Ontario’s FDKs occurs in a structured manner, with one study finding that educators specified the amount of daily worksheets children were required to complete before being allowed to “play.” In some classrooms there was no distinction between play-based learning and other activities, as described in one study’s observations: “the curriculum was supposed to be play-based but I have seen a huge focus on work sheets, tracing letters and other literacy activities” (Marsh, 2011, p. 49). Teachers and ECEs have also expressed confusion over the difference between how they taught in the past and play-based instruction (Tozer, 2012).

While Tozer’s findings involved teachers’ perspectives only, other research has revealed that the mistaken perspectives of both ECEs and teachers respecting play-based learning make the challenges difficult to overcome given such misunderstandings (Katz & Dack, 2011). Teachers and ECEs have even voiced concerns that the play-based approach will put children at a disadvantage in terms of being prepared for Grade 1 (Katz & Dack, 2011).
Lastly, teachers in the present study reported that they are under pressure to prepare children for the academic learning of grade one and that, in their view, play does not adequately, if at all, prepare children. Other research has similarly found that teachers report being under pressure from their boards to “get the kids ready for Grade 1” (Katz & Dack, 2011, p. 24). As one teacher pointedly put it: “We always have to be cognizant for the SKs [Senior Kindergarteners] that starting in September they need to be sitting at a desk in Grade 1 and listening to a teacher” (Katz & Dack, 2011, p. 25). Such teachers have expressed beliefs that play and academic learning are incompatible, despite the fact that research has found that play is a viable source of intervention and that programs for young children should place more emphasis on encouraging play (Elias & Berk, 2002). However, as this study has demonstrated, trying to resolve this challenge of enabling kindergarten teachers to include play-based learning in the classroom is a complex issue, and simply providing teachers with educational courses on the value of play will not equip them with the abilities to deal with the realities of the educational system that pressure them to limit play in kindergarten (Moore, 2010; Ranz-Smith, 2007). Indeed, this point can be clearly seen in research that has examined American teachers’ perspectives on play-based kindergartens. American kindergarten teachers have described feeling pressure to devote more time to academic learning and less to play activities (Goldstein, 2007; Moore, 2010). This finding holds even in schools that have play-based curricula: teachers still report feeling unable to implement play-based teaching methods in their classes due to pressures to prepare children for the academic expectations of higher grades (Ranz-Smith, 2007). Furthermore, even after receiving training on teaching practices that encourage play, Nelson and Smith (2004) and Moore (2010) found that not all of teachers involved were able to implement play-based teaching to its full capacity, again due to a lack of support from administrators and upper grade teachers.

**Conclusion**

This study contributes to the body of research examining social media discussions and should encourage future research on teachers’ participation in message board and online news article
discussions. Of particular interest in this respect was the way that the online environment appeared to enable teachers to express more openly the challenges they were experiencing in FDK classes. For example, in the online environment, teachers freely expressed their frustrations in working with ECEs. This openness is most likely an effect of participants posting anonymously, which apparently permitted them to express their thoughts and feelings with a freedom they may not find in interviews, focus groups, or questionnaires (Porter & Ispa, 2012; Wilkinson & Thelwall, 2011). Similar to Henrich and Holmes (2011) who concluded that social media discussions can be seen as reliable sources of data, this study found a high degree of corroboration between the social media discussions and the findings of research using interviews and focus groups.

The present study has limitations. Its sample was of teachers who freely chose to participate in social media discussions or an interview about play-based teaching, and therefore its findings respecting teachers’ perspectives and classroom politics cannot be generalized to the whole population of kindergarten teachers and their classes. The present study might also be criticized because teachers who do not participate in these forms of online media are excluded from the sample (Wilkinson & Thelwall, 2011; Rowe, Hawkes, & Houghton, 2008). While social media data may not be globally representative, the opinions nonetheless show the ways in which a sample thinks about a defined topic, and thus the data are qualitatively interesting (Rowe et al., 2008). As this study and other preliminary research into Ontario’s FDK has demonstrated (Katz & Dack, 2011; Gananathan, 2011; Goulden, 2012; Marsh, 2011; Tozer, 2012), educators are facing numerous challenges in implementing the program, a finding that highlights the need for continued research with educators working in the FDK program so that it can better serve their and the students’ needs.
References


Gibson, A. & Pelletier, J. (2012). *Can we work together?* Preliminary findings from an examination of ECE and teacher dynamics in full-day early learning-kindergarten. Dr. Eric Jackman Institute of Child Study, OISE, University of Toronto.


Goulden, W. D. (2012). *Teacher reactions to the implementation of full-day kindergarten* (Master’s Thesis). Retrieved from University of Toronto Libraries School of Graduate Studies Theses: http://hdl.handle.net.myaccess.library.utoronto.ca/1807/33651


Toronto Region Professional Network Centre.


http://digitalcommons.ryerson.ca/dissertations/912


Moore, R. J. L. (2010). *Utah Kindergarten Teachers’ Challenges and Concerns about Teaching Kindergarten* (Master’s Thesis). Retrieved from Digital Commons@USU:
http://digitalcommons.usu.edu/etd/790


Chapter 6: Results - More play, please: Kindergarten teachers’ perspectives on play in the classroom

In this chapter I examined American kindergarten teachers’ message board discussions regarding play in their classes. I relate my findings to previous literature on the topic as well as SET. This analysis partially answers my second research question: What are kindergarten teachers’ attitudes towards, preferences regarding, understandings of, and experiences with kindergarten play-based teaching and nutrition programs?

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From this analysis, I became more aware of the challenges teachers perceive with regards to implementing play-based teaching in their classes. Personally, I found the experience of analyzing the teachers’ discussions beneficial and unique from reading published literature on the same topic. While there is a large amount of literature documenting kindergarten teachers’ struggles with incorporating play in the classroom, reading “raw” discussions between teachers provided me with a different experience compared to reading a polished article written by a researcher.

Additionally, teachers described issues such as feeling as though there was no time for play in addition to everything else they needed to teach, and how they do not believe a program is beneficial because they cannot observe improvements in students’ development. These discussions made me consider how SNAK, though based on developing healthy eating behaviours, must have some elements to it that teachers can observe students’ progress – either through a math/literacy component, hygiene, or food safety. Consequently, these all resulted in significant changes to SNAK, as it evolved from being focused solely on nutrition, to including a large variety of other kindergarten skills.
Abstract

The past decade has seen an increase in research documenting the benefits of children learning through play. However, the amount of play in American kindergarten classes remains on a steady decline. Understanding kindergarten teachers’ perspectives on play is much-needed in order to develop effective strategies for increasing play in classes. Thus, this article explores how the findings from a netnographic study of 78 kindergarten teachers’ message board discussions about play in kindergarten compare to similar research that used traditional methods, such as interviews and questionnaires. The teachers’ discussions analyzed in the present study are in broad agreement with findings from past research. The results further demonstrate how kindergarten teachers are feeling various external pressures (from, for example, teachers, principals, and policies) to focus on academic goals, pressures that influence them to view play as incompatible in their classes. Consequently, the author argues that further research is needed in order to develop effective strategies to help teachers implement play in kindergartens, beyond a narrow focus on increasing teachers’ knowledge regarding play’s benefits. The author also details how the netnographic approach employed in this study can be used to complement traditional methods for understanding the influences on teachers to implement play in their classes.

Key words: play-based teaching; kindergarten; netnography, qualitative research.
Introduction

Play in American kindergartens

The past decade has seen a rise in two seemingly oppositional trends in play research. Increasingly, research shows that play expedites a variety of social, cognitive, motor, and linguistic improvements (Eberle 2011; Fisher, Hirsh-Pasek, Golinkoff, Singer, and Berk 2011). Social play enables opportunities for children to become more creative, to explain meaning verbally, to become better at manipulation of different symbolic systems, and to develop a sense of mastery and self-efficacy when experimenting with new activities (Bjorklund and Gardiner 2011; Eberle 2011; Pellegini 2009). In school settings, play can be guided gently by teachers in play-based teaching/learning activities that promote curricular goals while still maintaining the critical aspects of play (such as children’s intrinsic motivation to engage in play) (Bordova, Germeroth, and Leong 2013; Eberle 2014; Fisher et al. 2011). Whether it is free or guided play (unless otherwise stated, all play that occurs during kindergarten class time will be collectively referred to as “play” for the remainder of this article), play in the classroom fosters improvements in such subjects as mathematics, language, early literacy, and socio-emotional skills, and does so for children from both low and higher income environments (Duncan et al. 2007). In addition to such specific subject skills, researchers contend that a major outcome of play is that it helps children learn to cooperate with others and engage in socially appropriate behaviour (Bordova et al. 2013; Eberle 2011). In time, these social competencies developed through play are transferred to children’s everyday behaviours (Elias and Berk 2002). Because play’s benefits are so extensive, play has been asserted as an evolutionary and developmentally important activity (Bateson and Martin 2000; Eberle 2011, 2014). Researchers have posited that play enables developments in the prefrontal cortices of mammals, including humans (Pellis, Pellis, and Himmler 2014). The belief that play serves a serious purpose of acquiring skills and experience needed in adulthood has long been a central feature in play research (Bateson 1987). Consequently, play should be viewed as a valuable classroom activity that enables children to
develop a wide variety of social and academic skills (Copple and Bredekamp 2009; Fisher et al. 2011).

Paradoxically, in spite of the many benefits of play being realized by academics, recent years have seen a steady decrease in the amount of time devoted to play in kindergarten classes (Brownson et al. 2010; Frost 2008; Meisels and Shonkoff 2000). The challenges American public school kindergarten teachers face in implementing play in their classes have been well-reported by past researchers, as has the shift towards this more academically-focused kindergarten teaching climate. Jeynes (2006) traces the change in academic kindergarten back to three key issues. First, in the 1960s, religious activities were eliminated from public school classrooms. Removal of these activities, coupled with the lack of an explanation for what should be taught in their place, left a gap in the school day which became filled with more academic learning and testing. Compounding this change, from the 60s until the 80s, virtually every American school standardized test score began to drop, resulting in calls to reform the American educational system. Second, beginning in the early 80s, in addition to attempting to raise test scores through teaching more academic material in school, Americans learned students in the Japanese educational system were achieving impressive test scores (Jeynes 2006). As these remarkable scores were attributed to Japan’s extensive educational testing system, standardized testing increased in American schools (Jeynes 2006). And third, from the early 90s to the present, policy makers and educators became increasingly concerned about the achievement gap between inner city and suburban children, and middle class Caucasian students and minority students. In 2001 the No Child Left Behind Act (NCLB) was created to push public schools to greater accountability for the American educational system (Hyun 2003; Jeynes 2006) and to be more accountable for reducing the achievement gaps between various groups of children (Copple and Bredekamp 2009).

While NCLB does not apply to kindergartens, research has revealed NCLB’s effects trickle down into kindergartens. In particular, the diminishing time afforded for play in kindergartens has been connected to the emphasis on preparing children to score higher on standardized testing measures and meet all the standards (Copple and Bredekamp 2009; Hyun 2003; Jeynes 2006).
Consequently, more research examining kindergarten teachers’ perspectives on play in the classroom has been frequently recommended (Hyun 2003; Jeynes 2006; Nelson and Smith 2004; Parker and Neuharth-Pritchett 2006). To date, all of our knowledge on teachers’ perspectives of play in kindergartens has been derived from traditional methods, such as interviews, focus groups, and observations, methods where issues of social desirability have been identified (Hedge and Cassidy 2009; Nelson and Smith 2004; Parker and Neuharth-Pritchett 2006; Stipek and Byler 1997). However, there currently exists a large presence of American kindergarten teachers discussing challenges they face in their working lives on social media (Stitzlein and Quinn 2012). These discussions are publicly available and can be used by researchers to gather insights from teachers related to play-based teaching. Such is the approach of the current study, which is detailed below.

**Social media data and netnography**

Social media data offers a readily available alternative to interviews and questionnaires, particularly for research with subjects that involve self-representation biases (Wilkinson and Thelwall 2011). Recent years have seen a rapid increase in the number of social media sites, such as message boards, blogs, and chat rooms, all of which offer qualitative researchers a wealth of raw textual data (Krippendorf 2004; Rowe, Hawkes, and Houghton 2008). Users of these sites freely share information about themselves, state opinions, and seek and receive advice (Banas 2008; Dart 2008; Hadert and Rodham 2008; Salzmann-Erikson and Eriksson 2011; White and Dorman 2001). Teachers especially have described the convenience and support of message boards in enabling them to overcome barriers of time and distance (Hur and Brush 2009; Nicholson and Bond 2003; Stitzlein and Quinn 2012). Additionally, social media discussions enable teachers to discuss their opinions with a wider range of teachers than any means provided in their physical environments. This last point is especially significant, as teachers often describe feeling isolated from other teachers who share their views (Hur and Brush 2009; Stitzlein and Quinn 2012). Most pertinently for the present study, teachers have increasingly been turning to social media discussions because of perceived limitations on their freedom of speech regarding
educational policies (Stitzlein and Quinn 2012). Researchers have already examined social media discussions to better understand the perspectives of groups such as people with chronic illnesses (Seeman 2010), aboriginal women (Hoffman-Goetz and Donelle 2007); and cancer survivors (Meier, Lyons, Freydman, and Rimer 2007), just to name a few examples. To study these social media discussions, researchers turn to netnography (Kozinets 2010).

Netnography is a research methodology that adopts the practices of ethnography in an internet-based setting. That is to say, it is a qualitative research methodology whereby a researcher becomes immersed in the everyday life of a community with the goal of understanding life from community members’ perspectives (Kozinets 2010). Social media discussions are analyzed similarly to the handling of transcripts resulting from other qualitative data methods (Kozinets 2010). Consequently, netnographic research findings should be viewed in the same way as in-depth interviews and other qualitative approaches. As with other qualitative approaches, netnography aims to offer propositions that can inform future research, and be theoretically generalizable, rather than empirically generalizable (Draper and Swift 2010). Its results increase the store of particular knowledge, encourage broader and new perspectives, and generate hypotheses (Kozinets 2010).

Given the exponential growth of social media discourse, netnography offers an innovative and timely methodology that should enable researchers to learn from a wide variety of individuals (Henrich and Holmes 2011). Therefore, in the present paper I use a netnographic design to examine data from teacher message boards to understand the influences acting on kindergarten teachers’ perspectives on play and compare the results to existing literature.
Methods

Data collection

This study qualitatively explores a sample of American kindergarten teachers’ discussions about play in kindergarten. This was facilitated through a netnographic analysis of kindergarten teachers’ discussions on seven teacher message boards. In terms of research ethics involved in netnographic research, a consensus has not been reached (Kozinets 2010). I followed the ethical questions addressed by McDermott, Roen, and Piela (2013) when selecting what message boards to include in a netnography. First, I considered: What are the participants likely expectations of privacy? In order to include discussions that could not be expected private, I developed the following preliminary inclusion criteria: message boards could not require membership, registration, sign-in, and were publicly accessible through a popular search engine. Second, I considered: To what extent may observations potentially harm participants? In answering this question, I considered that while the data would unavoidably involve personal opinions, one could argue that the discussions do not contain controversial or sensitive topics or opinions that would result in harming participants (particularly when compared to netnographies that have examined topics relating to recreational drug use or self-harm) (Bruckman 2002; McDermott et al. 2013; Paetcher 2012). In line with past netnographers, I anonymized the data by not reporting any of the names of the message boards or identifying characteristics of individual posters studied (Reichman and Atzi 2009). Finally, even though this research was exempt from requiring ethical approval (as there was never any interaction with humans), the Research Ethics Board at the University of Toronto reviewed and accepted all study protocol.

Teacher message boards were identified by entering the phrases “teacher message boards,” “teacher forums,” “teacher discussions,” and “teacher chat” into the commercial internet search engine Google. As a second step, the “discussions” filter was applied and the term “inurl: forum,” added, which provided results from forums that may have been missed in the first search (Wilkinson and Thelwall 2011). These two searches returned hundreds of results, including a
Message boards were selected for inclusion in the study using selection criteria described by Kozinets (2010) as follows: i) required to be publicly available with no fee-based membership or password protection; ii) required to identify as providing a discussion forum for teachers (based on the name of the board and an examination of the board’s self-description, located on the main page); iii) required to contain discussions published from 2002 (this year was selected as NCLB was created in 2001); iv) required to provide a user profile for individual posters; and v) required to be written in English. As a result, message boards were excluded from the study if they required a fee or password, did not self-identify as discussion boards for teachers, were prior to 2002, did not provide a user profile, or were written in a language other than English. Boards were rejected if any one of the exclusion criteria were met. In total, seven message boards were identified.

The next step in the search for social media discussions was to search through the discussion topics for those that related to kindergarten play-based learning or teaching. To locate such discussions, depending on the specific message board, I either entered keywords into the board search engine, or searched manually. Search terms such as “play-based” and “play” were used. Additional search terms such as “stations” and “centers/centres” were based on words that had frequently appeared in the initially identified discussions. Seventy eight distinct discussions by kindergarten teachers about play-based teaching were identified. All discussions were saved as PDFs for analysis.
Data analysis

Researchers using netnography are encouraged to take precautions to ensure they collect valid data (Kozinets 2010; Puri 2007). Following the recommendations of Puri (2007), I only selected message boards that provided user profiles, I examined the content of individual posts to check for consistency over time, and I collected discussions from seven boards, as opposed to examining the discussions on only one board, a technique that helps to validate findings. This careful and prolonged observation of the social media data allowed me to better trust the online discussions as being from genuine kindergarten teachers (Kozinets 1998, 2010; Wallendorf and Belk 1989).

All data were analyzed using an inductive approach that entailed summarizing and classifying the data prior to relating it to previous literature and theory (Creswell 2009; Pope, Ziebland, and Mays 2000; Strauss and Corbin 1998). By using an inductive approach to analysis I was able to draw a more authentic picture of kindergarten teachers’ experiences, as my goal during analysis was to not use literature or a theoretical framework to anticipate themes, but to allow the themes to develop as the study proceeded (Strauss and Corbin 1990). During the process of my analysis, I moved from a description of the data, which involved organizing it to show codes and themes, to interpreting the themes to examine how underlying ideas and factors are identified as influencing the content (Braun and Clarke 2006).

First, I became familiar with the data by reading and re-reading the discussions while creating reflexive notes. Next, I read with a view to composing initial codes by noting interesting features of the data. Each discussion was separately read line by line and coded. Initial codes were applied to later discussions and additional codes were developed, while some initial codes were revised. I then grouped related codes under initial themes. Themes were either anticipated themes (identified by previous research) or emergent themes. As with the codes, themes were also similarly revised with time. In the later stages of data analysis during theme revision, I became aware of how often teachers described factors beyond their personal beliefs that influenced their attitudes towards and decisions to use play in their classes. To further analyze
these observations, I applied Social Ecological Theory (SET) to organize and describe the findings (McLeroy, Bibeau, Steckler, and Glanz 1988). Through the data analysis it became apparent that three of SET’s factors – intrapersonal, organizational, and policy – had a significant impact on teachers, which will be discussed briefly below.

**SET.** A large body of research has established that kindergarten teachers experience a variety of challenges related to teaching through play (Goldstein 2007; Graue 2006; Jeynes 2006; Parker and Neuharth-Pritchett 2006; Winter and Kelley 2008). A theoretical framework that explores behaviours from multiple perspectives can therefore help us to better understand the complex challenges facing kindergarten teachers. SET (McLeroy et al. 1988) can be used to examine how a policy, such as NCLB, can have a variety of impacts on individual behaviour, such as teachers encouraging play in class.

McLeroy et al. (1988) identified five interrelated factors that influence an individual’s behaviours: 1) Intrapersonal factors include an individual’s characteristics such as knowledge, attitudes, skills, and attitudes. 2) Interpersonal factors include social networks, such as friends, neighbours, and family. 3) Organizational and institutional factors which consider the importance of organizational context, include formal and informal rules, management support, and relationships with supervisors. 4) Community factors include norms and standards that exist among groups and organizations. 5) Policy factors include local, provincial, and national policies (McLeroy et al. 1988). While consideration of the many influential factors acting on people’s behaviours is one of SET’s strengths, this breadth is also one of its greatest limitations in practice and research. However, the theory can be made more feasible by focusing on certain aspects of it, depending on the research participants and contexts (Gryzwacz and Fuqua 2000; Wiium and Wold 2009).
Results

Data profile

Before discussing the results, I will first briefly describe the data. Message board data were collected for three months at the beginning of 2013. In total, 7 publicly available message boards were identified as including 78 distinct discussions by kindergarten teachers about play-based teaching. While limited information on the participating teachers was available (as is the case with similar netnographies, such as Hoffman-Goetz and Donelle 2007; Seeman 2010; Meier et al. 2007), it was possible to collect some basic information on participating teachers, depending of course on what they chose to reveal in their profiles. The overwhelming majority of the participating teachers were female who identified as being from the United States, though there were also male teachers and teachers who reported being from Canada, Japan, or Australia (comments from teachers who identified as not being from the United States were excluded from the analysis). The sample included both new and experienced teachers, a characteristic which was revealed when participants described themselves as being “new to K[indergarten]” or responded to posted questions with qualifications such as “15 years of experience as a K teacher.” Noteworthy was the absence of any comments that related to using a Montessori or Reggio Emilia curricula, and thus I reasoned that participating teachers most likely taught in public schools.

The most popular discussions occurred on the two most comprehensive and popular boards. These discussions were frequently richer and longer than those on the other boards, where discussions were shorter, sometimes consisting of only three or four posts per discussion. In contrast, on the more popular boards, discussions commonly consisted of an average of twenty posts per discussion. For all themes, results are presented with examples and quotations (obtained from a variety of message board participants) that were selected based on how well they represent the themes.
Intrapersonal factors

Negative beliefs about play in kindergarten. A dominant theme throughout the discussions involved teachers debating the kind, if not the very existence, of benefits that can result from play. The majority of these discussions began with a teacher initiating a discussion about how to make play-based activities more scholarly, or as teachers more commonly described them, “more academic” and not “just for fun.” In some discussions, teachers were completely opposed to play in kindergarten classes: one teacher described how she believed kindergarten teachers who employ play-based teaching methods are simply being “lazy.” In other discussions teachers explained how they no longer include play centers in their classes because they believe more valuable learning activities take priority over play. For example, one teacher asked if any others have classes without dramatic play centers, stating her intent to discard them because “the corner could be useful for so many other things.” One teacher held that play should be eliminated from kindergartens because

> there is a time crunch and not enough time to spend on things. True, some kids don’t get enough play time at home, but a substantially smaller number get adequate early reading intervention from a qualified professional at home. Given the crisis with reading (not to mention math, etc.) we are experiencing in this country - often the result of poor basic skill acquisition - my point was that we shouldn’t sacrifice instructional components like early reading intervention for play

Some teachers described how they believed they needed to label activities to give them an academic instead of a playful tone. Rather than calling center activities “play centers,” these teachers encouraged other teachers to call them “developmental centers” or “work centers,” or to describe play as “active learning.” Furthermore, it was possible to see this impetus to make kindergarten sound academic in parts of teachers’ discussions unrelated to play, as in one teacher’s reasoning for re-naming nap time: “Last year our Sp Ed K-3 teacher told us she calls it “Sensory Differentiation Time” so that it doesn’t sound so “non-academic”.”
Teachers revealed mixed opinions on whether play is beneficial for preschool-aged children in preparing them for kindergarten. Teachers specified how they have observed children from play-based preschools are academically behind other students (presumably those who have attended non-play-based preschools) when they reach kindergarten. One teacher proclaimed that she has consistently observed—"without exception"—children from play-based preschools who are unable to meet the kindergarten curriculum objectives, a failing which she attributed to “too much play and little to no academics.” Another teacher wrote, “I think dramatic housekeeping type centers are GREAT for preschool but I don’t have time for them in K, with all the stuff I need to teach.” Another revealing insight was provided by the teacher who observed that

so many preschools build up a lot of hype about how academic they are in an effort to entice parents to send their children to their preschool. They give parents the wrong message. It confuses parents when their children come into kindergarten and they see the kitchen area, blocks … The parents think their children aren’t learning if they aren’t doing a paper and-pencil task

Positive beliefs about benefits of play. However, there were also teachers who defended the importance of play in kindergarten, explaining how it differs from the play children engage in at home, where play too often means playing video games. Almost all the teachers seemed to be in agreement that play has social benefits for children, such as teaching them how to share and cooperate. Still, teachers who defended play often revealed a belief in the inadequacy of play compared to other academic activities. Although one teacher’s argument supported play, she still concluded with a statement suggesting her belief that play is more of a reward:

I am a big proponent of free play in kindergarten. From my observations, they are learning while they are playing, and demonstrating what they have learned through play … At the craft centre, they are developing their fine motor skills through cutting and pasting … they
are communicating with each other (language and social skill development)... I say let them just play. Especially if it is at the end of the day.

Organizational factors

Teachers. Following one teacher’s post about how “one of our K teachers was made fun of by other teachers because the kids sang too much,” a discussion quickly developed describing similar situations, where kindergarten teachers are perceived as getting to “play all day” with “cute kids,” and where their work was dismissed as “just kindergarten.” Non-kindergarten teachers are perceived to have little understanding of developmentally-appropriate activities for kindergarten children. One kindergarten teacher wrote that because her class is located in the elementary building, she feels pressure to be teaching in a more academic fashion: she feels “looked down upon” if her students are playing. Another teacher recounted as follows: “I will never forget a 1st Grade teacher telling me that by January our whole day should be in our seats doing paper-pencil activities to prepare them for 1st Grade.”

Principals. Principals emerged as an especially important influence on teachers’ perspectives of play in the classroom. Teachers observed that their problems with principals begin with the fact that most principals’ backgrounds were in high-school teaching, and thus the majority have no experience teaching kindergarten. As one kindergarten teacher explained,

My P(principal) said, “They are not in kindergarten to color and play.” Well, that isn’t all we do, but I certainly thought that was part. I teach half day...My new P was appalled to see housekeeping centers and blocks. I got in trouble because I was completing mandatory individual testing on the 6th day of school and let my kids play with math manipulatives for 20 minutes while I did this. She doesn’t like songs. “Kindergarten isn’t like the old days where we sang songs,” she said. Oh, I wasn’t aware we only did that in the old days. I feel like my kids get no time for social development and I certainly don’t get to know them at all. I have kids who are failing and there is nothing wrong with them. Making kids read
and write at the age of 5 is just not realistic for all students and telling students and parents that they are failing because they can’t is unfair.

Other teachers often discussed distinct negative experiences with principals regarding play. One recounted, “if the principal walks into one of our K classrooms and sees the children “playing” instead of working at their seats, the teacher receives discipline.” Likewise, another teacher detailed how she “had the kids on the floor in a circle and they were singing Farmer in the Dell. The superintendent walked by and said, “you are going to stop singing and start teaching right?” ” In another discussion, a teacher described a time when she was moving to a new classroom only to have her entire closet full of play-based kindergarten teaching supplies thrown away: “my principal said to throw everything away. I was shocked, then extremely upset. I talked to her, and told her I was disrespected. She said, sorry, but told me I could not bring anything into my classroom, that I had too much in there already.” Similarly, a teacher stated, “At my school we are very academic, even in Kinder so my principal would not approve of the kids doing dramatic play.”

There were also instances of teachers describing principals’ positive influences on play-based teaching. Still, teachers continued to voice the belief that the majority of kindergarten classes are simply not allowed to have play or play-based centers. They described feeling “lucky” if they were in a school or district that supports play-based learning: “I feel so very lucky to be in a school where play is still a centerpiece of kindergarten education”; “I am soo lucky I am in a school where my principal trusts my teaching philosophy and understands.” Another teacher related how the principal at her school supported her play-based kindergarten approach, and she recognized, “I’d get eaten alive by other administrators in other schools in our own district. Hoping and praying that our P doesn’t retire anytime soon!” This sentiment was expressed by other teachers, one of whom wrote, “I am blessed to have an assistant superintendent of elementary ed, with an early childhood background. She is extremely supportive of developmentally appropriate kindergarten classrooms. She has provided inservices on the importance of play in kdg and supports a rest time”; and another who voiced her gratitude: “I am
glad to be in a district that recognizes the importance of play in K programs and is providing new house equipment and blocks to any K class that doesn’t currently have the equipment.”

Policy factors

Teachers described being instructed by “the system” not to have any form of free play in their classes because they have been told “there needs to be a purpose behind all play activities.” Frequently in discussions teachers said that they felt pressure to focus the entire school day on teaching to certain standards, stating that with the curriculum and standards they are required to teach, there is no time in the day for play centers, let alone free play. Beyond just eliminating play, teachers discussed how there is no time now for children to rest or take snack breaks because every minute of the kindergarten day must be spent learning in an academic manner. For example, some teachers portrayed snack time negatively because, as one posted, it “takes at least 10 minutes and with our new math mandated 70 minutes per day, there just is not time.” Another explained her attitude to snack time as fear “that when they come to do my evaluations, they will consider it to be unnecessary and cutting into my teaching time.” Teachers stated that there is “no more time for show and tell, no time for holiday and special craft projects, not enough time for daily music and movement activities and the list goes on.” “We don’t even have a housekeeping area or blocks any more - no time for that! Every minute the kids are expected to be “engaged”.”

Other posters directly pointed to the adoption of the policies “No Child Left Behind” and “Reading First” as the causes for their having been forced to remove play from classes. One teacher ascribed the lack of play in her class to “Getting all my state standards covered, my CSCOPE curriculum done for all core subjects, my guided reading, interventions, etc.” Another teacher commented, “I think those that mandate our curriculum (and parents) forget how important play is to academic and social development.” These teachers frequently described how schools in their districts are determined to eliminate dramatic play areas, with one asserting, “I am determined to keep my drama center.” And continuing:
I’ve considered myself a bit of a rebel during all of the foolishness that’s been going on in our state and in our classrooms for the past few years. I hope you will not buckle under the pressure -- even though currently it is very scary to “buck the system.” If we don’t stay strong, though, the system is going to beat us down.

In fact, teachers often expressed the belief that, as one teacher candidly put it, “so often the people who have the most power to affect your teaching have no idea what appropriate, best practice looks like.” Those participating on the message board discussions emphasized how they planned to include play until they are “forced to give it up,” how they are getting in trouble for including play in their classes, and how they are fighting to keep play. As one teacher expressed her view of the situation, “It is incredibly difficult to teach against your philosophy of education!” Another stated that her district does not allow dramatic play, and that she was being disciplined for trying to retain play.

**Discussion**

Employing a netnographic approach to explore teachers’ perspectives on play in kindergarten classes allowed for rich descriptions sourced from a previously overlooked area of publicly available information. Following a close reading of a sample of American kindergarten teachers’ social media discussions, my analysis revealed a variety of influences on the participating teachers’ beliefs and practices regarding play in their classes. I drew upon SET (McLeroy et al. 1988) as a holistic framework for understanding the findings.

Many teachers described wanting to include play in their classes, but were unable to do so for a variety of reasons. Specifically, I identified the major influences acting on kindergarten teachers’ perspectives on play as intrapersonal factors, organizational factors, and policy factors; these findings have been previously identified in the literature. Replicating findings from previous studies that used traditional methods to explore teachers’ perspectives of play in kindergarten serves two purposes: first, this study adds to the literature demonstrating a need for policies that aid teachers in implementing play-based teaching and decreasing the rise in academically-
focused kindergartens (Jeynes 2006). Second, this study adds to the growing field of netnography that demonstrates a link between offline and online group findings.

**Adding to literature on challenges teachers face**

According to SET, intrapersonal factors that influence behaviours can include personal beliefs and attitudes. The most discussed theme in the kindergarten teacher message board discussions was the belief in a need to emphasize academic material in kindergartens and the challenges in including play-based learning activities. This finding aligned with the findings from traditional methods on American teachers’ attitudes and beliefs about kindergarten (Goldstein 2007; Jeynes 2006; Parker and Neuharth-Pritchett 2006; Winter and Kelley 2008). Teachers in the present study expressed a strong belief in needing to achieve academic goals that they believed incompatible with play-based teaching. Many teachers have reported feeling pressure to adopt a more academic curriculum in kindergarten, resulting in a loss of play in classes. This finding holds true even when teachers possess positive beliefs about play-based learning (Goldstein 2007; Parker and Neuharth-Pritchett 2006). For instance, due to feeling pressure to prepare children for later formal education, many teachers perceive worksheets as essential in their classrooms, despite worksheets clashing with their beliefs about how children learn best (Hedge and Cassidy 2009). Teachers in this study, as with past research, described feeling a need to prepare kindergarten children for first grade (Parker and Neuharth-Pritchett 2006; Ranz-Smith 2007). Teachers in the present study also described believing that children from preschool arrive unprepared for kindergarten. Interestingly, other research has found teachers may develop perceptions of incoming children being unprepared for kindergarten, when in reality children may simply be too young to be familiar with the academically-focused kindergarten curriculum (Graue 2006). Indeed, standardized tests have become the manner in which to measure school and teaching effectiveness (Jeynes 2006). Some have argued that standards and tests were not designed with young children’s learning needs in mind but rather, reflect the learning needs and development of older students (Copple and Bredekamp 2009; Goldstein 2007). In order to understand how teachers develop such beliefs and determine how to help teachers to include
more play in kindergarten, it is necessary to analyze factors beyond intrapersonal ones. As the following section will describe, SET made it possible to see how teachers are feeling external pressures from organizational and policy factors to focus on academic goals.

Compounding the intrapersonal factors, teachers recounted organizational factors, such as tense relationships with school administrators and principals that influenced their views and practice of play in kindergartens. Given such relationships, it is not surprising that many teachers described themselves ‘battling’ their administrations. Teachers have reported pressure from sources, such as administrators, school or state curriculum, and standardized tests as having an influence on their practices (Parker and Neuharth-Pritchett 2006; Stipek and Byler 1997). Kindergarten teachers in the present study also described feeling they are looked down upon by other teachers in their schools. Such findings are noteworthy in light of research that has revealed that a lack of respect for the early childhood education field is a hindrance to implementing play-based teaching (Hedge and Cassidy 2006). Another organizational factor identified in the discussions was teachers’ relationships with their principals. Principals’ influence came up frequently, and most often in a negative light, with principals usually described as ordering teachers on what to teach and insisting that all play materials be removed from kindergarten classrooms. Because principals can be disconnected from kindergarten teachers’ experiences, teachers in this study explained how they promote standards that are too challenging for young children, such as applying fourth- and fifth-grade curriculum to kindergarten and eliminating play-based teaching.

Nevertheless, in contrast to these negative perceptions of principals and other administrators, there were also instances of teachers describing their positive influence on play-based teaching. However, even in these discussions was the recurrent belief that play and play-based teaching are rare in kindergarten classes, with teachers frequently citing stories from their fellow kindergarten teachers about the adoption of policies and standards that result in play disappearing from kindergarten classes. Teachers continued to explain how the majority of kindergarten classes are simply not allowed to have play or play-based centers, due to various organizational factors. They described feeling “lucky” if they were in a school district or had a principal that supports play-based learning.
Finally, teachers also discussed policy factors, including NCLB, as well as state and district curriculum standards that could be seen to influence their abilities to include play in kindergarten. Many teachers explained that they do not include any play or have play-based centers in their classrooms because time would be taken away from mandated kindergarten activities. These findings should come as no surprise, as public school teachers have reported spending less and less time with children in play activities in kindergartens since NCLB was mandated (Goldstein 2007; Jeynes 2006). These kindergarten teachers have reported feeling overwhelmed in meeting all the teaching requirements, leaving little room in the day for play (Goldstein 2007). Goldstein (2007) found that a number of district and state curriculum standards resulted in more required content for teachers to cover daily and a sped-up instructional pace. Being accountable for students’ progress is of paramount importance in NCLB (Copple and Bredekamp 2009; Goldstein 2007; Hyun 2003), and this accountability is measured in terms of students’ results on standardized tests (Hyun 2003; Jeynes 2006). This may explain why, similar to the teachers in the present netnographic study, other teachers have reported feeling they can only allow play in the class after the “real” learning has been completed (Goldstein 2007; Ranz-Smith 2007). Prior to the 1960s, kindergarten was viewed as distinct from the academically-focused primary grades (Goldstein 2007; Graue 2006; Jeynes 2006). Currently, however, particularly following NCLB, public school kindergarten is instead viewed by many as the first step into an academic setting (Goldstein 2007; Graue 2006; Parker and Neuharth-Pritchett 2006).

In sum, unlike research describing that teachers’ beliefs can be more influential than official policies (Quance, Lehrer, and Stathopoulos 2008), findings from this netnographic study are similar to a broad body of research on American teachers’ perceptions of play that suggests otherwise. Teachers frequently described their desires to use play in their classes, but were unable to do so for reasons unrelated to their teaching beliefs or knowledge, such as the disapproval of school administration, principals, and parents along with policy requirements. Teaching kindergarten in a NCLB climate has resulted in principals, parents, administrators, and tests having increased standards and expectations for kindergarteners, resulting in many public school teachers feeling little time remains for play-based teaching (Copple and Bredekamp 2009; Graue 2001; Hyun 2003).
Adding to netnography literature

The results of this study are significant for encouraging future research on teachers’ participation in social media discussions. Of particular interest in this respect was that while it currently remains unknown how representative online findings are of offline individuals (Puri 2007), these findings align with the majority of literature on American public school kindergarten teachers’ perceptions of play. For example, Graue (2001) examined why teachers are unable to teach according to their positive beliefs about play and drew similar conclusions, including pressure from administrators and colleagues, assessment mandates, and parental demands. The high degree of corroboration between my findings and past research lends support to the suggestion that, although it is widely believed that people falsify information on the internet, online lying is not a major concern for researchers (Kozinets 2010; McDermott et al. 2013).

As has been identified in past netnographies, I found social media data sources to offer a number of unique advantages. Social media venues for socialization, such as message boards, are posted in a public arena, allowing for unobtrusive observations of users’ opinions and discussions in a more “natural” environment, thus further reducing researcher bias (Gurak and Antonijevic 2008; Gunther 2009; Kozinets 2010). Additionally, the social media environment has been found to encourage contributors to reveal more information than do such traditional methods as interviews or focus groups (Hookway 2008; Williams and Merten 2008). Given such innovative potential, it is somewhat surprising that so few education researchers have taken advantage of studying teachers’ social media discussions.

Of course, I was also aware of disadvantages to consider when using social media data and netnography. Primarily, social media anonymity raises the possibility of user fraud enabled through the anonymous nature of social media discussions (Hookway 2008). While such anonymity clearly presents a challenge to researchers, I found that by employing the research techniques recommended by Wallendorf and Belk (1989), such as prolonged engagement, persistent observation, and researcher reflexivity, to be particularly useful. In particular, careful and prolonged observation of the social media community better enable the researcher to trust
the online discussions (Kozinets 1998, 2010). Additionally, I also found that Puri’s (2007) three recommended practices for ensuring valid data to be beneficial. First, she recommended using message boards that provide user profiles, second, she recommended examining the content of individual posts to check for consistency over time, and third she recommended using a number of boards, as opposed to relying only on one, to validate findings.

**Conclusion**

The present study is limited of course because the sample is of teachers who participate in message-board discussions; therefore its findings regarding teachers’ perspectives cannot be generalized to the whole population of American kindergarten teachers. Noteworthy, though, is that other limitations common to studies examining social media data—such as being limited to the perspectives of those who have internet access and are literate (Jones 1999; Rowe, Hawkes, and Houghton 2008; White and Dorman 2001) – are not pertinent to the present study, given that I focused exclusively on teachers, all of whom are well educated and employed. The present study might also be criticized because teachers who do not participate in these forms of social media are excluded from the sample (Wilkinson and Thelwall 2011; Rowe, Hawkes, and Houghton 2008). To address this criticism I have recourse to a central tenet of qualitative research: the belief that all methods have sampling biases and all research is only ever a partial account of the topic of interest (Ellingston 2009; Wilkinson and Thelwall 2011). Moreover, while social media data may not be nationally representative, the opinions nonetheless show the ways in which a sample thinks about a defined topic, and thus the data are qualitatively interesting (Rowe, Hawkes, and Houghton 2008). Lastly, the goal of my research was not to validate any hypotheses, but to generate insights from a previously untapped data source (Wilkinson and Thelwall 2011). I am not suggesting that traditional methods of data collection need to be replaced or superseded, only that netnography adds significantly to the number of approaches in practice for assessing public opinion (Rowe, Hawkes, and Houghton 2008). Given the exponential growth of the social media sites, discussion groups should continue to offer a timely and innovative data source for education researchers.
The discussions analyzed in the present study further demonstrate how public school kindergarten teachers are feeling various external pressures to focus on academic goals, which influence them to view play as incompatible in kindergarten. While the findings of the present study cannot be generalized to all kindergarten teachers, a number of implications for future research and practice devolve from this study. Beyond the novel netnographic approach, unique to this study was employing an SET lens to organize the results. By organizing the findings according to SET, I was able to highlight the variety of factors influencing teachers’ abilities to include play in kindergarten classes.

Further research is needed in order to develop effective strategies to help teachers implement play in public school kindergartens, beyond a narrow focus on increasing teachers’ knowledge regarding play’s benefits (valuable though this may be). Indeed, even after receiving training on child-centred practices, Nelson and Smith (2004) found that not all teachers involved in their study were able to implement play-based teaching to its fullest extent. Interestingly, Ranz-Smith (2007) found the only teacher out of the four she interviewed who incorporated play in her classroom had no educational training in play, whereas the three who did not incorporate play all possessed background training in play-based teaching. Hedge and Cassidy (2009) also found teachers, who were trained on how to teach in a child-centered manner felt they could not apply such knowledge and used worksheets instead. Thus, while knowledge is important, intrapersonal factors are only one facet of SET, which could explain the aforementioned teachers’ abilities to increase play in kindergarten following knowledge-based interventions. In the present study, by applying SET, it was possible to see how intrapersonal, organizational, and policy factors all need to be considered in order to increase play in kindergartens. As has been emphasized, while it is certainly important that teachers are educated on the value of play and how to incorporate play in kindergarten classes, if this is the only action taken, it will do little to equip teachers to deal with the many other factors involved in kindergarten climates (Hedge and Cassidy 2009; Ranz-Smith 2007; Winter and Kelley 2008). For example, the present findings suggest that in terms of organizational interventions, a knowledgeable administration, understanding colleagues, and a supportive principal (with the three adjectives being interchangeable and interdependent) are needed to improve kindergarten teachers’ abilities to include play in their classes.
Advancement on the present study’s implications to apply SET interventions along with its examination of data-rich social media discussions is well warranted.
References


Cobble, Carol, and Sue Bredekamp (Eds.). (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (3rd ed.).

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Draper Alizon Katharine, and Judy A. Swift. 2010. Qualitative research in nutrition and dietetics: data collection issues. Journal of Human Nutrition and Dietetics. 24:3-12.


-----------. 2006. This thing called kindergarten. In K today: Teaching and learning in the kindergarten year, ed. Dominic F. Gullo, 3-10.


Henrich, N., and B. Holmes. 2011. What the public was saying about the H1N1 vaccine: Perceptions and issues discussed in on-line comments during the 2001 H1N1 pandemic. Emerging Health Threats DOI: 10.3134/ehtj.09.008.


Krippendorf, Klaus. 2004. *Content Analysis: An Introduction to its Methodology* (2nd ed.).


Rogers, Everett M. 2003. *Diffusion of Innovations* (5th ed.).


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Chapter 7: Results - Kindergarten food familiarization: An exploratory study of teachers’ perspectives on food and nutrition in kindergarten

In this chapter I examined kindergarten teachers’ message board discussions, followed up with a sample of interviewed teachers. I specifically focused on any discussion that related to food, nutrition, or healthy eating in kindergartens. This analysis answers my second research question: What are kindergarten teachers’ attitudes towards, preferences regarding, and understanding of kindergarten play-based teaching and nutrition programs?

This manuscript was accepted for publication in the journal Appetite. This cross-disciplinary journal focuses on behavioural nutrition and the cultural influences on food choices.

I found this manuscript particularly interesting to write, as I was able to focus more on what was currently being discussed by a group of kindergarten teachers regarding food and eating in their classes, but in a more natural way that asking teachers directly about the topic.

A number of themes in the discussions were novel and unreported by the literature. These findings then had a great impact on the interview guide I had previously developed. For instance, I added in questions that explored the novel netnographic findings regarding how teachers believe they are perceived by other teachers at their schools. Being able to explore netnographic findings in interviews greatly strengthened the manuscript and the sorts of conclusions I was able to draw. Drawing on the concept of visual familiarity, it was interesting the number of different ways young children are exposed to unhealthy foods in fun contexts, with the end result of them possibly forming an even more positive, happy connection with these foods. This also made me think about the need to stress this concept to teachers (as was also revealed earlier in the school curricula manuscript), as it seemed that the teachers in this study were completely unaware of how using unhealthy foods and fast food brands in a play context could have detrimental real-life results. Relatedly, the reasons for why teachers seemed to be using these branded props – due to them being free - also made me aware of the need to have parental support in terms of supplying food props for SNAK so that teachers do not need to reach out to fast food brands.
Finally, again in agreement with my first manuscript’s contribution to SNAK, this analysis made it even clearer that teachers feel pressure to spend as much time as possible teaching children subjects with observable results. For me to try and implement a new subject that has no observable results would seem like a program primed to fail, and reinforced my plan to integrate other subject areas into SNAK, so that it would be another way for children to learn other subjects in the kindergarten curriculum as well as healthy eating behaviours.
Abstract

This exploratory study employed a netnographic approach (netnography being a research methodology that adopts the practices of ethnography in an internet-based setting) to reveal opportunities for kindergarten food familiarization. The study analyzes kindergarten teachers’ discussions on seven internet message boards regarding the various food and nutrition experiences in their classes. Semi-structured interviews were then conducted with seven kindergarten teachers to explore further the message board findings. Five opportunities for how food familiarization occurs in kindergartens emerged from the analysis. These opportunities were categorized as being either “overt”: 1) nutrition lessons, 2) snack times, 3) cooking experiences, or “covert” 4) food as teaching materials, and 5) dramatic play centers. Overt refers to any opportunity where the aim was directly about food, healthy eating, or nutrition, whereas covert involved opportunities where food was involved, but the aim was unrelated to food, healthy eating, or nutrition. The five opportunities are examined and discussed in terms of their implications for children’s food preference development. Results should be useful for future researchers for two main reasons. First, the results demonstrate the wide variety of food and nutrition experiences kindergarten students encounter throughout the day, beyond healthy eating interventions or foods served during meals. And second, because the findings are preliminary they require further research using various methods of data collection and samples of teachers.

Keywords: food familiarization, healthy eating, kindergarten teachers, qualitative research, netnography

Introduction

Even with a reported stabilization in childhood overweight and obesity rates in developed countries over the past decade, rates remain significantly higher than they were prior to the 1980s and continue to represent a significant public health issue (Olds, et al., 2011; Wabitsch, Moss, & Kromeyer-Hauschild, 2014). Because of these high childhood overweight and obesity rates, interest has been growing in the different settings where children have opportunities to develop
eating behaviours, beyond just the home setting (Mikkelsen, 2011). Early childhood - under-six-years of age – is a particularly crucial time period in eating behaviour development, as children’s experiences during this time play a major role in shaping their lifelong eating behaviours and food preferences (Schwartz & Puhl, 2003; Skinner, Carruth, Bounds, & Ziegler, 2002).

While a multitude of healthy eating interventions have been developed for elementary schools, researchers remain divided on the effectiveness of school-based interventions. Some researchers contend schools represent a popular and useful intervention setting because they offer continuous, intensive contact with children during their early years (Anzman, Rollins, & Birch, 2010; Katz, 2009). Additionally, the school setting has been described as providing the most effective and efficient way to reach a large segment of the population (Perez-Rodrigo & Aranceta, 2001). On the other hand, many researchers have concluded that school-based interventions result in minimal effectiveness for reducing child overweight and obesity rates or for developing healthy, long-lasting eating behaviours (Ammerman, Lindquist, Lohr, & Hersey, 2002; Jaime & Lock, 2009; Kropski, Keckley, & Jensen, 2008; Sharma, 2006; Thomas, 2006; Wadden, Brownell, & Foster, 2002).

Different causes can be seen to account for the inability of these school-based interventions to develop children’s long-lasting eating behaviours (Cole, Waldrop, D’Auria, & Ganer, 2006; Greenberg, 2004; Thomas, 2006). One important consideration is that such interventions are not the only food and nutrition experiences children encounter throughout the school day. Particularly in kindergarten classes, food is not simply provided at meals or only discussed during healthy eating interventions; it is often embedded in the curriculum and a focal point of various celebrations (Isoldi, Dalton, Rodriguez, & Nestle, 2012; Johansson, Makela, Roos, Hillen, Hansen, Jensen, & Huotilain, 2009; Mikkelsen, 2011). These experiences are particularly important because they can influence children’s developing food preferences through the concept of “food familiarity,” which refers to children preferring foods that are familiar to them (Cooke, 2007). However, little research has examined food familiarization in kindergartens.
Additionally, researchers typically use interviews or questionnaires to learn teachers’ perspectives on kindergarten healthy eating and nutrition, even though these methods are often problematic, due to self-representation biases (Henry, White, Smith, & LeDang, 2010; Watts, Pinero, Alter, & Lancaster, 2012). Consequently, a wider variety of methods has been recommended for educational research, particularly research on nutrition (Carraway-Sage, Hensen, Dipper, Spangler, Ash, & Goodell, 2013; Parker & Neuharth-Pritchett, 2006; Watts et al., 2012). An interesting alternative to traditional methods can be found in social media discussions (Wilkinson & Thelwall, 2011). Social media discussions, such as message boards, have been found to encourage participants to reveal more information than do traditional methods, such as focus groups (Hookway, 2008; Williams & Merten, 2008). Social media discussions offer qualitative researchers a wealth of raw textual data (Krippendorf, 2004) that can be examined through netnography, an innovative methodology that applies ethnography to the internet (Kozinets, 2010).

Therefore, the purpose of the present exploratory study was to reveal opportunities for kindergarten food familiarization by examining the various food and nutrition experiences children encounter in kindergartens. As little is known about kindergarten food familiarization experiences, the present study begins to fill this knowledge gap through a netnographic study (combining social media analysis and interviews) that examined kindergarten teachers’ descriptions of experiences in their classes involving food and nutrition.

**Conceptual Foundation**

This section provides information on two areas that formed the conceptual foundation of the present study: 1) the concept of food familiarity and its importance for food preference development, and 2) the use of social media data in research.
Impact of food familiarity on food preference development

Examining the different food and nutrition experiences in kindergartens is important because children’s food preference formation is linked with their familiarity with foods during early childhood – the more familiar the food, the more it is liked (Birch & Marlin, 1982; Cooke, 2007; Skinner, Carruth, Bounds, & Ziegler, 2002; Wardle & Cooke, 2008). For example, Skinner and colleagues (2002) found that children who were exposed to a wide variety of fruits and vegetables during the first 2 years of life continued with this type of diet. Introducing young children to new foods is especially critical because biological factors influencing children’s food preferences include a resistance to unfamiliar foods (Schwartz & Puhl, 2003), a predisposition known as food neophobia (Birch, 1998; Cooke, 2007). Children’s neophobic reactions to new foods can be overcome by providing them with repeated opportunities to taste the resisted foods, as children learn what to like, dislike, avoid, etc. (Birch, 1998; Birch & Davidson, 2001; Rozin, 1990; Sullivan & Birch 1994). Additionally, repeatedly presenting a food in a positive context results in increased liking for that food (Birch 1998).

Further, research on the promotion of children’s food preferences suggests the concept of “visual familiarity” may be a useful strategy for reducing neophobic responses and encouraging healthy food preferences (Dazley, Houston-Price, & Hill, 2012). Visual familiarity is a concept that refers to children’s preferences for foods that they frequently see in their environments, simply seeing a food on a regular basis can be key in children’s decisions to try novel foods (Story, Neumark-Sztainer & French, 2002). Houston-Price, Butler, and Shiba (2009) explored how picture books featuring vegetables could be used to encourage children to try new foods. They found that children who were exposed to vegetables via the picture books had a reduced aversion to unfamiliar foods relative to familiar foods, and an increased willingness to taste exposed foods than non-exposed foods. The researchers posited that visual exposure could reduce the number of exposures needed to increase willingness to eat novel foods (Houston-Price et al., 2009).

Consequently, it is essential for those in children’s social environments to understand that children’s initial rejections of new foods do not represent innate food preferences, but signal
transient reactions that can be changed and developed through food familiarity experiences (Birch, 1998). In fact, increasing children’s familiarity with healthy foods has been a recommended component of school-based nutrition education curricula (Centers for Disease Control and Prevention, 2011; Wardle & Cooke, 2008).

Social media in research

Message boards. The descriptor “social media” refers to a number of online tools and systems, such as weblogs, chat rooms, and message boards (Norman, 2012). While social media can take many forms, the particular type of social media used in the present study was message boards. Message boards consist of text-based exchanges between participants on commonly shared interests (Kozinets, 2010). Message boards are reliant upon public participation to operate successfully: participants post messages, others reply, and over time an asynchronous conversational thread develops (Hagen & Robertson, 2009; Kozinets, 2010; Norman, 2012).

Recent years have seen a rapid increase in the number of social media discussion sites (Krippendorf, 2004; Rowe, Hawkes, & Houghton, 2008). Health researchers have already been examining social media discussions to understand public perceptions. For example, social media discussions have been studied to gauge public perception of antibiotics and influenza (Corley, Cook, Mikler, & Singh, 2010; Scanfeld, Scanfeld, & Larson, 2010). Researchers have also found online groups of cancer survivors use message boards to discuss treatment information, communicate with healthcare providers, and negotiate the healthcare system (Meier, Lyons, Freydman, & Rimer, 2007).

Most relevant to the present study is that teachers have been increasingly turning to online discussions due to perceived limitations on their freedom of speech (Stitzlein & Quinn, 2012). Teachers have described the convenience and support of message boards as allowing them to overcome barriers of time and distance (Hur & Brush, 2009; Kidd, 2013; Nicholson & Bond, 2003; Stitzlein & Quinn, 2012). Additionally, these discussions enable teachers to discuss their
opinions with a wider range of teachers than those in their physical environments, which is significant, as teachers have described feeling isolated from other teachers who share their views (Hur & Brush, 2009; Stitzlein & Quinn, 2012). Given the advantages of social media discussions, it is surprising that few researchers have taken advantage of these innovative data sources to examine teachers’ perspectives on such topics as the focus of the present study (Kulavuz-Onal & Vasquez, 2013; Wilkinson & Thelwall, 2011).

**Netnography.** To qualitatively study message board discussions, researchers use the aforementioned “netnography.” Netnography is a methodology that shares the goals of ethnography but adapts the latter’s practices to study social media, for present purposes, the message board discussions described earlier (Kozinets, 2002). A netnographic study follows a process that resembles an ethnographic study, that is, researchers study the specific meanings and practices of particular social groups (Kozinets, 2010). However, instead of studying real-life community sites, netnographers examine relevant social media discussion sites. Those social media discussions are then saved and analyzed similarly to data from other qualitative data methods (Kozinets, 2010). As a qualitative approach, netnography is distinguished from quantitative approaches that involve measuring behaviours and attitudes. Instead, netnography is especially useful when the primary goal is to understand perspectives, generate insights, and inform future research (Bilgram, Bartl, & Biel, 2011; Klein & Spiegel, 2013; Kozinets, 2010).

The anonymity of posting messages online can also raise concerns regarding individuals posing as others (Hookway, 2008). These matters of falsification in research can be lessened by means of ethnographic research techniques such as prolonged engagement, persistent observation, and researcher introspection (Wallendorf & Belk, 1989). Puri (2007) recommended three practices to ensure trustworthy social media research: select message boards that provide user profiles, select a number of message boards, as opposed to relying only on one, and examine the content of individual posts to check for consistency over time.
Ethical considerations

Netnographic researchers have not reached a consensus regarding the main ethical issues of informed consent, public versus private discussions, and quoting social media discussions in netnographic research. After reviewing a number of articles outlining positions on ethics in social media research (De Brun, McCarthy, McKenzie, & McGloin, 2014; Kozinets, 2010; Langer & Beckman, 2005; Paechter, 2012; Reichman & Atzi, 2012), the present study drew upon McDermott, Roen, and Piela’s (2013) useful considerations when selecting social media data for a netnographic study: What are the participants’ likely expectations of privacy and would participants experience harm as a result of their discussions being analyzed?

For the present study, in order to include only discussions that could be determined not to be private, the following inclusion criteria were established: message boards were required not to require membership, registration, sign-in, or a password, and the boards were publicly accessible through a popular internet search engine. Additionally, while the data unavoidably involves personal opinions, one could argue that the discussions do not contain controversial or sensitive topics or opinions that would result in harming participants (particularly when compared to netnographies that have examined topics relating to recreational drug use or self-harm) (Bruckman, 2002; McDermott et al., 2013; Paetcher, 2012; Wilkinson & Thelwall, 2011).

In such ways, the present study was conducted in line with past netnographies: data was only included if they were publicly available, participants were not considered vulnerable individuals, the topic was not considered sensitive, and by not reporting any of the names of the message boards or participants studied, no identifying information was provided (Copeilton & Valle, 2009; Hoffman-Goetz & Donelle, 2007; Langer & Beckman, 2005; Reichman & Atzi, 2012; Stitzlein & Quinn, 2012). Finally, all study protocol was granted ethical approval from the University of Toronto Research Ethics Board, and informed consent was obtained from all teachers participating in the interview portion of the study.
In sum, this study used a netnographic approach to examine a sample of kindergarten teachers’ message board discussions about food and nutrition experiences in kindergarten classes. Following analysis of the discussions, to further the findings from the message board research, interviews were conducted with a small sample of kindergarten teachers, an important aspect of similar social media research (Brady & Guerin, 2010; Kozinets, 2010). This combination of traditional and alternative methods is necessary when the objective of a study is to understand perspectives beyond those of participants in online discussions (Kozinets, 2010; Puri, 2007; Wilson, 2009). Additionally, examining the same topic from data collected by two different methods may enable researchers to reach more participants (those able and willing to participate in interviews), thereby addressing potential limitations identified in past research with kindergarten teachers (Carraway-Sage et al., 2013; Henry et al., 2010).

Method

Data collection

First, to locate teacher discussion boards, the phrases “teacher message boards,” “teacher forums,” “teacher discussions,” and “teacher chat” were typed into the commercial internet search engine Google. Results were examined to remove any unrelated matches (as some were weblogs discussing teacher message boards), with the end result being a sample of ten teacher message boards (Wilkinson & Thelwall, 2011).

Second, the message boards were selected for inclusion in the study using selection criteria recommended by Kozinets (2010) which were adapted to ensure that only teachers’ discussions would be included in the study. Message boards were i) required to be publicly available with no fee-based membership or password protection ii) required to identify as providing a discussion forum for teachers (identified through the name of the board and through an examination of the description of the board, located on the main page), iii) published from 2003 until present, and iv) written in English. Message boards were excluded if they required a fee or password to view
the discussions, did not identify as being discussion boards for teachers, discussions were prior to 2003, or were written in a language other than English. Boards were rejected if any of the exclusion criteria were met. Consequently, out of the ten boards initially identified, three were rejected because they did not meet the inclusion criteria. One board was password-protected. Two boards were daycare/childcare/teacher boards which made it unclear when discussion participants were teachers. In total, seven message boards were included in the final sample.

Third, all message boards were searched for kindergarten teacher discussions relating to food and nutrition. This step differed depending on the organization of the teacher message board. The smaller boards had simple set-ups, typically with only one forum for all discussions, or divided into broad sub-forums, such as elementary, middle, and high school. The larger boards were typically more complex and were divided into sub-forums for each grade level. In both cases, message boards were either searched manually for discussions, or keywords, such as “food,” “lunch,” and “nutrition,” were used if the board contained a search engine. New search terms were also developed based on words that frequently appeared in the initially identified discussions, such as “kitchen.” Discussions that did not specifically originate from a kindergarten sub-forum were examined manually to determine if the discussion pertained to kindergartens. In total, 28 different discussions by kindergarten teachers about food and nutrition were collected over a three month period. All discussions identified through this process were saved as PDFs for analysis.

Following analysis of message board data, semi-structured, open-ended interviews were conducted with a purposive sample of three kindergarten teachers from Ontario, Canada, over the span of two days in January of 2014. Email interviews were also conducted with four kindergarten teachers (three from Ontario and one from British Columbia, Canada). In both cases, interview questions explored topics kindergarten teachers raised in the message board discussions. For example, one question asked: “Have you ever had a food-themed dramatic play center (such as a restaurant or a grocery store)? If yes, how did you acquire materials for it?” Of note, Canadian school curricula and policy (including food and nutrition curricula and policy)
are not nationally set but are developed by each individual provincial or territorial ministry of education.

**Data analysis**

Message board discussions were analyzed over a six month period. This period of careful and prolonged observation was deliberately selected in order to trust the authenticity of the online discussions (Kozinets, 1998, 2010). Consistent with a qualitative research approach, an inductive process for data analysis was followed (Creswell, 2009). Message board discussion data were analyzed using an approach similar to grounded theory (though the intention was never to develop a theory) that entailed summarizing, classifying, and interpreting the data (Charmaz, 2014; Strauss & Corbin, 1998).

Specifically, data familiarization occurred through a period of reading and re-reading, along with creating reflexive notes (Braun & Clark, 2006; Strauss & Corbin, 2008). After familiarization was achieved, coding began (Saldana, 2013). A list of all the ways teachers described kindergarten food and nutrition experiences was created and similar experiences were clustered together to form initial codes. Initial codes were grouped together to form the two major categories (overt and covert opportunities for food familiarization) which were then further divided into the major themes that reflected the food and nutrition experiences in kindergarten classes.

After several cycles of refinement and subdivision, the final five major themes were created. To facilitate interpretation, these major themes were examined with questions that explored the factors influencing teachers to implement the major themes in their classes (Charmaz, 2014). For example: How did this (view, belief, practice of food/nutrition/healthy eating) evolve? Why would teachers feel this way? Under which conditions would this (view, belief, practice of food/nutrition/healthy eating) occur? Answers to these questions were described as the factors that influenced teachers to include or exclude the food or nutrition
experience from their classes. With this analysis in place, interviews were conducted that explored the major themes. Further refinement of the findings occurred following a constant comparative analysis of interview data (no differences were noted between in-person and emailed interview responses, so the teachers are reported collectively as “interviewed teachers” for the remainder of this article), resulting in the findings presented in this article.

Finally, related literature was examined more thoroughly to situate the findings appropriately (Charmaz, 2014). This resulted in some re-labelling specific themes and factors to improve clarity. Member checking was not conducted with message board participants or interview participants for the reasons provided by Angen (2000) and Morse (1994).

**Participants**

There was limited information available on the participating teachers (as is the case with similar netnographies, such as De Brun et al., 2014; Hoffman-Goetz & Donelle, 2007; Seeman, 2010; Meier et al., 2007). It was possible to collect some basic information on participants, depending on what they chose to reveal in their profiles. The overwhelming majority of the teachers participating in the analyzed message board discussions were female who identified as being from the United States or Canada, though there were a few male teachers, and teachers from Australia and Japan. The sample included both novice and veteran teachers, a characteristic that was revealed when participants described themselves as being “new to K[indergarten]” or responded to posted questions with qualifications such as “15 years of experience as a K teacher.”

The purposive sample of interviewed teachers comprised of all female teachers between the ages of 32 and 51. Six teachers were currently teaching in Ontario, Canada; one taught in British Columbia, Canada. Teachers had between 7 and 26 years of teaching experience.
Results

Opportunities for Kindergarten Food Familiarization

Analysis of the combination of social media and interview data revealed five different opportunities for kindergarten food familiarization. No significant differences were noted between the social media and interview data. However, there were minor differences that are discussed in their respective themes. The first three themes represent the overt ways that food is presented in the kindergarten food familiarization environment: 1) nutrition lessons, 2) snack times, and 3) cooking experiences. The fourth and fifth themes represent covert ways that nutrition is presented in the kindergarten food familiarization environment: 4) food as teaching materials and 5) dramatic play centers. Overt means were defined as any instance where the aim was directly about food, healthy eating, or nutrition. Covert means were defined as any instance where food was involved, but the aim was unrelated to food, healthy eating, or nutrition. Sub-themes are also described in two of the major themes. Finally, the various factors influencing teachers are reported. Factors were defined as anything teachers’ described as influencing them to implement the five themes of food familiarization. These influential factors differed upon the specific theme, but there were several re-occurring factors amongst the themes, such as funding, policy constraints, and beliefs. Figure 7.1 illustrates the five opportunities for kindergarten food familiarization along with the influential factors.

Overt opportunities for food familiarity

1) Nutrition lessons

The first overt opportunity for children to be familiarized with food was through the explicit kindergarten nutrition lessons. This theme was further subdivided into two sub-themes, as teachers described two different ways they teach nutrition in their kindergarten classes.
• **Healthy eating activities**

Despite the search terms used, one of the least common themes involved teachers explicitly discussing healthy eating or nutrition activities from their classes. On the message board discussions, some teachers replied to inquiries about nutrition curricula by describing their own lessons for teaching nutrition: “I did it in small groups and divided sections of paper plates with a marker and the kids drew in healthy food choices…The kids loved it and really had to think about balancing the meal with a variety of foods.”

• **Mealtime discussions**

In a few discussions, teachers described discussing healthy eating with their classes during mealtimes: “We do have some overweight students at our school as does every school. We also have teachers that are overweight… I am always encouraging them to try to make better eating choices so they don’t struggle like I did and do.”

On the other hand, all interviewed teachers described how beneficial they found discussing healthy eating with students during lunch time. For instance, one teacher described lunch as “our vehicle for teaching healthy eating.” Another teacher described the advantages to having students eat together in the class as it allows for “a natural conversation” about food to unfold: “When I’m on lunch duty with them we talk about healthy choices - would this be a healthy dessert or not, and how often we have it in a week to be balanced.”

A number of different factors were described as influencing teachers’ abilities to implement nutrition lessons. Many discussions mentioned a perceived lack of nutrition curriculum. Teachers’ discussions typically began with one teacher requesting help with teaching nutrition; for instance, “We are starting our nutrition unit and I’m stuck thinking up some cute ideas. What do you use?” Likewise, an interviewed teacher explained that kindergarten nutrition curriculum does not exist and feeling as though she has to “wing it” with her classes.
Two interviewed teachers also described how funding affected their nutrition lessons. One explained that “using food in the classroom generally needs to come out of our own personal pockets, so we need to be careful what we decide to do/use funds for.” Finally, teachers also expressed beliefs that teaching nutrition and healthy eating should not be aimed only at students, but that their instructions should also be given to parents, as one interviewed teacher explained: “Often times, parents need to be re-educated.” Similar sentiments echoed by another teacher:

_Ok, so we teach kids all the time to eat right, do they really do it? No, they eat what is available to them. Part of helping kids is helping their parents. If the parents aren’t reinforcing this then your success is totally stunted. Here is what to do... Have the kids take inventory of what is in their cupboards at home and bring you a list, with the class you create replacement ideas for each food that isn’t good for them to eat... When the class is done, you can share the "research" with the parents at parent teacher conference_

2) Snack times

The second overt opportunity for children to become familiarized with food was during class snack times. Teachers discussed factors that influenced them to control snack times in two ways: with regards to both the time allowed for snacks and what foods were permitted during snack times. First, many teachers explained the necessity for children to eat snacks on a strict schedule and for children to adapt to that regimen: “Before we had snack my kids rarely complained about being hungry. They get used to the schedule and if they are truly hungry they will learn to eat breakfast. I absolutely hate the PM snack, but I am required to serve it.” Teachers further discussed how it was necessary to have all the children only eat during designated times: “We snack at 10:00 for 10-15 minutes.” Issues with children being unable to adjust to the snack schedule were often attributed to parents.
Teachers additionally described how policies, though unrelated to food or nutrition practices, had a negative influence on class time allotted for snacking: “Snack takes at least 10 minutes and with our new math mandated 70 minutes per day, there just is not time.” Teachers related their fears that snack time would reflect poorly on them during their teaching evaluations. One teacher who described her students being “starving by lunch time” remained hesitant to allow snacks because “I am just afraid that when they come to do my evaluations, they will consider it to be unnecessary and cutting into my teaching time.” Other teachers described needing to justify to their principals why children need snacks.

Second, teachers also discussed needing to control what types of foods were permitted as snacks. Fears about children’s food allergies were often voiced in these discussions: “I had 4 students with food allergies - various combinations of allergies to eggs, nuts, milk”; “We just got our class lists and I have a child with a tree nut allergy. I am very worried about snack time ...sooo worried!” Teachers revealed how vigilantly they must control food in their classes: “no more sharing snacks, it’s just too scary. I would die if I ever missed something and served them the wrong thing!” Some teachers described benefits in discussing allergies with students’ parents: “I found it SUCH A RELIEF to have made contact with the parents and remain close contact. They were always there to answer my questions and put me at ease when anything was questionable.” Yet others described different experiences: “a parent can raise a stink and get a whole school declared nut free....that’s tough when so many kids eat pb [peanut butter] sandwiches.”

Apart from allergies, teachers detailed how they permit children to bring only healthy snacks: “This year, I told my parents at "Meet the Teacher" night to send a healthy snack their child can eat in 10 minutes. I also told them we are not doing juice this year ONLY water.” Another teacher explained:

You would be surprised how awful even the most educated families pack a lunch. Especially the younger kids they are usually convenient not healthy. I tracked the son of a two doctors, mom and dad, this kid would be off the charts if you were able to check his insulin spikes on a regular basis... and don’t get
me started on those dreadful lunchables [pre-packaged processed snack typically consisting of processed meat, cheese, and crackers]. I wouldn’t feed it to my neighbor’s dog.

Teachers’ beliefs in the importance that they “only allow a healthy snack and water” extended beyond encouraging parents to send healthy foods. A few detailed how they prepare for the possibility that a child brings an unhealthy snack by keeping “a supply of animal crackers on hand just in case someone brings in an unhealthy snack.” Another teacher detailed her belief in completely forbidding snacks from her class because “with all the complaints about how fat kids are these days....they really do not need it.” Yet, while teachers emphasized the importance of healthy snacks, the majority stated that “of course” they “always allow treats for birthday celebrations.” Similarly, one interviewed teacher noted that she allows unhealthy treats only at a certain time of day: “At the beginning of the year, we spend a lot of time reviewing a healthy snack (to eat in the morning) and unhealthy (or treats) that we can eat if we brought one in the afternoon.”

Lastly, in contrast to the challenges that snacking presented the majority of teachers, there were also teachers who depicted positive experiences with snack time, portraying it as “an important part of the morning.” One teacher detailed:

*If it is nice outside I will often let the kids have their snack outside...They love their picnic snack! Some of the other teachers will have the kids come to the carpet and eat snack while they read the kids a story...my kids really enjoy the sit-down snack. It is a great community building time and since most of my kids are ELL [English Language Learners], a great chance for oral language to naturally develop. I love sitting with them and talking to them or just listening in to their conversations*
3) Cooking experiences

The third overt opportunity for children to be familiarized with food occurred during cooking opportunities in the classroom. Teachers were often positive about cooking with their classes: “I love using cooking experiences to help enrich my students learning!” However, discussions about cooking more frequently turned on teachers describing the variety of barriers that limited their ability to cook with their classes. Teachers depicted cooking as only being possible when they were able to have certain resources. For instance, if they had access to school kitchens or stoves: “My school is K-8 [Kindergarten through to grade 8] so we use the kitchen in the middle school wing.” Another explained how her class could only cook after a teacher “donated a convection oven.” Teachers described how they need cooking materials donated, parent volunteers, and the problems with children’s behaviour when in parent groups. Another recalled that cooking as a classroom activity depended on class size, that she could do so only “when I had a small group of 12 children.” Other teachers reported a lack of time for cooking in the kindergarten classroom, as one teacher asked, “Where do you find the time?”

Still, even teachers who had access to stoves and cooking materials described other factors that limited cooking experiences for children. For example, teachers expressed safety concerns: “I do the actual cooking. Don’t want them to get burned…They are only allowed on the table cloth as we are measuring and mixing.”

Given the discussions about snack time and allergies observed above, it was to be expected that teachers described allergy concerns as the main barrier to their cooking with classes: “we can’t cook, due to all food must be prepared in certified kitchen and treats have to be purchased.” Another stated how:

*We have a strict no food/sharing policy in our district. It has been this way for several years now due to allergies... we can’t do it unless we can tie it to curriculum and get permission from every parent given an ingredient list. The principals are so afraid that they mostly just say NO, regardless of how careful we are... It’s too bad, because children really relate to food*
Interviewed teachers expressed similar concerns about allergies. One teacher described the strict allergy policy at her school that prevented her from cooking with her class. Another teacher on the message boards shared her approach in circumventing food allergy restrictions: “With egg allergies this past year I found this fun idea! Make green jello jigglers [“Jell-O” is a brand-name gelatine dessert most commonly found across the United States and Canada]. Use an oval or round cookie cutter to make the egg yolks. Spray Redi-Whip [a brand-name whipped dairy product] around the jello for the egg whites!”

Finally, when discussing the actual foods they were cooking, teachers reported cooking desserts with their classes most often: “we make insects using Oreos [cookies], Chinese noodles, and frosting.” Teachers also discussed different foods they made with their classes for celebrating holidays: candy necklaces and cookies for Valentine’s Day, cupcakes for birthdays, and gingerbread cookies for Christmas.

**Covert opportunities for food familiarity**

4) **Food as teaching materials**

The first covert opportunity identified as familiarizing children with foods was through lessons where foods were used as teaching materials. Teachers discussed using food in their classes to teach subjects entirely distinct from nutrition or healthy eating. A few teachers posted lengthily lists of food activities they employed in their classes, involving candy, cookies, jello, frosting, and deep fried foods. The most common use of food was for illustrating math lessons, with teachers describing the use of differently shaped foods to teach basic math concepts: “I’ve also done marshmallows for cylinders and sugar cubes for cubes…Some cereal is also shaped like a sphere”; “We have made a cube, rectangular prism, and a pyramid by using gumdrops (for the vertices) and toothpicks for the edges…I’ve tried marshmallows instead of gumdrops and they do not work. Gumdrops are best.” When asked specifically about using foods as teaching
materials in non-nutrition lessons, interviewed teachers described using a wider range of foods: both candy and fruit served as tools for teaching math concepts and illustrating patterns.

Teachers described using foods in lessons unrelated to healthy eating because it made the lesson more enjoyable. For example, one teacher described using food in math lessons because “having ice cream in ice cream cones is fun, too.” Teachers who did not post their own ideas for lessons still participated in these discussions by responding enthusiastically to such suggestions: “Great idea! I like to incorporate as many senses when teaching concepts (particularly abstract math concepts)” “These are wonderful ideas! They are so creative and different. I can’t wait to try them this year.” Noteworthy was the different perspective one interviewed teacher presented, as she explained how her school is located in a low-income area and “for many of the children food is not something they have a lot of... we never use food for “art” or “play” out of respect for the children.”

5) Dramatic play centers
The second covert opportunity for children to be familiarized with foods was in the classroom dramatic play area. One teacher detailed the importance of interacting with children in the centers and modeling enthusiasm: “it is so important to interact with the kids in the centers. You are the model...So even though it may mean pretending to eat that plastic piece of pizza a million, gazillion times—it’s worth it!” Another specified the importance of equipping the areas with “baking pans, muffin tins, serving spoons, pot holders...The children are using real materials like they do at home.” One teacher described how she witnessed children realistically modelling mealtime behaviours in the play area:

The Dramatic Play area with empty food cartons of all kinds, and plastic food, plates, cups, silverware, etc. The things the children will come up with in the area is priceless! A child, one day on the play phone, "Hon! Are you coming home for dinner? It's ready and you're not here yet!" They will have hours of reenactment of what they hear their parents, grandparents, teachers, etc. say.
When asked about this subject, interviewed teachers echoed similar centers in their classes, describing dramatic play centers that were turned into bakeries, McDonalds, and coffee or hot chocolate shops. Several interviewed teachers also described how students would often, without guidance from teachers, model scenes from restaurants and preparing meals: “today I was there and there were 3 girls playing restaurant because it is a place where they’re acting out what’s happening in their everyday lives.”

Teachers described positive experiences with dramatic play centers because the children enjoyed the activity, the simplicity of the centers, and the ease with which they could transform the theme of the play area: “It becomes a Pizza restaurant, a sandwich shop, a grocery store, etc. for a month at a time.” One interviewed teacher enthused: “It is such a hit! We have a lot of “play, plastic food” in our classroom.”

Teachers extensively discussed how dramatic play can enhance children’s practice with language, math, creative thinking, table manners, and problem solving: “Besides the obvious math (adding/subtracting, counting money), reading and writing, there is a tremendous amount of oral language development, socialization, creative thinking, problem solving.” Teachers discussed scaling activities proportionate to children’s abilities:

> the "play" centers had a literature or writing activity to go in there. For example, my housekeeping has kids menus from all different restaurants. Then I would laminate them, place calculators in there, and play money. You would not believe how much they learned while playing. The kids would go thru the food in the play kitchen which was all labelled and taped on and the kids would copy the food down. My higher ones decided one day to put them in ABC order and write them down.

When a teacher posted a question about acquiring an online template for a menu, teachers responded encouragingly: “I just wanted to share that we have really loved the menus we have made ourselves. We chose the name, cuisine, and layout ourselves and designed them in class”;
“I suggest you simply provide blank recipe cards along with a few laminated ones. The dramatic play area is a great place to ALWAYS provide materials for writing.”

However, teachers also detailed a number of factors that limited their abilities to include food-themed dramatic play centers. A few explained that they do not have dramatic play kitchens due to classroom size and teaching priorities, as follows: “I took this area out of my classroom a few years ago to make room for a listening center. I have a small classroom, and I needed the room.” Another teacher empathized that “Space considerations make things so difficult at times when you’re trying to "do it all".” Teachers returned to funding shortfalls as a barrier to having dramatic play centers, though they also often offered solutions to this problem, such as going to garage sales, second-hand stores, or dollar stores: “New play kitchens can be spendy,” one teacher observed, “but I’ve seen nice ones at the thrift store…my friend bought a nice kitchen set at a garage sale - really cheap…the dollar store usually has sets of dishes and/or food for like $5 each.” A few teachers described their principals as opposed to spending money on dramatic play kitchens, inspiring others to recommend countering such opposition by emphasizing the multi-subject potential of play kitchens: “Could you have some type of pad or clipboard and paper, on which the ‘wait staff’ could take orders? This would give your center writing, as well.”

- **Fast food brands**

The theme “Dramatic play centers” included the sub-theme of fast food-branded dramatic play centers. Teachers often discussed using the names of fast food restaurants, such as McDonalds, Pizza Hut, Dairy Queen, and Starbucks, as themes for dramatic play restaurants: “I have some things I made for a Red Lobster…I also have a Pizza Hut, Burger King, and a Dairy Queen.” The most commonly mentioned restaurant was Pizza Hut, which appears to have been the result of an online pretend order form teachers downloaded and used in their classes: “The children pretend they are at a restaurant. Here is a pizza hut order form that the ‘waitress’ can use to record the order.”
The aforementioned factors influencing teachers’ use of dramatic play areas apply to fast food themed areas as well. For example, in both message board discussion and interviews, all the discussions about the use of these brands in kindergarten classes were favourable, as teachers explained how much children enjoyed the themed restaurants: “I have Pizza hut right now and they love it!!” However, there was one additional influential factor discussed regarding the use of fast food establishments as resources for teachers. The willingness of such a restaurant to donate materials appeared to be the main motivation behind the use of brand-name restaurants: “It’s fun when the whole center is a themed restaurant. Pizza Hut will give you free boxes, cups, menus to make it feel realistic”; “Be sure to ask for to go menus when you go to restaurants. Once I asked the waiter at Olive Garden if I could have a dessert menu.” Another teacher explained:

*I went to Starbucks, told them I was going to set up a Starbucks coffee shop in my preschool classroom and they actually gave me TONS of printed items like bags, cups, etc. for free!! I also found out from a friend that she went to McDonalds and they did the same thing.*
Figure 7.1: Opportunities for Kindergarten Food Familiarization

The first level of the figure represents the overall kindergarten food familiarization environment, being a summation of the following levels. It includes all of the different food, nutrition, and healthy eating experiences children encounter in kindergarten classes. The second level divides these experiences into the two categorical ways in which children can be familiarized with food in kindergarten classes, those being either overt or covert means. The third level consists of the five major themes. The fourth level represents the sub-themes that were found in two of the major themes: nutrition lessons and dramatic play centers. The various factors influencing teachers are illustrated as surrounding arrows pointing into the themes/subthemes. The factor “fun food culture” refers to the cultural practice of celebratory occasions necessarily involving unhealthy foods.
Discussion

The goal of this netnographic study was to explore opportunities for kindergarten food familiarization. This aim was achieved by examining kindergarten teachers’ discussions about kindergarten food and nutrition experiences. The opportunities for kindergarten food familiarization revealed in this study were organized into five themes and described in terms of the factors that influenced teachers to implement the various themes in their classes. As discussed earlier, while the findings are not generalizable to teachers beyond the ones involved in this study, the findings are significant in developing a better understanding of the various opportunities for kindergarten food familiarization. Consequently, this discussion will focus on the number of novel findings that emerged regarding opportunities for kindergarten food familiarization.

First, practices classified as overt opportunities for food familiarity complement past research on recommended kindergarten practices. As has been extensively researched and studied, certain practices are recommended for developing long-term healthy eating behaviours in children during snack and meal times, such as repeatedly exposing children to new foods, permitting them to eat when hungry, allowing children to serve their own portions of food, and involving them in cooking and preparing foods (Birch, 1998; Birch & Davidson, 2001; Summerbell et al., 2012; Young, Anderson, Beckstrom, Bellows, & Johnson, 2003). Despite these findings, teachers’ discussions revealed a multitude of factors that interacted to create situations that were incompatible with such research-recommended snack and mealtime practices. The findings of the present study should therefore be incorporated into the research conversation, as those findings indicate limited opportunities for kindergarten food familiarization. For example, as in past research, teachers described controlling the time and types of foods during snack and lunchtime (Ramsay, Branen, Fletcher, Price, Johnson, & Sigman-Grant, 2010). Teachers expressed well-warranted fears regarding the contamination of foods that would be dangerous for children with allergies. These fears present additional challenges to following recommendations to permit snacking whenever the children are hungry and to hold class taste-testing or cooking activities (Carraway-Sage et al., 2013). The subject of allergies could also be seen to influence
the policies teachers are required to follow. And beyond allergy problems, teachers described a number of resources and obstacles that limited their ability to cook, such as class size and the need for parent volunteers.

These findings regarding the different factors that combine to pressure teachers to limit food familiarization opportunities and to encourage children to eat in the absence of hunger are significant, because the absence of such practices has been found to discourage children’s abilities to self-regulate, which has been linked to obesity (Birch, McPhee, Shoba, Pirok, & Steinberg, 1987; Savage, Fisher, & Birch, 2007). Specifically, children’s capacity to self-regulate (that is, to eat based on physiological hunger) can be lost if they are socialized to ignore their internal cues of hunger and fullness and instead rely on external cues, such as adults controlling the amount of food served (Birch & Davidson, 2001; Birch et al., 1987). In line with past research, this study also confirms that in order to develop effective kindergarten food and nutrition guidelines, researchers and policy-makers must consider the actual constraints operative in kindergarten classes (Moore, Murphy, Tapper, & Moore, 2009; Summerbell et al., 2012).

Second, among the novel findings of the present study were the food and nutrition experiences categorized as covert opportunities for food familiarization. Teachers described commonly using fast food themes in the dramatic play areas. These findings are noteworthy, considering that children’s preferences for foods can be affected by fast food brand familiarity (Roberto, Baik, Harris, & Brownell, 2010; Robinson, Borzekowski, Matheson, & Kraemer, 2007). Moreover, kindergarten children who frequently eat fast food and drink tea or coffee are at a higher risk of severe obesity (Flores & Lin, 2012). However, as teachers’ discussions illuminated, use of fast food brands appeared to be motivated by the children’s enjoyment of them, the cost of classroom materials, and the availability of free materials from fast food establishments. Other research has also noted that teachers have reported acquiring nutrition materials from outside sources, albeit grocery stores (Carraway-Sage et al., 2013). This suggests nonetheless that the use of such fast food brands may be somewhat modifiable through educating teachers on the effects of fast food familiarization on long-term behaviours, though funding issues would still remain. These findings echo conclusions drawn from research with parents that shows the need for nutritional
information sources to do more than stress the need for children to consume certain food groups and to cover the importance of developing long-term eating behaviours (Benton, 2003; Schwartz & Puhl, 2003; Vereijken, Weenen, & Hertherington, 2011).

Third, in both overt and covert opportunities for food familiarization, teachers detailed that while healthy foods were the typical foods in class, unhealthy treats were allowed for celebrations. Such findings are consistent with past research examining kindergarten celebratory foods (Isoldi et al., 2012). However, an original finding of the present study was the need to consider how unhealthy foods are used as teaching materials in lessons independent of nutrition (such as using gum balls to teach math concepts). These findings should be considered in light of research on the effects of visual familiarity for developing food preferences (Dazeley et al., 2012).

Researchers know that repeatedly presenting a food in a positive context results in increased liking for that food (Birch, 1998). Environments with such food messages can also contrarily promote the message of unhealthy foods being tied to positive occasions (Fisher & Birch, 1999; Johansson et al., 2009).

Fourth, in each theme a number of points were highlighted that suggest opportunities for improving kindergarten food familiarization opportunities. Many teachers expressed enthusiasm for the dramatic play food-themed centers, and these centers could represent an untapped area for research and intervention. Teachers described their enthusiasm for these simple areas, the children’s enjoyment of them, and those spaces’ potential for various literacy and math activities.

Given the challenges of working with teachers to implement interventions that do not align with their preferred ways of teaching (Datnow & Castellano, 2000), these play areas may present a possible vehicle for healthy eating lessons, by enhancing an already successful classroom teaching tool. For example, food-themed dramatic play centers could be used to familiarize children with healthy food replicas and healthy food behaviour modeling, initiatives that may increase children’s willingness to try those foods in actuality (Dazeley et al., 2012; Drenton, Oklesten, & Boyd Thomas, 2008; Matheson, Spranger, & Saxe, 2002). Additionally, dramatic play kitchens present an alternative or complementary option to real cooking experiences, given the number of barriers to cooking in their classrooms that teachers described, such as allergies,
resources, and safety concerns. While such possibilities are intriguing, it is important to consider
that, as expressed by teachers themselves, a number of other factors, such as time and money
constraints (constraints found in other research on nutrition activities in kindergartens [Carraway-Sage et al., 2013]), challenge teachers’ ability to implement these play centers.

Conclusions

The myriad of ways in which the teachers in this study discussed how food and nutrition
experiences are embedded in their kindergarten classes illustrates the complexity of kindergarten
food familiarization opportunities, a finding that merits further research for two reasons.

First, there is a need to explore the findings with larger samples of kindergarten teachers. While
teachers described the importance of providing children with healthy foods and their intentions
to employ practices to help children develop healthy eating behaviours, it was clear that a variety
of factors often frustrate these teachers’ efforts. For example, while the present study found a
need to increase teachers’ nutritional knowledge about such subjects as healthy snacks, food
restrictions, and fast food brands, increasing knowledge alone will have little impact if the many
other intervening factors are not addressed.

Second, by examining the discussions with the concept of food familiarization in mind, the
present research found that a variety of different kindergarten food and nutrition experiences
were revealed that would have remained hidden had the focus been on the explicit nutrition
curriculum or foods offered at meals. For example, it became clear that children are being
presented with the conflicting message of unhealthy foods presented in a variety of “fun”
contexts. Research needs to explore if and how such contradictory messages undermine the
school’s healthy-eating nutrition messages. Given the amount of time children spend in
kindergarten classes, and considering how critical this stage is in developing long-term healthy
eating behaviours, the findings of the present study strongly suggest the need to explore ways in
which kindergarten can become the foundation of healthier food consumption.
References


Moore, S., Murphy, S., Tapper, K., & Moore, L. (2009). From policy to plate: Barriers to implementing healthy eating policies in primary schools in Wales. *Health Policy, 94*(1), 239-245.


Chapter 8: Results - Guys and dolls: A qualitative study of teachers’ views of gendered play in kindergarten

In this chapter I examined teachers’ message board discussions and conducted interviews with teachers that focused on their perceptions of boys’ and girls’ play in kindergarten. This analysis provides a partial answer to my second research question: What are kindergarten teachers’ attitudes towards, preferences regarding, and understanding of kindergarten play-based teaching and nutrition programs?

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While I did not anticipate analyzing sex differences when developing my research questions, during my analysis I noticed differences in how teachers described girls and boys in kindergarten play. I turned to the literature and found there was an opportunity to write a manuscript on this topic. Additionally, with play now the foundation of Ontario’s FDK curriculum, an important goal for all those involved in curriculum development should be to examine curriculum for any gender stereotypes hidden in kindergarten play and work with Ontario educators to support more equitable play in kindergartens. Through adjustments I made to SNAK following this analysis I hope to have developed a preliminary draft of a play-based kindergarten program that is more accessible to both boys and girls.
Abstract

Drawing on data collected for a larger netnographic study investigating kindergarten teachers’ perspectives of play, the present study specifically examines teachers’ perspectives on play and gender. Findings suggest that teachers’ project onto their kindergarten students many of their own gender prejudices about play. These teachers reinforced gendered attitudes by encouraging students, especially the boys, to play only with toys and in activities traditionally associated with their gender. Findings support the contention that further research is needed to examine gendered play in kindergartens, and that kindergarten teachers could benefit from becoming aware of their unintentional teachings and in learning how better to encourage gender equity in play-based class activities.

Keywords: kindergarten; play-based learning; sociodramatic play; gender; netnography; qualitative

Introduction

School play

Play is an activity that can be used to help children learn subjects such as math, science, reading, and writing, as well as develop creativity and important social skills (Fisher, Hirsh-Pasek, Golinkoff, Singer, & Berk, 2011). In schools, play can be a motivating teaching method because children find play enjoyable, if simultaneously demanding because it requires certain social and cognitive skills (Pellegrini, 2009). Researchers have classified different types of play into such categories as locomotor and rough-and-tumble play (Burghardt, 2011). However, the most commonly studied form of human play, which will be the focus of the present article, is “dramatic play” (also known as symbolic, pretend, fantasy, or make-believe play), which refers to behaviours from real-life contexts (Burghardt, 2011). What this means is that the play
behaviour resembles a real behaviour, but does not serve that purpose, such as children pretending to prepare a meal in a dramatic play kitchen (Pellegrini, 2009).

Beyond building academic and social skills, researchers have argued play serves other important purposes in children’s lives. While engaged in play, children enact different social, home, and class roles (Dyson, 2003; Whitehead, 2004), model typical behaviours, and increasingly draw on cultural models and conventions experienced in their environments (Berk and others, 2006; Matheson and others, 2002; Ortega, 2003; Smith, 2005). Such behaviours are not unexpected, given that humans possess an advanced capacity for acquiring knowledge, attitudes, values, and competencies through observational learning (Bandura, 2002). Moreover, when children are playing according to the rules, roles, and tasks of their social worlds, they are becoming more aware of the social rules associated with these roles even though they may not be fully consciously aware of such regulations (Elias & Berk, 2002; Goncu & Gaskins, 2011). The belief that play serves the serious purpose of children’s acquiring skills and experiences has long been a central feature in play research (Bateson, 1987). In fact, one of the most influential play researchers, Vygotsky (1967), viewed play as central to children’s social, cognitive, and emotional development (Goncu & Gaskins, 2011). Vygotsky held further that children engage in play because they want to imitate adults and engage in activities that are beyond their actual years (Vygotsky, 1967). Extending such research, Pellegrini (2009) has suggested that play can be seen to serve an important role in shaping cultures, because behaviours established in childhood are transmitted through generations.

Along with these well-documented benefits of play, it is important to recognize that play, particularly in classroom settings, can also have negative consequences. Most relevantly, play has been found to be a developmental activity in which children learn about gender roles in unfavourable ways (Pidgeon, 1994; Wohlwend, 2012), such as in the modeling of stereotyped gender roles (Cherney & London, 2006; Logue & Harvey, 2009; Wohlwend, 2012). This aspect of play is troublesome, because gender role-playing can limit children’s experiences and contribute to gender inequity in educational settings (MacNaugthon, 2006). Currently there is
limited research focusing on kindergarten teachers’ attitudes towards gender and play, and none that uses the data collection method of the present study. Thus, the following two sections provide information on the issues of gender in the kindergarten classroom and the present article’s alternative data source for educational research

**Gender in kindergarten classes**

Research examining gender roles in kindergarten classrooms frequently reveals the perpetuation of stereotypes. Teachers regularly segregate kindergarten students based on gender primarily to facilitate transitions between activities (Chen & Rao, 2011). When interacting with children, teachers typically praise girls for their clothing, hairstyles, and nurturing behaviours, and boys for their physical size (Blaise, 2005; Chick et al., 2002). Additionally, teachers have been found to have more negative interactions with boys than with girls (Chen & Rao, 2011). However, teachers appear unaware that such seemingly harmless uses of gender and their comments can promote gender stereotype formation in children (Chen & Rao, 2011).

**Gendered play research.** Several studies have examined children’s play with toys. Boys and girls display differences respecting their favourite toys, with kindergarten girls in particular preferring more “feminine” toys (Cheney & London, 2006). Significant differences have also been observed in the dramatic play themes of boys and girls (Logue & Harvey, 2009). Yet it is a challenge to determine the extent to which children arrive at school with these gendered preferences already in place and the influence of the school environment. As observed, teachers interact differently with boys and girls in play, and many teachers reported stopping or redirecting boys’ play as compared with girls’ play, to the extent of discouraging boys from dramatic play (Logue & Harvey, 2009). Despite teachers’ describing outdoor play as gender-neutral, gender cues have been observed in everyday outdoor play practices, such as teachers’ designating certain play equipment as being only for boys (Arlemalm-Hagser, 2010). This is not to say that children always follow gender-stereotyped play activities (Arlemalm-Hagser, 2010).
For example, Wohlwend (2012) found that girls, while pretending to be princesses, would nonetheless play in ways that both enforced and contested gender expectations. And Blaise (2005) found similarly that boys would sometimes contest gender roles by playing with dolls.

**Recommendations.** Recommendations for how teachers can orient play in their classrooms to improve gender equity – that is, to provide equal play opportunities for both boys and girls – have troubled more than resolved the problems. Some researchers have recommended that teachers openly challenge gender norms in their classrooms by discussing with students such topics as why certain gender roles are in place and how these roles came to be (Blaise, 2005). Yet others have argued that gender dualism is so deeply entrenched that teachers’ attempts to eliminate it are futile. Moreover, children can find it difficult and sometimes very upsetting to engage in behaviours associated with the opposite sex (Davies 2003; MacNaughton 2006). Boys who stray from the traditional boy activities can suffer high emotional and social costs, including bullying and exclusion (Renold, 2004). Such findings help to explain why children often continue in stereotyped play even when adults strive to create equity (Jordan, 1995).

**Summary.** While much can be learned from these studies, there remained a few gaps that the present study aimed to fill. First, much of the extant research focused exclusively on observations children’s interactions and did not include teachers’ perspectives and influences on gender socialization (Blaise, 2005). Second, the majority of the previous studies involved researchers requiring the cooperation of teachers (not to mention principals, parents, and students) to allow for observations in their classrooms (Blaise, 2005; Renold, 2004; Wohlwend, 2012). For example, in Blaise’s (2005) study, the teacher of the class under observation described herself as a political activist dedicated to gender equity and informed of various gender discourses that influenced her teaching. So, it is fair to question whether teachers who have a strong invested interest in gender equity represent typical teachers.
Alternative data sources

One promising addition to traditional data collection methods, such as interviews and questionnaires, can be found in social media data (Wilkinson & Thelwall, 2011) and the methodology developed to study this data: netnography (Kozinets, 2010). Teachers have been increasingly using social media sources, such as message boards, to discuss their opinions on such topics as educational policies. Message boards can be an important outlet for teachers, as the forum provides emotional support and a sense of community to this group of professionals who may not find such elsewhere due to time, scheduling, and geographical constraints (Hur & Brush, 2009; Nicolson & Bond, 2003; Stitzlein & Quinn, 2012). Moreover, message boards can allow teachers to discuss their opinions with a wider range of teachers than those in their immediate environments, which helps counter teachers’ feelings of being isolated from other teachers who share their views (Hur & Brush, 2009; Kidd, 2013; Stitzlein & Quinn, 2012). The use of social media data diminishes some of the self-representation bias found in other methods, as the messages are posted online by teachers who could not have foreseen their being used in a study. With the growing popularity of the internet as a medium for public discussions, social media sites have been proven increasingly attractive to researchers (Corley, Cook, Mikler, & Singh, 2010; Hoffman-Goetz & Donelle, 2007; Meier, Lyons, Frydman, Forlenza, & Rimer, 2007).

Netnography. To study social media data using a qualitative approach, researchers use netnography. Netnography is a research methodology that maintains the same goal as ethnography but adapts its research to study social media (Kozinets, 2002), for present purposes, teachers’ message board discussions. As a qualitative approach, netnography aims to offer propositions that can inform future research, not to generalize to a wider population. Its results increase the store of particular knowledge, encourage broader and new perspectives, and generate hypotheses (Kozinets, 2010). Netnographic research has been successful in analyzing discussions from groups, similar to teachers, who have strong social media presences. For
example, researchers have examined the social media discussions of groups who have expressed feelings of isolation, such as new mothers, child care providers, and teachers (Hur & Brush, 2009; Lynch, 2011; Lynch & Batal, 2011; Stitzlein & Quinn, 2012). Researchers have also studied active online communities of people with chronic illnesses, such as asthma, celiac disease, and depression (Copelton & Valle, 2009; Seeman, 2007); aboriginal women (Hoffman-Goetz & Donelle, 2007); and online groups of cancer survivors (Meier, Lyons, Freydman, & Rimer, 2007). These studies have all resulted in directions for future research and practice in their respective fields.

**Summary.** In short, social media discussions and netnography offer an innovative and timely data source and methodology that can allow researchers to derive useful insights into teachers’ opinions to use for future research, with the ultimate goal being, of course, to improve school programs. In the present study, that goal specifically encompasses the reinforcing of gender stereotypes and revealing such unintentional teaching.

**Objectives**

In sum, limited research is available on kindergarten teachers’ attitudes towards gender and play, especially from sources other than those employing interviews and questionnaires. This is an important area to address for a couple reasons. First, as detailed above, while engaged in dramatic play, children imitate roles and actions they have observed in their environments, typically the adult members of their communities (Kavanaugh, 2011): in kindergarten classes those adults are the teachers. Second, play has been assuming a larger part in the kindergarten curricula. If both girls and boys are to benefit from a kindergarten play-based curriculum, play needs to be studied for its negative potential, as opposed to the dominant focus only on positive outcomes.
The larger study that gave rise to the present article used netnography to explore kindergarten teachers’ social media discussions about play-based teaching and play in kindergarten classrooms, combined with follow-up interviews with different teachers (as in, teachers who did not participate in social media discussions) to explore some of the novel findings. That data revealed a number of findings pertaining to gender roles and stereotyping. Consequently this article: an exploratory study focusing on kindergarten teachers’ perspectives on classroom play and gender.

**Ethical approach**

Before proceeding, I would like to provide some information on the ethics involved in netnographic research. Currently, there is no clear consensus on ethics in netnography (Kozinets, 2010; Langer & Beckman, 2005; Paechter, 2012; Reichman & Atzi, 2012). For many researchers, one of the most appealing aspects of netnographic research is the unobtrusiveness of collecting conversational data. Some researchers describe contacting message board administrators to obtain permission to study the message board discussions (Brady & Guerin, 2010; Hur & Brush, 2009). Other researchers do not mention any ethical issues at all, stating that they are examining data posted in a public domain (Copelton & Valle, 2009; Hoffman-Goetz & Donelle, 2007; Langer & Beckman, 2005; O’Reilly, Berger, Hernandez, Parent, & Seguin, 2012; Stitzlein & Quinn, 2012).

For the present study, I followed the ethical considerations suggested by McDermott and colleagues (2013) when selecting message boards to include in their netnography. First, I considered: What are the participants likely expectations of privacy? In order to only include discussions that could be considered public, I developed study inclusion criteria that would only include message boards that did not require membership, registration, sign-in, and were publicly accessible through a popular search engine. Second, I considered: To what extent may observations potentially harm participants? I did not believe my research posed a threat to
participants on the message boards. As stated earlier, I was not researching a topic that would be considered sensitive, the participants were all literate adults, and my results were intended to only be published in peer-reviewed journals, not in the popular media. Additionally, the teachers participating in message board discussions already have anonymized profiles. That is, teachers were not using their real names or providing personally identifying information in their message board profiles (or discussions, as far as I observed during my netnography). Still, in line with past netnographers, I anonymised the data by not reporting any of the names of the message boards or participants studied (Reichman & Atzi, 2012). Consequently, for my netnographic research I did not seek informed consent from participants, as I concluded that the social media I was analyzing was considered to be in the public sphere.

**Methods**

**Data collection**

**Social media data.** I entered the phrases “teacher message boards,” “teacher forums,” “teacher discussions,” and “teacher chat” into the commercial internet search engine Google. This process was repeated as a second step, with two additional measures: applying the “discussions” filter and adding the term “inurl: forum,” which would provide results from forums that may have been missed in the first search (Wilkinson & Thelwall, 2011). These two searches returned hundreds of results that were searched to determine which were teacher message boards.

Message boards were selected for inclusion in the study using selection criteria as follows: i) required to be publicly available with no fee-based membership or password protection; ii) required to identify as providing a discussion forum for teachers (based on the name of the board and an examination of the board’s self-description, located on the main page); iii) required to be published from 2008; and iv) required to be written in English. As a result, message boards were excluded from the study if they required a fee or password, did not self-identify as discussion
boards for teachers, were prior to 2008, or were written in a language other than English. Boards were rejected if any one of the exclusion criteria were met. In total, seven message boards met the inclusion criteria. All discussions related to play and play-based teaching were saved as PDFs for analysis. From these, any instances of discussion relating to gender, boy, or girl were analyzed for the present article.

Researchers using social media discussions are encouraged to take precautions to ensure valid data (Kozinets, 2010). I heeded these precautions during my nearly year-long teacher social media discussions data collection and analysis period. Following the recommendations of Puri (2007), I only selected message boards that provided user profiles, I examined the content of individual posts to check for consistency over time, and I collected discussions from seven boards, as opposed to relying only on one. This careful and prolonged observation of the social media data allowed me to better trust the online discussions (Kozinets, 2010; Wallendorf & Belk, 1989).

**Interviews.** Following analysis of the social media data, semi-structured interviews were conducted with a purposive sample of kindergarten teachers working in two Canadian educational jurisdictions where full day kindergarten is currently in place. In-person interviews were conducted with three teachers over the span of two days in January of 2013, lasting between 28 and 61 minutes in length. Interviews were digitally recorded and transcribed verbatim. Email interviews were also conducted with four other kindergarten teachers. In both cases, interview questions were developed based upon the results of the social media discussion analysis.

**Analysis**

All data were analyzed using a combination of inductive and deductive coding. I analyzed the data with the understanding that although I began with some knowledge of gender in
kindergartens, I needed to remain receptive to different themes emerging from the message-board discussions. Thus, I began by using the relevant academic literature on gender in kindergarten and gender and play to establish themes to organize the data. These themes were continually refined, meaning that the final outcome moved beyond the initial categorization (Hollander & Gordon, 2006; Pope and others, 2000; Strauss & Corbin, 1998). During the process of my analysis, I moved from a description of the data, which involved organizing it to show themes, to interpreting the themes to examine how underlying ideas and factors could be identified as influencing the content (Braun & Clarke, 2006).

**Results and Discussion**

Message board data were collected for three months at the beginning of 2013. In total, 7 publicly available message boards were identified as including 78 distinct discussions by kindergarten teachers about play-based teaching that were analyzed over a six month period. From this larger sample, 11 gender discussions were identified. While limited information on the participating teachers was available, it was possible to collect some basic information on them, depending on what they chose to reveal in their profiles. The overwhelming majority of the participating teachers were female who identified as residing in the United States.

Data analysis revealed that teachers discussed gender in ways that were categorized into three themes. The first, “Dramatic play is for girls,” represents the most prevalent and important theme, and is therefore discussed at greater length than the second, “Resisting stereotypes,” and the third, “Boys’ play issues.” Due to its importance, the first theme was explored in interviews with teachers, whereas the second and third represent themes that could be explored by future researchers.
Dramatic play is for girls

The overarching theme of the teachers’ discussions reflected the existent research examining teachers’ beliefs regarding children’s play. Namely, that girls and boys prefer different toys and play, and that dramatic play is for girls (Cherney & London, 2006; Logue & Harvey, 2009). To erase this radical distinction, teachers are encouraged to make classroom play less gender stereotyped by encouraging girls to participate in building block activities, by providing dress-up clothes that are androgynous, and by having toys with multiple functions (Fromberg, 2005). Regardless, such recommendations were rarely the subject of online discussions. Contrarily, teachers often stated that the classroom play area was inadequate if it did not contain the “right” toys for each gender:

* I wish the girls could just play with dolls sometimes at the end of the day and I don’t have any for them. The boys have so many things to play with like cars and Legos - so I feel bad for the girls.

But teachers also sometimes described how “the girls are always taking over [the dramatic play] area, so every other day, I make sure the boys have a turn there, and the girls take over the Block Area.” Yet when discussing play in her class, another teacher questioned if boys and girls should even be playing together: “Is kitchen a free choice or a mixed group rotation? All girl or all boy or mix it up?” One teacher responded to this query that “during choice time my boys also play with the girls in the house corner,” a comment that further suggests a belief that girls “own” the dramatic play area. Concurring with the findings of previous research, these gendered play attitudes were not questioned, nor did anyone suggest making available toys and activities that could be enjoyed by both genders (Chick and others, 2002). This was also seen in the teacher interviews, making it unclear if teachers are aware of how the centre’s theme impacts boys’ participation. One interviewed teacher commented: “the girls of course love the house centre but some boys were regular visitors.”
The following two sub-themes illustrate a couple of possible reasons why teachers (usually unknowingly) encouraged girls and discouraged boys from dramatic play: one, teachers appeared to be unaware that girls’ greater interest in dramatic play may be an effect of the set-up of the dramatic play area; and two, girls have many more “options” than boys during play.

**Dramatic play as an area of femininity.** First, the set-up of a kindergarten dramatic play area is especially relevant for encouraging gender equity, given that boys usually avoid activities and toys, specifically dolls, that are strongly associated with femininity (Davies, 2003). Unfortunately, in a discussion about dramatic play centers, one teacher described the feminine bias in traditional dramatic play centres: “In one of my centers I will have a kitchen set up, baby dolls with a crib and stroller, dress up.” Another teacher described a similar view of play: “I often feel that most of my activities are girls-oriented. All the small and big puzzles, dressing ups, etc., my boy usually just sits by himself and plays with cars while I help the girls with puzzles, or dress-ups.” Such a set-up constitutes a gendered play setting, where girls (and the teacher) engage in one form of play while the only boy in the class is excluded. However, there are alternatives to these constructions of the dramatic play area.

For example, Anggard (2011) described a dramatic play setting that encouraged boys’ participation by involving activities that are not classified as girls’ activities, such as pretend fishing and cooking over a fire pit. Nor did this play set-up include dolls or other toys connected to femininity. A similar example emerged from the teachers’ discussions, where one teacher described how interested the boys in her class were in dramatic play:

> Trust me the boys love it as much as the girls, even when it’s simply a house. Boys love to role play and are happy to play house, or whatever you turn it into. We had a pet store last month at the kids’ insistence. The boys were the ones who started that. They made price tags for all the stuffed animals in the room and put them all in the kitchen center. They asked for a cash register and a few other props. It was great.
Noteworthy here is that the teacher appeared unaware that her atypical dramatic play area (which no longer included feminine toys and activities) may have been the reason for the increased interest from boys. Interestingly, all interviewed teachers reported opposite sentiments when asked directly about the popularity of the play centre for boys versus girls, stating how the centres are equally popular for both. One teacher reported that “In our classroom, dramatic play seems to be quite equal between girls and boys but perhaps that is because we see and value the play in many areas both inside and outside.” Another teacher commented that “I find that both boys and girls go there equally. We have turned our Dramatic Centre into a garden, McDonald’s, Fortinos, Santa’s Workshop and now it is a Tim Hortons.” Another teacher reported “It is popular with both boys and girls. It is used for more than just “kitchen” or “house”. Right now it seems to be a puppy farm a lot. It has also been a pirate den, a home for zombies, a home where zombies are not allowed, a pizza shop, a coffee/hot chocolate stand.”

In contrast, another teacher was well-aware of making her dramatic play area attractive to boys, as she described the importance in labelling the dramatic play area something “exciting” (albeit implying that girls enjoy boring play activities): ““Housekeeping” sounds like maid’s work. “Dramatic Play” makes it sound so much more exciting, and doesn’t sound as though it’s “women’s work.” How about “Home life”???”

Another teacher described what can happen when boys show interest in the more traditional girl-oriented dramatic play area:

One of the new Math things I placed in the Math Area ...More of the boys like it better than girls. What is it with Math that scares some girls away? I enjoy Math! We had this one boy that kept dressing up with the dresses and high heels. He kept putting together some of the most unthought-of combinations & he kept us laughing with his Creativity.

This quotation highlights an attitude that contributes to the creation of a gendered dramatic play area. While not particularly relevant to the present discussion, I would draw attention to the teacher’s word choice when she describes girls as being not simply disinterested in a math
activity but actually scared of it. More related to the present discussion, the above passage exemplifies how entrenched gendered attitudes can be, as it was perceived as abnormal for a boy to dress up, even during pretend play. Finally, this teacher’s attitude lends support to the findings of other research showing that children reinforce gender attitudes during play, such as it not being “normal” for boys to be interested in make-up (Blaise, 2005).

**More play options for girls.** Second, while the preceding theme illustrated that it is unacceptable for boys to engage in girls’ play activities, the converse does not apply to girls, which results in girls having more options and opportunities in play. As one teacher illustrated:

> My youngest has a bag full of play tools that I will rotate in and out. Having two daughters, I'm sadly lacking in "boy" dress up stuff (I hate boy/girl labels but princess dresses are most definitely girls *most of the time*) so I'm going to have to find some stuff (we do have a Darth Vader costume but it's sized for a 7 year old and my oldest DD won't let me use it. We also have batman play sets that I will cycle in and out as well.

Another teacher had this recommendation for the dramatic play area: “Throw in some of the tools typically found in a home – a screwdriver, a hammer, maybe a workbench – for the times when the mommy or daddy has to fix something.” The views of these two teachers represent the restricted range of activities that are considered acceptable for boys as compared to girls (Browne, 2004; Jordan, 1995). It is not perceived as abnormal for girls to play with toys and activities that are traditionally designated for boys (Darth Vader costume and batman play sets, handyman tools), but toys and activities designated for girls (princess dresses and high heels, housekeeping activities) are conceived as holding no attraction for boys. As described above, it being known that children enter kindergarten showing a preference for gender-stereotyped toys and activities (Cherney & London, 2006), teachers need to play a more active role in helping children view and engage in play differently (Browne, 2004; Blaise, 2005; MacNaughton, 2006). For example, Chick and others (2002) found instances where teachers encouraged boys to participate in traditionally female dominated activities, such as dressing up in skirts. Still, as demonstrated in the present study, the dramatic play area remains a setting where teachers,
believing that boys and girls should engage only in gender-stereotyped play, mostly perpetuate traditional gender roles and notions of appropriateness by segregating students and determining acceptable activities based on gender.

**Resisting stereotypes**

As the discussion thus far has shown, confirming past research, play is often an area where teachers reinforce gender boundaries and traditional gender roles (Browne, 2004; Wholwend, 2012). Nevertheless, it is important to note is that there were instances in the discussions where gender stereotypes were challenged, as in the following where a teacher described the play area’s popularity with boys and girls: “I can’t wait to introduce the literacy ideas this year. I loved how both genders really enjoyed this center last year!” Another teacher encouraged boys to play in the house area: “My boys don’t always play in the kitchen, but, when they do play w/ the baby dolls, I tell them that it is very important to learn how to be a good dad. And, by the way, my 2 nephews have always loved to play restaurant and even talk about opening their own someday!”

Most interesting were the responses to the following scenario posted by one teacher:

> Next year I'm moving from 1 to Kindergarten. The room is sparsely equipped. I was thinking about a wooden kitchen set for dramatic play. I was also thinking that it can be turned into the grocery store, restaurant etc...my principal thinks it’s too gender specific and doesn’t want to spend the money

Teachers replied with annoyance: “Grr, your principal is too gender-specific. Where would he get the idea that boys can’t play with a kitchen set? The 1950s?” Another supported the use of the dramatic play area for boys: “The kitchen set can be used for many things (restaurant, grocery store, post office, etc.) My boys love it and have lots of fun.” Such comments as these hold promise of teachers’ assuming more active roles in helping to change children’s (and other teachers’ and principals’) stereotypical views of gendered play.
Boys’ play issues

The final theme also confirms previous research showing that teachers interact more with boys than girls, and that this increased attention is often in the form of negative interactions (Chen & Rao, 2011; Chick and others, 2002; Jones & Dindia, 2004). Because being a trouble-maker is seen as trademark boy behaviour, some teachers will not encourage boys to behave otherwise, lest they be teased for acting “feminine” (Jordan, 1995).

On the teacher discussion boards studied here, one posting highlighted this boys-are-trouble-makers perception:

"My kids have free play in the morning while my assistant and I are working at tables with small groups. Lately the free play has gotten out of control due to a handful of boys - they are running around, playing inappropriately, basically getting really worked up. I am looking for some ideas on how to better manage this time so have a peaceful but fun classroom."

Encouragingly, and distinctively from findings in previously described literature, the teacher’s initial posting was followed by responses from teachers who did not identify the boys as the problem. Instead, responders made suggestions about possible resolutions related to group size: “Is there some way to incorporate some of those boys into your small group activity?”; to time spent in play: “How do you currently manage free play time? What activities are available to the children and for what amount of time?”; and to classroom arrangements: “Many of my running issues can be solved by rearranging the room. Not to remove choices but to just make paths that aren’t like bowling alleys.”
Conclusion

Play is inarguably an important childhood activity that provides children with opportunities to test out new roles and practice newly developing behaviours that they will transfer to their real lives (Pellegrini, 2009). Moreover, kindergarten children’s play is a seminal occasion for the formation of gender identity (Wohlwend, 2012). Past research into gender and play in kindergartens has focused on observing children’s play behaviours, neglecting to examine teachers’ influence on children’s behaviours (Blaise, 2005). Thus, the present study is unique for drawing upon a novel data source and methodology to learn more about how teachers project gendered attitudes and beliefs about play onto their kindergarten students.

Following a netnographic study of kindergarten teachers’ message board discussions about gender and play, analysis revealed that teachers discuss play in ways that often promoted, but in some instances challenged, gender stereotypes. The major theme identified in this explorative study referred to teachers’ describing dramatic play in ways that viewed it as more appropriate for girls than boys, a theme that was further explored in interviews with kindergarten teachers. This examination was particularly interesting as all interviewed teachers described their classes as promoting gender equitable play between boys and girls. From a research perspective, I agree with Arlemalm-Hagser (2010), Browne (2004), and Blaise (2005) that we need more action research on ways and means to help teachers organize their classroom play activities in more gender equitable ways. Building on these and other such findings, future studies might encourage kindergarten teachers to create and promote opportunities for play that are more inviting for boys and avoid gender stereotyping (Renold, 2004). As shown in the present study’s sampling of teachers’ posted discussions and interviews, dramatic play areas can be created in ways that provide opportunities for both boys and girls to engage in dramatic play (attested, for example, by the teacher who described setting up the dramatic play area as a pet shop). Equally important, teachers need to be encouraged towards heightened self-awareness of how their behaviours and beliefs can model detrimental gender stereotyping for their impressionable students.
Limitations

The present study is limited in that its sample is of teachers who participate in message board discussions and a purposive sample of teachers for the interviews. Therefore, its findings regarding teachers’ perspectives cannot be generalized to all kindergarten teachers. But while social media data may not be globally representative (which applies to all qualitative research), the sample nonetheless reliably shows the ways in which teachers discuss gender in relation to kindergarten play, and thus the findings are qualitatively interesting (Rowe, Hawkes, & Houghton, 2008). Moreover, as already described, the findings are important in terms of investigating the issues raised with other samples of teachers and drawing upon other methods.

Future research recommendations

Researchers might expand on the examination of netnographic findings initiated here and compare aspects of the present netnographic study and traditional data collection methods. For instance, researchers could observe teachers reactions to students acting in non-traditional gendered play. Furthermore, the findings are especially relevant (and the subject of gender stereotyping deserving of further investigation) in an educational climate where play is increasingly a part of the kindergarten curriculum. If both boys and girls are to participate fully and benefit optimally from kindergarten play-based curricula, then classroom play settings need to be critically examined as sites of gender stereotype formation. As the present study demonstrates, it is important that all of us – teachers and parents and researchers alike – become more aware of the gender stereotyping both apparent and latent in kindergarten play and to work towards more equitable dramatic play in kindergarten environments.
References


Chapter 9: Results - SNAK Development

Chapters 9 and 10 represent the practical contribution of my dissertation: a preliminary proposed draft of the play-based nutrition education program, SNAK. Chapter 9 describes how SNAK evolved from its initial form in Chapter 2 when it was based only on relevant literature and SCT to its current form that includes findings from the curricula analysis and netnography.
SNAK Development

Introduction

This chapter describes the impact of the previous results chapters on SNAK’s development. There were 2 objectives I was aiming to achieve while developing SNAK: First, I developed the core aspects of SNAK that recognized the importance in both an educational program having a theory-based, age-appropriate design (as reflected in the initial draft of SNAK detailed in Chapter 2). This first objective of developing the core components refers to the theoretically important aspects of a program that need to be emphasized in terms of teacher fidelity (Durlak & Dupre, 2008).

The second objective focused on learning about teachers’ perspectives and experiences with play-based teaching and healthy eating in kindergartens by drawing upon both traditional and innovative methods. I aimed to gain an understanding about how to develop SNAK so it best incorporated their teaching needs and preferences. This research enabled me to experience firsthand the need for collaboration between researchers and practitioners in order to create programs that are flexible to different kindergarten teachers and classes’ needs (Dusenbury et al., 2003). This second objective represented developing the less central features of the program that can be altered depending on the school to achieve a good ecological fit (Durlak & Dupre, 2008).

To review, in Phase 1, I undertook two different analyses: first, Canadian kindergarten healthy eating curricula and second, a netnographic study to understand the broader social environment of schools, thereby considering the different barriers to adoption, implementation, and sustainability, which is a crucial aspect of DI theory (Oldenburg & Glanz, 2008). The goal of Phase 2, which is detailed in this chapter, was to further develop and refine SNAK based on
findings from the curricula analysis and a netnography consisting of social media discussion analysis and interviews with teachers.

**Canadian healthy eating curricula**

Findings from the analysis of the current provincial and territorial government kindergarten healthy eating curricula greatly impacted SNAK from being developed according to SCT concepts, to incorporating common features from other curricula. Two areas in particular were drawn upon while developing SNAK: CFG (Health Canada, 2009) and Ontario’s FDK. This section on curricula concludes by describing how a third area (two other educational program documents) was also important, albeit to a lesser extent than the previous two areas.

**Importance of CFG.** I became aware of how prevalent CFG (Health Canada, 2009) is in Canadian kindergarten (and particularly how much it is used in upper grades) nutrition education, and in line with DI theory, I recognized how it would be beneficial to include familiar concepts (such as introducing CFG), but in ways that translate CFG recommendations into behaviours, as opposed to memorizing food groups for the purpose of knowledge acquisition. Consequently, in SNAK, “healthy eating behaviours” are defined as reflecting the recommendations for amounts and types of foods from the four food groups that comprise CFG (Eating Well with Canada’s Food Guide, 2007) (Table 9.1), such as choosing low-fat, low-salt, low-sugar foods. At the same time, SNAK, much like CFG, is modifiable to including multicultural foods.
Table 9.1: Eating Well with Canada’s Food Guide (2007) Recommendations

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Example of Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetables and Fruit</td>
<td>Eat at least one dark green and one orange vegetable each day</td>
</tr>
<tr>
<td>Grain Products</td>
<td>Make at least half of your grain products whole grain each day</td>
</tr>
<tr>
<td>Milk and Alternatives</td>
<td>Select lower fat milk and alternatives</td>
</tr>
<tr>
<td>Meat and Alternatives</td>
<td>Select lean meat and alternatives prepared with little or no added fat or salt</td>
</tr>
<tr>
<td>Oils and Fats</td>
<td>Include a small amount of unsaturated fat each day</td>
</tr>
</tbody>
</table>

Description of CFG. CFG (Health Canada, 2009) provides specific serving sizes for 4-8 year olds that promote health and was created based on research into the context of food behaviours and availability in Canada (Katamay et al., 2007). Similar to how CFG was created to be modifiable to the multicultural population of Canada (Katamay et al., 2007), SNAK was created in a way to provide structure and suggestions for teachers, but also be modifiable to meet the differing backgrounds of students and needs of differing schools. That is, if there are a variety of cultural backgrounds in a class, SNAK’s centres can be set up to reflect and teach students about different foods and practices in different cultures. For example, while one of the centres is a restaurant, the specific type of restaurant can be changed to reflect the different cultural backgrounds of the children and can therefore be used as a tool to teach the class about different cultures.
This aspect of encouraging culturally appropriate healthy foods for SNAK is strengthened by including internet resources on this topic in the preliminary proposed draft of the SNAK teacher protocol. Teachers are encouraged to visit Nutrition Tools for Schools’ internet resource “Healthy Culturally Appropriate Foods” (2014) and Eat Right Ontario’s “Healthier Choices for Multicultural Cuisines” (2014) for additional resources on how to incorporate multicultural foods into SNAK. Finally, in terms of the cost to run the program, materials needed for SNAK can range from purchased food models and settings to donated empty food packages and existing materials to create settings.

**Integration of Ontario’s FDK program goals.** Additionally, drawing upon Ontario’s FDK curriculum goals became a crucial aspect of SNAK. “Integration” is the teaching technique that consists of using the curriculum goals to determine the knowledge and skills taught, but varying the approach depending on the specific focus (Carraway-Sage et al., 2013; Goldstein, 2007). Integrating nutrition education into other curriculum subjects, in particular, with mathematics and language, has been recommended by past nutrition education researchers (Watts, Pinero, Alter, & Lancaster, 2012). Integration is a particularly important concept for school-based nutrition program developers to consider in light of research that has suggested a minimum of fifty hours of nutrition programming is needed if the goal is to establish long-lasting behaviour changes (Contendo, Balch, & Bronner, 1995).

**Ontario’s FDK.** SNAK was refined to fit with the existing curriculum and guiding principles of Ontario’s current FDK established by the Ontario Ministry of Education (2010). As explained in the following section, integration was achieved in SNAK by weaving various subject skills from Ontario’s FDK into the healthy eating program, enabling teachers to cover multiple subjects at the same time.

**Nutrition education in FDK.** Regarding health, the FDK curriculum stresses the need for children to develop positive attitudes toward health from a young age and the importance in introducing children to concepts and behaviours that promote healthy lifestyles, referring to this
as being “health literate” (Ontario Ministry of Education, 2010, p. 128). Still, the nutrition component of the curriculum retains a focus on nutrition knowledge development. While teaching students about nutrition knowledge is important, the program could be extended to focus more on actual behaviours using the existing play-based teaching method.

For example, currently, as a way to develop children’s nutrition, teachers are encouraged to take their classes on trips to the grocery store to read nutrition labels. Teachers are also encouraged to question children “Why do we need to eat lots of fruit and vegetables?” and “Why is pizza a better snack than a doughnut?” (Ontario Ministry of Education, 2010, p. 131), as well as introducing children to CFG. Again, all of these suggestions are valuable, and represent the crucial “informational” part of any health program (Bandura, 2004). Not intending to replace these suggestions, SNAK aimed to extend these current activities and recommendations, and provide a more concrete play-based nutrition component to complement this existing informational component. For example, SNAK discussion suggestions build on the suggestion currently provided in the FDK: “After the children set up a store in the dramatic play centre, the teacher is encouraged to observe the kinds of items they have chosen to sell and asks them to talk about their choices” (Ontario Ministry of Education, 2010, p. 131).

**Integration of other FDK subjects.** Many parts of the FDK curriculum’s “Language” and “Mathematics” sections have been incorporated into SNAK by including language and mathematical principles and activities. For instance, a variety of different literacy opportunities exist in all three dramatic play centres, such as creating signs for the different sections of the grocery store. Math skills can be introduced by including different sorting and classifying games when arranging fruits and vegetables in the store, such as sorting all the fruits together, all foods that start with letter “b,” and arranging foods according to their sizes. These activities are all hands-on and encourage children to explore math concepts in concrete ways (Ontario Ministry of Education, 2010).
**Other relevant documents.** In addition to CFG and Ontario’s FDK curriculum, SNAK has also been based on two other important curricula documents: first, the Toronto District School Board’s *Dramatic Play in the Kindergarten Program* (2002). This document provides teachers with background information on the academic benefits of dramatic play, explains the value of dramatic play in the kindergarten classroom, and provides teachers with a variety of different ways in which they can incorporate math and literacy learning opportunities into different dramatic play areas. Many of these suggestions correspond with suggestions teachers reported using in the social media discussions (will be discussed in detail in the final section) and were incorporated into SNAK.

Second, British Columbia’s *Healthy Eating and Physical Activity Learning Resource* (2010) included a play-based nutrition program that is described as being based on latest research in healthy eating, physical activity, and social learning theory. This resource included teaching healthy behaviours in four dramatic play centres and explained the healthy eating objectives for each as well as principles and benefits of healthy eating. In addition to the program, an important point gleaned from this resource is that it reports how the program has already been used in schools throughout BC where teachers have described it being easy to deliver and enjoyed by students (British Columbia, 2010).

**Gender equitable dramatic play.** Given their crucial contributions to SNAK’s development, Ontario’s FDK program (2010), TDSB (2002), and British Columbia’s resource (2010) were examined to determine if and how they promote gender equitable play. Because this document examination was not a part of the article on gender and play in kindergartens (Chapter 8), the findings will be briefly described here.

There was no discussion regarding how to ensure that both boys and girls have opportunities and access to dramatic play centres in British Columbia’s healthy eating dramatic play program (2010). However, in both the Ontario FDK document (2010) and the TDSB dramatic play document (2002) gender is discussed, though to different degrees. In Ontario’s FDK (2010),
gender is mentioned in passing as one element of children’s identities that can limit their experiences. Interestingly, later in the document an example of a scenario in a dramatic play centre is given that reads as follows:

_A few of the children are role-playing at the “Fix-It Shop” in the dramatic play centre. Another child attempts to enter the play and is assigned a role by one of the children: “You can be the customer because you are a girl.” The other children in the group protest: “That isn’t fair. Girls can fix cars, too!”_ (p. 56, 2010)

While this scenario represents a positive example for reducing traditional gender stereotypes among girls, there is no mention of how boys are frequently dissuaded from dramatic play, which is much more problematic for a kindergarten curriculum based in play. The absence of gender equitable play discussions was somewhat surprising considering that Pascal’s (2009) report on early learning in Ontario specifically highlighted the need to help boys, reporting that boys are more likely to struggle in school settings as early as kindergarten (see page 12 of the report). With the FDK curriculum, ensuring that boys and girls have the opportunity to access play is essential, particularly given the research on gender and play discussed above.

However, TDSB (2002) presents the most attention to gender of the three documents, as teachers are asked to consider “How can children be encouraged to explore a variety of roles, and to transcend stereotypical gender boundaries?” (p. 12). Encouraging teachers to consider this question is promising. For both girls and boys to fully participate in play curriculum, school play centres should be taken seriously as sites of gender stereotype formation.
Netnography findings

By taking a netnographic approach to analyzing Ontario teacher discussions about FDK and kindergarten teachers’ discussions about healthy eating and play in kindergarten, I became more aware of the challenges teachers perceive with regards to implementing play-based teaching and nutrition education in their classes.

Play-based teaching. Teachers commonly questioned the benefits of play. One teacher explained how she does not have a dramatic play centre because more useful things take priority. A play benefits versus academic learning benefits was commonly found, and made it clear that there is a need to explain to teachers themselves that these two outcomes are compatible through teaching children in play-based class.

Similar opinions were found in comments specific to Ontario curriculum. In the online news article comments one teacher reported that “the play-based learning format is not meeting academic needs of students, grade 1 teachers and parents telling her that children are not ready to read and write by grade 1, and that literacy and numeracy learning is decreasing and that the program needs to be revamped to include more learning and not all play.”

Time constraints. Time constraints emerged as a main reason as to why children cannot spend class time playing. Teachers described there are no longer any “spare minutes in the day” left for play or how, at best, they try to “squeeze in 15 minutes.” In these discussions, typically, the end result was that teachers would stress the importance in making the play area a dual purpose, describing for example, the literacy opportunities in these play restaurants, sandwich shops, grocery stores.

Observable results. Second, another main theme that emerged regarding play-based teaching was how they do not believe a program or way of teaching works because they can’t “see” any
results. One teacher explained: “I’m finding it a little hard to work with these "play" based centres … I also find it hard to make sure they are really learning. It leaves me feeling not so confident at the end of the week.” These comments again illustrate how SNAK, though based on developing healthy eating behaviours, benefited by including some elements that allow teachers to “see” students progression, such as through other areas in math, literacy, hygiene, and food safety.

**Gender expectations.** Teachers were also found to reinforce gendered attitudes by encouraging the children, especially the boys, to play only with toys and in activities traditionally associated with their gender. From these discussions SNAK was adjusted to have a better chance that boys will find the dramatic play areas acceptable and traditional gender roles can be avoided.

**Examples of integrating various goals.** Although I did not discuss this in any of the results articles, another theme found in all three data were how open teachers were with providing examples of activities that developed math and literacy skills, such as integrating literacy skills into play activities. Indeed, in the social media discussions teachers described many examples of concrete ways the teachers have successfully included literacy and math activities in the play centre in their classes. Teachers posted about play centres needing to have a writing or literature activity in them – using menus and pretend money and calculators in restaurants to teach math, labelling food and putting food in alphabetical order, creating signs for the restaurant, having a pad of paper for the “waitstaff” to take orders, make a sign for the store by coming up with name, create menus from cutting pictures out of magazines.

**Nutrition education.** In terms of healthy eating and nutrition education, first, teachers spoke of the lack of curriculum for teaching healthy eating/nutrition in their kindergarten classes. One teacher expressed “there’s no curriculum for it and so I’m taking what I have from my primary health unit and trying to use that.”
**Challenges to including real food in classes.** Second, teachers expressed well-warranted fears regarding the contamination of foods that would be dangerous for children with allergies, presenting additional challenges to following the recommendation to allow children to snack whenever they are hungry. Teachers also described a number of factors that limited their abilities to cook, beyond allergies, such as needing parent volunteers, access to a stove, and class size.

**Enthusiasm for dramatic play.** Teachers described their enthusiasm for dramatic play areas, children’s enjoyment of them, and how they present efficient ways to combine various literacy and math activities in their classes. One teacher enthused “It is such a hit! We have a lot of “play, plastic food” in our classroom.”

**Fast food in kindergartens.** Teachers also spoke of using fast food brands as themes in the dramatic play centres. Teachers described food-themed centres that were turned into grocery stores, bakeries, McDonalds, and coffee or hot chocolate shops. These findings were worthwhile to consider, since children’s preferences for foods can be affected by fast food brand familiarity (Roberto, Baik, Harris, & Brownell, 2010; Robinson, Borzekowski, Matheson, & Kraemer, 2007). Additionally, considering the safety issues teachers described when cooking with their classes, dramatic kitchen play areas could be used to teach or test children on kitchen safety behaviours before they progress to cooking in real-life.

**SNAK summary**

Both the curricula analysis and the netnography had a great impact on developing SNAK beyond its initial form described in Chapter 2.

The curricula analysis introduced me to developing a better understanding of the current kindergarten curriculum in Ontario, which again was critical information to know according to DI, in terms of a new program needing to fit in with the current curriculum, and to draw upon
current concepts so as not to be introducing a brand new program that does not tie in with any other kindergarten curriculum objectives. Finally, specifically from the curricula analysis I learned about the play-based nutrition program developed by British Columbia’s Ministry of Education (2010), a program which I had not previously come across in my review of academic literature.

In the netnography, themes teachers described, such as feeling as though there was no time for play in addition to all of their other reaching responsibilities, resulted in consideration for how important it is to make sure that the nutrition program integrates subjects from the Ontario curriculum, such as language and mathematics. A similar analysis of kindergarten teachers’ social media discussions about healthy eating and nutrition in kindergartens yielded additional edits to SNAK. This analysis made it even clearer that teachers feel pressure to spend as much time as possible teaching children subjects with observable results. This reinforced my plan to integrate other subject areas into SNAK, so that it would be another way for children to learn other subjects in the kindergarten curriculum as well as healthy eating behaviours. Additionally, when first developing SNAK, I had not even considered how boys and girls could react differently to the dramatic centre themes, and I was surprised to learn teachers’ describing dramatic play in ways that viewed it as more appropriate for girls than boys. This unanticipated finding in the social media data resulted in modifying parts of SNAK to make it more accessible to both genders.

Thus, the preliminary proposed draft of the SNAK teacher protocol was created in a way to provide structure and suggestions for teachers, but also modifiable to meet the differing backgrounds of students and differing needs of schools. That is, depending on the cultural backgrounds of students in the class, the centres can be set up to reflect and teach students about the foods and practices in different cultures. Through sociodramatic play guided by teachers and older students in pretend settings of play kitchens, grocery stores, and restaurants, children would be encouraged to both act out and observe others modeling cooking, eating, and serving a variety of healthy foods.
References


Chapter 10: Results- Preliminary Proposed Draft of SNAK Teacher Protocol

Following from the previous chapter, Chapter 10 presents a preliminary proposed draft of the Teacher Protocol for SNAK. This draft of a teacher protocol represents a document that will need to be further developed and refined before SNAK can be piloted in kindergarten classes.
What is SNAK?

Key Points:

- Consists of three different food-themed sociodramatic play centres
- Objective is to have students role-play a variety of healthy eating concepts and behaviours, all in developmentally-appropriate ways that students can connect to their everyday lives
- Healthy eating recommendations drawn from *Canada’s Food Guide (2007)*
- Teachers play crucial roles in this program, through modelling healthy behaviours, encouraging students, and initiating discussions about food and eating
- Balances teacher-initiated activities, such as initiating discussions about eating meals that include a variety of foods, with student-initiated activities, such as students creating signs for the grocery store
- Developed to fit with the existing curriculum and guiding principles of the Full Day Kindergarten Program established by the Ontario government

How was SNAK developed?

Two main sources: 1) Kindergarten play-based curricula 2) Social cognitive theory

1) Kindergarten Play-Based Curricula

SNAK is similar to British Columbia’s *Healthy Eating and Physical Activity Learning Resource* (2010), a play-based nutrition program that is used in schools throughout BC. Kindergarten teachers have described the program as being easy to deliver and engaging for students. However, because SNAK will be in Ontario kindergartens, it has been developed to fit into the
Ontario’s Full Day Kindergarten (FDK) curriculum and the Toronto District School Board’s *Dramatic Play in the Kindergarten Program* (2002). While the main focus of SNAK is on developing healthy eating behaviours, the six learning areas in the FDK – personal and social development, language, mathematics, science and technology, health and physical activity, and the arts - have also been incorporated.

Specifically, while SNAK has been developed to fit into the “health and physical activity” subject area of the FDK program, sociodramatic play naturally builds the other five subject areas as well, particularly language and mathematical development. All three centres offer a wealth of opportunities to simultaneously develop reading, writing, oral language, number sense, measurement, spatial sense, patterning, and data management (Government of Ontario, 2010). For example, having students create a graph of the classes’ favourite meals in the restaurant involves developing students’ language, math, science, and social skills (Government of Ontario, 2010).

2) Social Cognitive Theory

Research has found the necessity in using theory to provide a backbone for school-based nutrition programs (McClain, Chappuis, Nguyen-Rodriguez, Yaroch, & Spruijt-Metz, 2009). For SNAK, Social Cognitive Theory (SCT) was used because this theory involves concepts that have been established as crucial factors in children’s healthy eating behaviour development (Aldridge et al., 2009; Brown & Ogden, 2004; Johnson, 2000).

In all three play centres there are certain aspects that must be the same. These are referred to as the “Core components” of SNAK and consist of SCT concepts (See Table 10.1 for a description of each core component). It is important that these aspects of the program are followed, but this still leaves teachers with room for modifications, depending on teacher and classroom preferences. In fact, modifying SNAK to best fit the class is encouraged, and it is important that the students play an ongoing role in shaping the play centre. However, how this plays out will
depend on the teacher and interests of the students in the class. In one class, if the students have many different cultural backgrounds, the type of restaurant might change frequently to reflect the diversity of the class. In another class, students may be more interested in creating signs and ads for the restaurant, so more time may be spent in this class changing the decor of the restaurant. In both cases, though, the important aspect is that students are playing active roles in designing their environment, known as the core component of “reciprocal determinism.” Teachers are encouraged to draw upon the resource created especially for Ontario schools “Healthy Culturally Appropriate Foods” (2014) (available at www.nutritiontoolsforschools.ca) as well as Eat Right Ontario’s “Healthier Choices for Multicultural Cuisines” (2014) (available at http://www.eatrightontario.ca/en/Articles/Dining-Out/Healthier choices for Multicultural Cuisines.aspx) for additional resources and ideas for how they can incorporate a range of healthy multicultural foods into SNAK.

Table 10.1: Core Components of SNAK

<table>
<thead>
<tr>
<th>Core Component/SCT Concept</th>
<th>How the concept needs to be part of the play-based nutrition program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reciprocal determinism</td>
<td>Involve students in the design and ongoing activities in the play centre</td>
</tr>
<tr>
<td>Facilitation</td>
<td>Dramatic play centres must be equipped with enough materials to foster behaviours</td>
</tr>
<tr>
<td>Outcome Expectations</td>
<td>Teachers and students from upper grades need to encourage positive associations with healthy behaviours through modelling and encouraging students when they demonstrate healthy choices and behaviours</td>
</tr>
</tbody>
</table>
| Self-efficacy              | Teachers must provide:  
1. opportunities for mastery experiences  
2. social modeling  
3. improving physical and emotional states  
4. verbal persuasion |
Collective efficacy | Teachers must encourage students to work together. Need to have a small group of students in the centre playing

Observational learning | Teachers and students from upper grades must engage with students in the play centre and teach through modeling behaviours

Self-regulation | Students need to take turns with different roles and activities in centres and working together

Incentive motivation | Teachers must acknowledge and encourage students when they demonstrate healthy choices and behaviours

### What does SNAK actually look like?

Each of the three different dramatic play centres are explained below in terms of the objectives, role-playing opportunities for students, materials needed, and discussion topics. Noteworthy is that each centre can be created to reflect the different backgrounds of the students in the classroom. Additionally, though some schools may invest in manufactured food replicas and props to create centres, such an investment is not necessary to run SNAK. Classes can also use cans and packages of real foods as toys and construct centre settings out of boxes and shelves, and such suggestions are provided below.

Next, activities from the FDK curriculum for language, math, social skills, art, and science that can be implemented at each centre are provided (See Table 10.2 for a summary chart).

It is important to note that while activities have been categorized as corresponding with specific centres, these are just suggestions and teachers are free to mix and match activities among the centres.

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1) Grocery Store

Objective:
- Students will have the opportunity to observe teachers or students from upper grades model, as well as role-play, choosing and purchasing a variety of foods.

Roles:
- Cashier, bagger, store manager, and customers

Materials:
- Space or corner of the classroom
- Tables or shelves
- Empty cereal and pasta boxes or other food packaging, plastic play foods, play cash register, play money, food coupons, reusable grocery bags, and small pads of paper for grocery lists

Discussion Topics
- Where foods are grown
- How much or little they are processed before they arrive at the grocery store
- Importance of vegetables and fruits as an important component of the diet
- Encourage discussions with students regarding what foods they are selecting and to think creatively about the different ways they could prepare the food. For instance, encouraging the students acting as customers to talk with the cashier about why they purchased an item.
Language activities:
- Create grocery lists by either writing or drawing pictures of foods
- Create their own flyers and coupons for the items in the class grocery store by cutting up other grocery store flyers
- Create signs for the store, labels and/or posters for different sections of the store or different food groups.
- The area can also have books about different foods available for students to read.

Math activities:
- Develop spatial awareness through interacting with different sized boxes and shapes of foods.
- Progress from examining how numbers are used in food labels and grocery ads and exploring the shapes of different foods, to more complex activities such as sorting and classifying possibilities for students when arranging fruits, vegetables, etc., in the store, such as sorting all fruits together, all red coloured foods, or all foods that start with letter “b”.
- Learn about money when acting as customers buying foods or as the cashier (counting, adding, subtracting play coins or bills). Depending on students’ abilities, this could be an opportunity to introduce real money or use play money.
- Create price tags for foods. At the cashier section of the centre, students can also be encouraged to estimate how many products can fit in each bag, an activity that develops spatial awareness.
- Introduce calculators
Social skills, Art, Science activities:

- Develop social skills by role-playing a variety of different roles in the grocery store, which also fits into the area of dramatic arts development.
- Develop social skills/negotiating/problem solving by having the students work together as a group to decide what to buy, which could be accomplished by giving students a set amount of money or number of items they are allowed to purchase.
- Develop science skills by discussing and appreciating where foods are grown and what is done to them before they are delivered to the grocery store.
- Strengthen fine motor skills through cutting ads.
- Develop visual arts through creating signs and posters.
- Discuss safety, in terms of food allergies, can be introduced as a consideration before buying foods, which can be particularly useful if have boxes with “peanut free” symbol.

2) House (kitchen and backyard barbeque)

Objective:

- Students will have an opportunity to observe, role-play, and discuss different aspects of healthy eating that occur in the real-life context of home.
- This centre will have students role-playing cooking and eating foods for themselves and one another. Students can role play a variety of scenarios, such as making breakfast before a school day, making an after-school snack, or preparing dinner on the barbeque.
- Students can plan and prepare healthy meals and snacks and Canada’s Food Guide can be introduced as a visual prop.
Roles:
- Various family member roles and friends

Materials:
- Space or corner of the classroom
- Empty cereal and pasta boxes or other food packaging, plastic play foods, large boxes that can be made into shelves and other kitchen appliances, children’s plastic dinnerware, small pots, pans, measuring spoons and cups, baking trays.
- Importantly, the home dramatic play centre has been described by teachers as a girl-dominated area, so teachers are encouraged to pay special attention to how they can encourage boys to participate, such as by eliminating dolls, dollhouses, pink-coloured props, etc.

Discussion Topics:
- Foods that can make a healthy meal or snack
- Whether foods taste sweet, salty, sour, etc.
- How foods are an important part of life, such as what foods are associated with birthdays and other holidays.
- Students can also be given the foods in grocery store bags and put away the groceries in the correct places in the kitchen. Such an activity can also result in a discussion of the importance of correct food storage, with teachers describing how cold foods need to be stored in the fridge.

Language activities:
- Create recipes on blank recipe cards and then learn how to follow sequencing of steps in recipe directions as well as creating “to-do” lists
• Create meal planning menus for the week
• Books about cooking can also be used in the centre

Math activities:
• Engage in different counting activities, such as the number of different foods in the kitchen, the number of plates/bowls/spoons, etc needed at the table
• After creating recipe cards they can practice basic adding in recipes when preparing meals; for example, to make a fruit salad add 1 apple + 1 banana + 2 kiwis
• Learn and practice using measuring cups/spoons and be encouraged to measure ingredients/foods
• Develop spatial awareness through interacting with different sized cups, plates, bowls, etc.
• Create different charts or graphs representing the most popular foods, snacks, and meals in the class

Social skills, Art, Science activities:
• Develop social skills when learning how to correctly set a table, learning and practicing table manners, and developing science skills by following the steps of a recipe and creating graphs
• Develop social skills through learning about students’ differing cultures by describing and making traditional meals for other students and describing what foods are associated with different celebrations (holidays, birthdays)
• Develop dramatic arts skills through trying out a variety of roles and dramatizing different cultural celebrations involving food.
• The house is an excellent setting to further teach students about food allergies and discuss differences between foods they can eat at home (if no one has allergy at
home) versus at school (where need to take into consideration allergies of students in class)

- Learn the importance of washing their hands before eating or handling food and safety in the kitchen – stove, hot water, etc. In fact, the kitchen could also be used as a setting to practice real-life cooking and safety behaviours and have students demonstrate to teacher before allowing students to participate in real cooking experience (if class has real cooking experiences planned).

3) Restaurant

Objective:

- Students will have opportunities to observe, role-play, and discuss healthy eating in the real-life context of a restaurant.

Roles:

- Customers, waiter/waitress, chef, restaurant manager

Materials:

- Space or corner of the classroom
- Children’s dinnerware, sample menus from restaurants, small table cloths and napkins, magazines and flyers containing photos of food, and pads of paper to use as order forms.

Discussion Topics:
• Choosing healthier options in restaurant settings
• Importance of variety of food groups at each meal
• Difference between feeling hungry, satisfied, and full

Language activities:
• Create menus by cutting pictures of food out of magazines and flyers, write and decorate signs for the restaurant, create ads for the restaurant, and create signs describing the “specials of the day.”
• When acting as the waiter/waitress, students can write down orders and read menus to customers. These activities can be easily scaled, such as by using a “picture choice menu” for students to circle what they want to order, should they not be able to read and write.

Math activities:
• Examine how numbers are used in menus, food labels, and ads
• Introduce and practice using money in the restaurant (counting, adding, subtracting play coins or bills), an activity that allows the teacher to introduce calculator. The chef can also measure ingredients or foods using measuring cups and spoons.

Social skills, Art, Science activities:
• Learn and practice proper hygiene practices when preparing and eating food, such as washing their hands before beginning any cooking activity. Students can also learn and practice food safety when ordering in terms of being aware of food allergies.
• Develop social skills by learning and practicing manners when eating at restaurants

• Again, many of the above-mentioned language and math activities fit into other areas, such as developing science skills through following the steps in a recipe, and developing visual arts and creative thinking through creating menus and other materials for the restaurant

• Develop dramatic arts through trying out a variety of roles and dramatizing different cultural practices in restaurant

• In particular, the restaurant centre can be a prime opportunity for developing positive learning experiences about the diverse cultural backgrounds of the students in the class, allow students from various backgrounds to see themselves reflected in the curriculum, and can be a way to involve students’ families in donating specific food products or volunteering in the class to help set up the restaurant to best reflect and teach the class about their culture. This point is especially salient for Ontario kindergartens, as they have some of the most multilingual student populations in the world, with a diversity of cultural backgrounds (Government of Ontario, 2010).
<table>
<thead>
<tr>
<th>Dramatic Play Centre &amp; Roles</th>
<th>Healthy eating behaviour activities</th>
<th>Language activities</th>
<th>Math activities</th>
<th>Social Skill, Art, Science, activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Centre 1: Grocery Store</strong></td>
<td><strong>Customers</strong></td>
<td>Observe upper grade students and teachers modeling and discussing healthy grocery store purchasing options</td>
<td>Create signs for the store, labels, and posters for different store sections, coupons, ads, shopping lists</td>
<td>Practice using money Introduce calculators Create price tags Examine how numbers are used in menus, food labels, grocery ads Explore the shapes of different foods Develop spatial awareness through interacting with different sized boxes/food shapes Sort and classify foods</td>
</tr>
<tr>
<td></td>
<td><strong>Cashier</strong></td>
<td>Practice choosing healthy foods in a grocery store</td>
<td>Read food-themed books</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Bagger</strong></td>
<td>Introduce and discuss Canada’s Food Guide recommendations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Store manager</strong></td>
<td>Discuss choosing, purchasing, and preparing a variety of foods</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Learn and practice safety with food allergies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centre 2: House (kitchen and/or backyard bbq)</td>
<td>Observe upper grade students and teachers making healthy food choices in home setting</td>
<td>Write recipes on blank recipe cards</td>
<td>Count the number of different foods, the number of plates/bowls/spoons, etc needed at the table</td>
<td>Learn and practice how to correctly set a table, table manners, hygiene, safety</td>
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<tr>
<td></td>
<td>Practice making healthy food choices at home</td>
<td>Write “to-do” lists</td>
<td>Examine how numbers are used in food labels</td>
<td>Develop science skills by following the steps of a recipe and creating graphs</td>
</tr>
<tr>
<td></td>
<td>Plan and prepare healthy meals and snacks for home and school</td>
<td>Write meal menus for the week</td>
<td>Develop spatial awareness through interacting with different sized props</td>
<td>Develop social skills by learning about different cultures</td>
</tr>
<tr>
<td></td>
<td>Practice food safety/hygiene practices</td>
<td>Read cooking-themed books</td>
<td>Make charts/graphs representing most popular foods, snacks, and meals</td>
<td>Develop dramatic arts through dramatizing different cultural celebrations involving food</td>
</tr>
<tr>
<td></td>
<td>Learn about food allergies</td>
<td>Follow sequencing of steps in recipe directions</td>
<td>Practice basic adding in recipes when preparing meals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduce and discuss Canada’s Food Guide recommendations</td>
<td></td>
<td>Learn and practice using measuring cups/spoons</td>
<td></td>
</tr>
</tbody>
</table>

**Centre 3:**

<table>
<thead>
<tr>
<th>Observe upper grade students and teachers</th>
<th>Write and decorate signs for restaurant, ads,</th>
<th>Practice with money</th>
<th>Learn and practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurant</td>
<td>Customers</td>
<td>Wait staff</td>
<td>Chef</td>
</tr>
<tr>
<td>---------------------</td>
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<td>-----------------------------------</td>
</tr>
<tr>
<td></td>
<td>choosing healthy foods off menus</td>
<td>Practice choosing healthy foods off menus</td>
<td>Discuss making healthy choices off menu</td>
</tr>
<tr>
<td></td>
<td>&quot;specials of the day&quot;</td>
<td>Read restaurant-themed books</td>
<td>Create menus</td>
</tr>
<tr>
<td></td>
<td>Examine how numbers are used in menus</td>
<td>Introduce calculators</td>
<td>Measure ingredients/foods using measuring cups/spoons</td>
</tr>
<tr>
<td></td>
<td>manners, hygiene, safety</td>
<td>Develop science skills through following recipes</td>
<td>Develop visual arts/creative thinking through creating menus</td>
</tr>
</tbody>
</table>
Chapter 11: Conclusions

In the previous two chapters, I described how a preliminary draft of SNAK was developed based on findings from the curricula analysis and netnography. Irrespective of my main thesis goal of completing these analyses to develop this early version of SNAK, the resultant manuscripts present independent contributions that have their own intrinsic value. Once again in most simple terms, key findings from the results chapters were:

- Teachers expressed being unable to use play-based teaching for reasons unrelated to their teaching beliefs
- Teachers described fast food themes in kindergarten dramatic play areas
- Teachers described using unhealthy treats as learning materials, in dramatic play areas, and for celebrations
- Teachers enthused about dramatic play areas and suggested ways to integrate various literacy and numeracy activities
- Netnographic findings often agreed with past research that used traditional methods, adding to credibility of netnography for applicable findings beyond online setting

In this conclusion chapter, I review my dissertation, describe my experience with netnography, and suggest future research directions. Table 11.1 summarizes the research objectives and findings from chapters 4-10. Table 11.1 is followed by a reflection of collecting teachers’ insights that compares netnography, in-person, and email interviews. Finally, I outline the study limitations and future research directions.
Table 11.1: Summary of findings of chapters 4-10

<table>
<thead>
<tr>
<th>Research Objectives</th>
<th>Data Source</th>
<th>Findings</th>
</tr>
</thead>
</table>
| Chapter 4: Analysis of Ministry of Education kindergarten healthy eating/nutrition curricula | 18 healthy eating and/or nutrition curricula obtained from ministry of education websites representing all Canadian provinces and territories | Positively, almost all curricula: encourage teachers to use student-centred implementation activities to teach healthy eating  
describe play research a forming basis of overall kindergarten curricula; some kindergarten curricula also describe using theory for overall curricula development (not specific to healthy eating)  
suggest teachers use various play and sociodramatic play activities to teach healthy eating  
However, many curricula:  
focus on nutrition knowledge acquisition, such as teaching children about CFG or categorizing foods, as opposed to increasing motivation to eat healthy or learn/practice healthy eating behaviours and skills  
do not use theory to develop healthy eating curricula  
do not draw upon concept of food familiarization in healthy eating curricula  
Overall, Canadian kindergarten healthy eating curricula analysis revealed many positive aspects to Canadian kindergarten healthy eating curricula that align with healthy eating behaviour literature; however, some areas could be expanded or modified to give students a better chance for developing long-lasting healthy eating behaviours (i.e. using CFG to teach behaviours and not just knowledge) |
| Chapter 5: Analysis of social media data                                             | 2 teacher message board discussions, 9 online news-article discussion sections | 3 themes: 1) Class size concerns, 2) Team teaching concerns, and 3) Play-based concerns  
Findings agreed with other research into teachers’ and ECEs’ views on FDK:  
Kindergarten teacher-ECE relationships are strained and would benefit greatly from clearer provincial-level |
preferences regarding, understandings of, and experiences with kindergarten play-based teaching?

| included Ontario kindergarten teachers discussing the Ontario FDK program. Email interviews with 3 Ontario kindergarten teachers working in FDK classes | direction regarding roles |
| Confusion over how children learn through play; puzzlement regarding the practical and pedagogical meaning of “play-based” approach |
| Need for further research with educators involved in Ontario’s FDK |
| Novel findings: |
| Class size discussed by teachers as much more of a concern than reported by past research |
| Netnographic findings agreed with past research into Ontario’s FDK that used traditional methods, adding to credibility of netnography for extending findings beyond online setting |

Chapter 6: Analysis of social media data
What are kindergarten teachers’ attitudes towards, preferences regarding, understanding of, and experiences with kindergarten play-based teaching?

| 7 publicly available message boards were identified as including 78 distinct discussions by American kindergarten teachers about play-based teaching. | 6 themes organized according to SET: Intrapersonal factors (negative beliefs about play, positive beliefs about play), Organizational factors (teachers, principals) Policy factors |
| American teachers often expressed that they wanted to use play in their classes but were unable to for reasons unrelated to their teaching beliefs, including policy issues |
| Social media findings were in broad agreement with existing literature on American teachers’ struggles to include play in their classes, demonstrating that such data may be more credible than previously believed |
| Teachers provided many example of ways to incorporate “academic” goals into play activities (this aspect was not discussed in the manuscript but was important in the development of SNAK, as explained in preceding program development chapter) |

Chapter 7: Analysis of social media data
What are kindergarten teachers’ attitudes

| In total, 7 publicly available message boards had been | Data was used to examine food and nutrition experiences as they relate to kindergarten food familiarization opportunities. 5 opportunities for food familiarization identified: nutrition lessons, snacks and meals, cooking experiences, food as props, and dramatic play centres |
### Chapter 8: Analysis of Social Media Data

What are kindergarten teachers’ attitudes towards, preferences regarding, understanding of, and experiences with kindergarten nutrition programs?

<table>
<thead>
<tr>
<th>Identified as including 28 different discussions</th>
<th>Novel findings:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview with kindergarten teachers from one private school and 4 email interviews with kindergarten teachers from Ontario (3) and British Columbia (1)</td>
<td>Teachers reported a multitude of interacting factors that made many research-recommended kindergarten healthy eating strategies impossible, such as allergies, safety issues, and large class sizes</td>
</tr>
</tbody>
</table>

- Use of fast food themes in kindergarten dramatic play areas were found in message board discussions, also reported in interviews, and should be further investigated.
- Unhealthy treats used as learning materials, in dramatic play areas, for celebrations should be further investigated.
- Teachers enthused about dramatic play food-themed areas, describing children’s enjoyment of them, and in suggesting ways to use them for various literacy and numeracy activities.
- However, also described challenges to having classroom dramatic play areas, including space, cost, pressures to spend time on academically-oriented activities as opposed to play.

In total, 7 publicly available message boards had been identified as including 11 different discussions.

- 3 Interviews with kindergarten teachers from one private school and 4 email interviews with kindergarten.

Examined teachers’ discussions of gender:

Teachers reinforced gendered attitudes by encouraging the children, especially the boys, to play only with toys and in activities traditionally associated with their gender.
Reflected on the insights gathered from a netnography of teachers’ social media discussions support the development of a kindergarten program? I used a unique combination of social media analysis, in-person interviews, and email interviews with kindergarten teachers to answer this question. Since I did not devote any of the manuscripts to addressing this question, in the next section I provide a reflection on my experience.

Specifically, I reflect on drawing upon three different qualitative data collection methods to explore the same research question (teachers’ perspectives and experiences with play-based teaching and healthy eating/nutrition in kindergartens). The following sections explore the similarities, advantages, and disadvantages I observed during my dissertation.
Similar findings revealed in all three data

This first section describes how certain themes arose in all three data. Teachers described the need to balance play with other implementation activities, expressed misunderstandings of the pedagogical benefits of play, and described similar challenges with healthy eating in kindergartens. These similar findings observed across all three data sources support the argument that netnographic findings of online groups may be representative of offline groups (Puri, 2007).

None of the teachers who were interviewed in-person participated in any social media teacher community. When asked directly if they participate in teacher social media, all three teachers explained that they already have a supportive community at the school. Of course, their lack of participation makes sense given the reasons for teachers’ participation in online communities include that they feel isolated from other teachers (Hur & Brush, 2009).

Balancing play with other implementation activities. Teachers described the need to find a balance between teaching through play and direct instruction. This often-voiced opinion represented a departure from the literature on play-based teaching, where there often seems to be more of an “all or nothing” approach, and teaching through play is promoted as the ideal approach. While play may theoretically be the best approach for teaching children, as described by teachers, in practice, teachers are faced with pressures from parents, teachers, and policies that influence their teaching practices.

Misunderstanding pedagogical benefits of play. Another important theme that arose in all data types was the misunderstanding teachers often expressed regarding the benefits of play. I initially found this puzzling, given the amount of research describing the literacy and math gains that can be accrued through play, a point that was also stressed in the curricula I examined. As this misunderstanding was such as prevalent theme, it illustrated the need to find other ways, beyond
descriptions in curricula, to describe how children can learn math and literacy through play if these goals are intentionally worked into the play-based program.

**Food familiarity.** In Chapter 7 of this thesis, I described how findings related to food familiarity intersected on several points across the different methods. For example, in both social media discussions and interviews, teachers described needing to develop their own nutrition curriculum; a finding that also jibes with past research that has reported teachers perceive a lack of explicit healthy eating curricula (Carraway-Sage et al., 2013; Perez-Rodrigo & Aranceta, 2001).

**Advantages**

The next section will describe the different advantages I experienced with social media analysis (and where noted, email interviews) and in-person interviews.

**Social media analysis.**

**Wider range of opinions.** A major benefit to examining social media data was that it accrued a wider range of teachers’ opinions on play. This was a distinct advantage for developing SNAK, as it prevented me from drawing overly positive conclusions from the mostly enthusiastic teachers who agreed to participate in interviews. While both in-person and email interviewed teachers expressed overall more positive perspectives on play, noteworthy is that one email interview was more negative towards play-based teaching.

**Openness with teaching challenges.** In message board discussions and email interviews, teachers seemed much more open to describing challenges in class with play and how they feel they are perceived by other teachers. For example, teachers described challenges they experienced when teaching through play compared to more direct teaching methods: play can be
much noisier, messier, students’ test scores drop, and play activities require much more effort on
the teacher’s part in planning and adjusting for the variety of students in any kindergarten class.
Kindergarten teachers described how they believed other teachers perceive that kindergarten
teachers simply “play all day.”

Comparing in-person interviews to email interviews, in-person teachers seemed less willing to
describe challenges, particularly about how kindergarten teachers are perceived. Other
researchers have noted that because email interviews occur without pressures of face-to-face
interactions, there seems to be a sense of privacy or safety that allows greater disclosure of
intimate and stigmatizing information (McCoyd & Kerson, 2006). This would seem especially
relevant in my study, as I interviewed teachers in the school setting while there were various
teachers and parents still present.

Additionally, past research examining message board discussions has concluded that they enable
participants to develop a strong sense of belonging to their message board community, and such
a sense of supportive community often encourages participants to reveal more information than
through traditional methods (Sawney et al. 2005; Seeman, 2007; Bullinger et al., 2012).

**In-person interviews.**

*Getting to experience classroom settings.* There were clear benefits to in-person interviews in
terms of responding to teachers’ comments and experiencing the kindergarten class environment.
All three interviews occurred in the teachers’ classrooms in the private school. For example, the
first interview occurred in the interviewed teacher’s kindergarten classroom and the teacher
repeatedly referenced different parts of the class and various materials. In fact, twice we left our
chairs so she could show me different projects the students had made and the dramatic play
centre.

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**Unique topics.** As was discussed in Chapter 7, the interviews revealed one topic that was never revealed in the social media analysis: all interviewed teachers described how they use snack or meal times as opportunities to discuss healthy eating with their students. Reflecting on why this may have only been discussed in-person, I reasoned it may be because (as described by the interviewed teachers themselves), they find it to be the most natural time to bring it up, and because it seems so “natural” to teachers, it is not an issue they would be discussing on message boards, unless asked directly. However, past research has also found nutrition education occurring during mealtime discussions (Carrway-Sage et al., 2013).

**Disadvantages of in-person interviews**

This section will specifically discuss the challenges I experienced while conducting in-person interviews (and in one disadvantage, email interviews as well) as they relate to developing a teacher-led nutrition education program. As I previously discussed in the research design chapter, I expected to encounter certain challenges with in-person interview data. I anticipated in-person interviews may not necessarily be beneficial in terms of adapting SNAK due to the interviews being limited to three teachers from a private all-girl school. Still, it was not until after I completed all three data collection and analyses, I noted other issues with the in-person interviews that were either directly related to the method (limited timeframe) or could be either due to the method and/or the types of teachers interviewed (limited discussion of challenges).

I do not discuss the disadvantages of social media discussion analysis, as in my experience, these disadvantages have already been reported (and discussed in the research design chapter of this thesis) in the literature (limited information on participant characteristics) or directly oppositional to the advantages of in-person interviews (not being able to experience classroom setting, not reporting certain topics).
**Limited participants.** Out of the three in-person interviews, the first and second interviews were with teachers who appeared to be open and interested in teaching and describing their experiences with teaching through play. However, the third interview was less successful. Unlike the previous two interviews, the third teacher interviewed sometimes gave short yes or no answers and began the interview by saying needing to leave soon before interview even began. Given the limited number of participants agreeing to in-person interviews, having even one less successful interview affected the findings more so than if this were to occur in the message board discussion or even email interviews.

**Limited timeframe for interviews.** The limited interview timeframe became even more of an issue when the third teacher’s teaching partner interrupted our interview at one point to talk about the lesson plan for the following day for a couple minutes. This teacher was the last one that I contacted after a previous teacher emailed me saying she wanted to do the interviews. I wondered if she had been pressured to, or just felt like she had to participate since the other teachers at her school were (and as described by all teachers, they are a close community) and didn’t actually want to participate.

**Limited discussion of challenges.** There were noticeable challenges missing from the in-person interviews, such as dealing with students’ allergies and managing behaviour issues. Even when I asked teachers directly about these challenges, teachers did not describe them as being problematic issues. Of course, it is not possible to know if this was because teachers were not experiencing any challenges, or if they were unwilling to discuss them. Moreover, teachers discussed aspects of the school climate that were not applicable to public schools. For instance, teachers spoke about head of school food planning healthy meals, an elaborate cafeteria, and specialists coming in to teach art and phys ed. in small groups several times a week.
Summary

Juxtaposing the findings from the social media discussions and two types of interviews was an interesting exercise that illustrated the benefits of drawing upon several data collection methods. First, employing three methods enabled me to reach more than one type of teacher (i.e. the ones who would be willing to participate in in-interviews). Second, although I was not looking to confirm one type of perspective, it was interesting that the findings intersected on several points across the different methods. Third, from a methodological standpoint, my use of netnography allowed me to explore an alternative methodology that is less developed in public health than other fields (such as consumer and marketing research).

Netnographic research has been criticized for resulting in an unbalanced view, because online discussions are typically more problem-driven (Klein & Spiegel, 2013). However, based on my experience, I would argue that this presents a distinct advantage to learning more about the struggles and challenges teachers’ face, which is crucial information for researchers developing teacher-led programs, as opposed to only gathering the opinions of teachers who agree to participate in research. However, there were also distinct advantages to in-person interviews, such as being able to experience the kindergarten classroom setting, that were missing from a social media discussion analysis. Thus, by combining traditional and novel methods I felt I was able to develop a fuller understanding of kindergarten classes, as opposed to if I had selected either interviews or social media discussions.

Study Limitations

While I have previously described the advantages of a netnographic approach to program development, this section will be discussing how the findings of my dissertation need to be
considered in light of several limitations. My study, as with any study, is limited by the theories, methodologies, and methods used (as described in each of their relevant sections of this thesis and will not be repeated here). However, these limitations also present points that I considered while writing the research findings, questions such as, what is being both revealed, and at the same time concealed, by choosing to use DI theory, netnography, and social media data over other theories, methodologies, or methods?

**Study design**

**Aspects of data collection.** The study’s design may have influenced some of the findings. Owing to time constraints, the amount of social media discussion data included in the analysis was limited to a specific data collection period. Therefore the discussions included in the analysis may not be fully representative of all of the discussions on teacher message boards (Brady & Guerin, 2010). However, it is noteworthy that as I had access to archived discussions, I was able to study discussions from 2010 until present.

The interview portion was also limited by not being able to study Ontario teachers longitudinally and instead being cross-sectional. The concerns expressed by the Ontario kindergarten teachers would be interesting to perform a longitudinal study once the FDK has been implemented for several years. In particular, it would be interesting to explore if kindergarten teachers continue to express concerns with play-based teaching, a finding consistently observed in research with American kindergarten teachers. Or, will Ontario teachers’ concerns diminish over time, as was the case for the five kindergarten teachers in Goulden’s (2012) research?

**Sample size and interview format.** Another aspect of my study that could be criticised as a limitation is the relatively small purposive sample of message boards, news articles, and teachers. Similarly, because I used semi-structured interviews, there was a fair amount of variability amongst the interviews. For example, out of the three interviews, two were in the
teachers’ classrooms, which resulted in them often drawing upon students’ displayed projects and classroom materials during our interviews.

To these criticisms, I would again respond by stating that my study goal was to gain insights and better understand teachers’ perceptions of play-based teaching and healthy eating/nutrition in kindergartens. The results obtained provide a foundation for future research and provide practical insights into the variety of factors that need to be considered when implementing a novel teaching program into a kindergarten class. I aimed to offer propositions that can inform future research, and be theoretically generalizable, rather than empirically generalizable (Draper & Swift, 2010).

**Researcher role**

Another limitation is the role I played in the entire research process. Although I had meetings with my supervisor and committee, I was the only researcher working on developing the research questions, collecting data, and analyzing the data, and thus questions may arise regarding how I influenced the results. From a constructionist perspective, this is not an issue, as it is understood that researchers always play active roles in their research and subsequent manuscripts (Charmaz, 2014). Of course, even with a constructionist perspective, as discussed in Chapter 3 of this thesis, it was important to design a study to ensure adequate evidence of the constructions of reality being presented (Wallendorf & Belk, 1989).

One way I attempted to produce credible research was by including lengthy participant quotations in the results manuscripts. I also drew upon multiple data collection methods, had discussions with peers, my committee, and friends who worked in schools. However, particularly during the writing phase of my research I became more cognizant of the more objective nature of some of the education and nutrition journals I hoped to publish my manuscripts in, and knew that in some, questions would be raised regarding “researcher bias.”
On this topic, I also became aware of the need to use language in the manuscripts (depending on the journal being targeted) that were inconsistent with my constructionist perspective. For example, using terms such as “validity,” “generalizability,” and eliminating first person. While I would have preferred not to have this inconsistency in my thesis, I reasoned it was worthwhile to conform to journal conventions in order to publish findings. This is to say, it was more important to write a manuscript using language and terms more consistent with a more objective perspective if it resulted in publishing a manuscript detailing the challenges kindergarten teachers are experiencing with the FDK.

In conclusion, while acknowledging the limitations of all of the choices I made in my research design, these choices offered more benefits than the other options which I considered prior to beginning my research. Working within the limitations of this study, the findings suggest that further research is needed, which will be discussed in the following section.

**Future Research Directions**

My dissertation described the development of a preliminary proposed draft of the program, SNAK. Findings regarding the challenges kindergarten teachers face are especially important to address in light of research that has found teachers are often unable to properly implement programs in their classes. The participating teachers in both social media discussions and interviews revealed preferences and attitudes for kindergarten-based programs, such as using integration to combine a number of aspects of the general kindergarten curricula. These findings had a great impact on SNAK. While SNAK implementation in kindergartens has yet to be explored, the evolution of the program from its preliminary outline to the more developed version illustrates the usefulness of exploring teachers’ insights throughout the process of program development.
A secondary focus of my thesis was the use of a novel methodology to develop an education program. The following section will describe future research directions related to these two foci. Again, these future research directions refer to the overall directions of my thesis and do not repeat specific suggestions for future research that are already addressed in the individual results manuscripts.

**Future research related to netnography**

By employing netnography, I was able to gain insights into kindergarten teachers’ perspectives (from Ontario and beyond) on play-based teaching and healthy eating in kindergarten classes that were beneficial for developing a program.

**Experience with netnography.** I found the methodology of netnography to be a useful approach to involve social media discussions during the design and development stage of program development. Throughout this thesis, I highlighted how data collection in netnography is both naturalistic and unobtrusive; an intriguing combination for a research methodology (Kozinets, 2002). Additionally, the results generated can reliably inform such areas as program development and generate insights for future research (Kozinets, 2010; Wilson, 2009). Through a social media analysis, insights from kindergarten teachers were examined and compared to findings from similar research using traditional methods. New insights were then explored in interviews.

I hope such success encourages other public health researchers to employ netnography. Researchers examining the social media discussions of teachers (and even other potential program users) can find issues to explore with teachers in interviews, an important part of tailoring programs during the initial design and development phase. Future researchers may be able to use netnography in designing and developing health programs for schools, community centres, and recreational facilities.
Netnography cautions. However, it is important to note that even with my positive experience, a netnographic study, even one such as mine that combines online and offline methods, cannot result in a generalizeable understanding of the population’s perspectives. Moreover, even though social media use is rapidly increasing, it is important that researchers interested in netnography first determine internet/social media use among the targeted group, and be aware of such limitations as groups that might have lower internet use because of accessibility, age, or computer literacy (Puri, 2007).

Updated ethics protocol. As discussed in the Ethics section (in Chapter 3) of this dissertation, I would suggest that the “Guidelines and Practices Manual for Research Involving Human Subjects” at the University of Toronto (2007) could benefit from revising and updating their policies on internet-based research to better reflect the current (and rapidly changing) field of internet-mediated research. As I found through my study, the guidelines are currently out-of-date regarding what constitutes ethical research, and would benefit from updating so that other researchers at the University of Toronto are conducting netnographic research in an ethical manner.

Future research related to SNAK

This dissertation highlights a number of implications for researchers interested in understanding teachers’ perceptions of school programs. While future research may find a much more developed version of SNAK could be adopted in Ontario kindergartens, it is not possible to draw any such conclusions at this stage. This is to say that my thesis produced what could be described as an early draft of program components. Further research involving education policy makers and researchers, program evaluators, and nutrition researchers (just to name a few of the different areas of expertise that are involved in developing school-based health promotion programs) is needed before SNAK could be piloted in schools. Consequently, in the following subsections I
focus on future research recommendations that remain true to the specific findings of this study, which related only to teachers’ perceptions. The final subsection presents some early ideas I have related to further development of SNAK; however, these again are very preliminary and may change in the future following further research.

**Kindergarten teachers’ insights.** My research identified preferences and concerns from a sample of kindergarten teachers that, while still needing to be explored with various samples of kindergarten teachers, can be considered by educational program developers. Findings show the various perspectives kindergarten teachers have on play-based teaching and healthy eating in kindergartens and potential factors that might impact these variations. Suggestions for future research have already been described in each of the manuscripts. One example was how teachers described parental pressures and an academic teaching climate that challenged them to implement play in kindergarten. These circumstances and expectations often overrode the teachers’ beliefs in the positive value of play. While these findings could be unique to the participants in this study, the high degree of corroboration between my results and other’s research studies (focused on both Ontario and American teachers) do suggest otherwise.

**Research with Ontario teachers and ECEs.** Findings from the netnography and interviews revealed insights that again collaborated with past research. In particular, other research into Ontario’s FDK has found a variety of obstacles perceived by teachers as well as ECEs, which were again revealed in my research and should be addressed. Consequently, future research could replicate my study but expand the research sample to teachers throughout Ontario in order to better understand the different sorts of issues teachers face and reactions and concerns they have to FDK. Additionally, examining ECEs’ perspectives is much-needed, particularly for research aiming to implement SNAK in a classroom.

Being able to identify common themes among kindergarten teachers can then help identify the types of support that need to be provided in order to implement play-based teaching. For example, other researchers have advocated for such supports as in-service programs to help
teachers in successfully implementing educational innovations (Hall & Hord, 2011; Senger, 1999).

**Research with others in school community.** It could also be beneficial to investigate the perspectives of individuals described in my study (and many others) as having a negative influence on teachers’ abilities to implement play in kindergartens, such as parents, principals, and upper grade teachers. For instance, while many of the teachers involved in my study voiced feeling as though their work was looked down upon compared to other grades, it could be interesting to actually investigate this area of elementary teachers’ perceptions of both play-based teaching and kindergarten teachers.

**Parents.** Research examining parents’ perspectives of play in kindergarten could prove to be especially useful, particularly given the statement in Grieve’s (2012) article on Ontario’s FDK that “learning through play is supported by...parents” (p. 53) without any additional explanation or cited research. Given the negative parental pressures and attitudes reported by teachers in my research and elsewhere, it would unfortunately appear that this is not the case.

**Years of experience as a factor.** Past research has identified teachers’ years of teaching experience as an important factor in implementing an educational innovation (Christou et al., 2004). This would be a factor to explore in terms of play-based programs, as years of experience may also impact the amount of resources teachers have acquired over the years, as teachers in the present study described acquiring materials for their sociodramatic play centres from a variety of sources, such as garage sales.

**Quantitative research.** Considering that play-based teaching is endorsed by all Ministries of Education in Canada (Grieve, 2012), it could be beneficial for future research to explore if and how this endorsement affects kindergarten teachers’ beliefs and practices. Additionally, now that I have developed exploratory findings, it would be possible to develop a survey that could gather opinions from a larger group of teachers than what can be achieved in qualitative research. The
findings from this research could be one aspect used to refine SNAK further as well as understand teachers’ preferences for programs in other subjects.

**Future SNAK development.** As previously stated, many other areas of research and practice need to be involved in developing SNAK before it would be ready to be piloted in an Ontario kindergarten class. Primarily, gaining insights from a research team consisting of education policy makers, program developers and early childhood, education, nutrition, and behavioural researchers would be beneficial to better understand how to grow SNAK into a school-based health promotion program. While I am unable to determine how SNAK will change from the initial iteration presented in this thesis, below I present a few suggestions for how a play-based nutrition education program could be evaluated.

Perhaps most importantly, a number of questions need to be examined to determine if play-based teaching is in fact an effective way to encourage children to develop healthy eating behaviours. Here, I propose a few different ways play-based nutrition education programs could be evaluated, similar to proposed evaluation strategies by Dazeley and Houston-Price (2015). Researchers could examine the effects of introducing new fruits and vegetables in play-based settings on kindergarten students' acceptance of the foods at a mealtime setting: Does familiarizing children with play-based food activities increase children's willingness to taste these foods in real-life? Researchers could also explore a play-based nutrition education program’s impact beyond the classroom setting by asking parents about children's eating behaviours before and after a play-based intervention. Parents could be asked to report on children's food neophobia, as well as on their consumption of specific exposed and non-exposed foods: Do parents notice if children ask for certain foods at home or in the supermarket or are more willing to consume these during family mealtimes? Does a play-based nutrition education program result in positive changes in children's attitudes toward new foods? Finally, researchers could also explore if some play-based nutrition education program activities exert a greater influence on children's willingness to taste the foods than other activities.
**Final Word**

In conclusion, my dissertation used a unique approach for developing the proposed play-based nutrition education program, SNAK. By taking a netnographic approach that triangulated data sources and sought out unconventional data, I was able to develop a preliminary proposed draft of the program that better considers the struggles teachers face in real-world settings.

I hope that through this study, educational program developers and policy makers will be more aware of the issues surrounding developing programs for school settings and the need to develop policies that aid teachers throughout the process (Christou et al., 2004). I also hope that my research has demonstrated the different ways in which teachers’ insights can be incorporated into research, beyond the traditional methods of interviews, questionnaires, and observations.

While much research is still needed before SNAK can be piloted in kindergartens, my dissertation has provided a number of suggestions for future researchers to examine regarding SNAK, netnography, as well as play-based teaching and healthy eating in kindergartens. Further research into all of these areas will play an important role in creating kindergartens that are more positive for teachers and students and ultimately, encourage the development of children’s lifelong healthy eating behaviours.
References


Goulden, W. D. (2012). *Teacher reactions to the implementation of full-day kindergarten* (Master’s dissertation, University of Toronto, Canada). Retrieved from http://hdl.handle.net.myaccess.library.utoronto.ca/1807/33651


Appendix A: Private School Teacher Semi-Structured Interview Guide

Introduction

a) Can you first describe what a typical day in your classroom is like?
b) What is your favourite part of the day?
c) Has your style of teaching changed since you started? How?
d) What do you like about the current curriculum? What would you change?

Section 1: Play-Based Teaching in General

Teacher Characteristics

a) What do you think about play-based teaching in kindergarten classes?
   Does it work better with certain subjects? Why/why not?
   Do some play-based teaching attempts not work? Why do you think that is?
b) Do you follow a curricula set by someone else (Admin? Principal?) or do you plan it out yourself?
c) Are there other ways of teaching that you have found work better?
d) Do you use play as a teaching tool in your class?

e) If not teaching through play:
   Would you try teaching through play? Why or why not?
f) If already teach through play:
Can you describe any benefits to teaching through play?
What about any negatives?
g) Do you have a dramatic play area in your class? How popular is it compared to the other activities? More popular with girls or boys?
h) How much time do you (or would you consider) have children learn through play every day?
i) Other teachers have said that due to the amount of worksheet/pen and paper/standards-based teaching they have to get in, there’s no time for play-based learning in their classes. Does this affect your teaching?
j) Similarly, other teachers have expressed concerns about play not preparing children for grade 1. How do you feel about this?

Characteristics of the Innovation (if already teaching through play)
a) Do you need to make adaptations/changes in teaching through play?
What kinds of changes?

School Characteristics
a) What is it like to get parents involved at your school?
Do they participate in programs at your school? What kinds?
Are there times when parents aren’t interested in volunteering?
b) Have you asked parents to bring in any supplies to class before? How did that work out?
c) Do other teachers teach through play at your school? What do they do?
d) What do other teachers think of teaching through play? Or kindergarten teachers in general?
Do you think people have misperceptions of K teachers?
e) Does your principal influence how you teach? How? What does your principal think of Kindergarten?
e) Do you currently teach healthy eating in your class? How?
**Section 2: My Proposed Program Specifically**

a) How do you think the program I have described would fit into the needs of you class?
b) Do you do center/station-based learning every day? How do you organize/manage them?
c) Other teachers have said they don’t like teaching through play because there is no “end product” to evaluate. What do you think?
d) Do children in your class have certain cultural/ethnic food habits that need to be considered?
e) Do you think teaching healthy eating behaviours through play will benefit children in your class? Why or why not?
f) How do you feel about teaching healthy eating behaviours?
   Can you give an example from your class?
g) How do you think the program fits with how you teach in your classroom?
   With your school’s mission? Priorities? Values?
h) How would you like to see the program modified to fit with your teaching preferences?

**School Characteristics**

h) How would a play-based healthy eating program be perceived at your school?
   By other teachers/principal?
   By parents?
i) Has your school tried a new program like this before?
   How did it work out? Why or why not?
j) A part of my teaching healthy eating behaviours through play involves having parents bring in empty boxes to supply the play station. How do you think that would work?
k) What would you like to change about the program?
l) What do you think would impact the success of this program?
   Prompts: Physical size of your class? Number of children in class? Lack of materials?
m) Finally, a large part of my research has been examining online discussions on teacher message boards. Have you ever participated or read an online teacher message board discussion?
Appendix B: Private School Teacher Recruitment Text

Hello,

My name is Meghan Lynch and I am a Ph.D. student at the University of Toronto currently developing a program for kindergarten classes that uses a play-based format to teach healthy eating behaviours with my supervisor, Dr. Daniel Sellen. An important part of our program is interviewing kindergarten teachers to hear how teaching through play has worked in their classes and what involve them in developing the teaching healthy eating through play better for kindergarten classes. Would you be interested in participating in a short (30min) interview?

Participation in this study is voluntary and any information you provide will remain confidential. In order to participate, I'll ask you to engage in an interview that will be about your opinion about the program. We can conduct the interview at a time and place convenient for you.

Also, it is important to know that all results of this study will be anonymous and confidential – that is, you will not be identified in any way.

Do you have any questions with regard to what I have just explained? Would you be willing to participate in this study?
DATE: ______________

You are invited to participate in a research study conducted by Meghan Lynch, a Ph.D. student at the University of Toronto being supervised by Dr. Daniel Sellen. We are from the University of Toronto’s Dalla Lana School of Public Health.

DESCRIPTION OF THE STUDY

In response to the continuing rise in childhood obesity rates, a variety of healthy nutrition interventions have been developed for elementary schools. However, reviews of these interventions have reported minimal effectiveness for developing healthy, long-lasting nutritional behaviours. Lack of improvement in many school-based interventions appears to be intertwined with interventions being focused entirely on the children – increasing their nutritional knowledge and ignoring issues related to program implementation, which could be exerting a stronger influence, such as the school environment. More in-depth research with teachers, examining their perceptions of community factors, school climate, and program characteristics can offer insights into the complexity of factors that need to be considered when developing kindergarten programs. Thus, the purpose of our research is to develop a robust protocol for a play-based kindergarten nutrition education program.

WHAT WILL HAPPEN DURING THE STUDY
Interviews with kindergarten teachers from private schools in Toronto will be used to develop an understanding of what teachers think of play-based teaching and our proposed play-based nutrition program. Here are some examples of questions that will be asked:

   a) Do you believe there is a need for play-based teaching in kindergarten classes?
   b) How do you think the program I have described would fit into the needs of your class?

Interviews will last approximately 30 minutes in length and will be audiotaped.

Interviews will take place at a time and place of your choosing

CONDITIONS FOR PARTICIPATING

Participation in this study is completely voluntary. You may refuse to participate, withdraw at any time, or decline to answer any question without any negative consequences. You may withdraw up until the date of November 30, 2013. If you wish to withdraw at any point during the interview, data used up until that point will be used anonymously.

BENEFITS TO PARTICIPATING

Interviews may be beneficial to you as the interview process itself will give you an opportunity to reflect on your teaching practices.

You will also have an opportunity to play an active role in the development of a teaching program that is intended to be implemented in your provincial school system.

From this research we hope to provide insight into the complexity of factors that should be considered when developing kindergarten programs, demonstrating for policy-makers and the
research community the necessity of involving teachers in the entire process of program development.

RISKS TO PARTICIPATING

The risks involved in participating in this study are low. If you feel uncomfortable at any point in the interview, we can stop and continue later, or stop altogether. To protect your privacy, a number of different strategies are being used to ensure confidentiality, described below.

CONFIDENTIALITY

You will not be identified in any way as being a participant in the study in any published findings. Interviews can be made discreet to minimize the chances of anyone finding out you were interviewed.

Confidentiality will be ensured by pseudonyms, your name will be concealed so that no one will know who you are, or that you did or said a particular thing.

The information you provide will be kept in a locked and secure office. Information kept on a computer will be protected by a password. Once the study is finished, the interview notes and audiotapes will be destroyed after five years.

Data will be shared only with this study’s researchers and only after all personally identifying information has been removed. Information will not be shared with any government departments or agencies, personnel from any agency, research sponsor, or regulatory agency.

WHERE CAN I FIND THE RESULTS OF THIS STUDY?
Data from this study is intended to be used to publish articles on play-based teaching and to develop the protocol for a play-based nutrition program.

A summary of research results will be available to all participants in this study. If you would like a copy of these findings, please provide us with your contact information on the consent form (email or mailing address).

**STUDY CONTACT INFORMATION**

If you have questions or require more information about the study itself, please contact

**Meghan Lynch (416-275-6630) (meghan.lynch@utoronto.ca)**

**Dr. Daniel Sellen (416-978-8112) (dan.sellen@utoronto.ca)**

This study has been reviewed and approved by the University of Toronto Research Ethics Board and received ethics clearance. If you have concerns or questions about your rights as a participant or about the way the study is conducted, please contact:

University of Toronto Office of Research Ethics
General Phone: 416-946-3273
E-mail: ethics.review@utoronto.ca
CONSENT:

I have read and discussed the Information letter with the researcher and have had a chance to have all my questions answered.

I understand the procedures of this research project, that I am agreeing to an audio-recorded interview to discuss play-based teaching.

I understand that my participation is completely voluntary and I may withdraw from the study at any time without penalty.

My signature indicates my consent to participate.

______________________________
Printed Name of Study Participant

______________________________  _____________
Signature of Study Participant       Date

...Yes, I would like to receive a summary of the study’s results. Please send them to this email address _______________________________ or to this mailing address _______________________________.

... No, I do not want to receive a summary of the study’s results.
Appendix D: Memo Journal Example

Noticing a division between the types of messages posted – some are very much seeking advice and are more straightforward in nature – for example, poster will ask about websites or printables, whereas others are “meatier” and involve more of a discussion amongst posters regarding how they view play in K – these messages are much more interesting to analyze, but both are beneficial in terms of how teachers use message boards and could write a whole article discussing this aspect.

Interesting quote from poster: “You don’t have to buy into the whole everything for high test scores mentality. You can still keep kindergarten developmentally appropriate.” While encouraging, this poster has also described in other threads how she comes from a school/district that supports play-based teaching and she is given a lot of freedom to teach her classes as she sees fit. Quote may illustrate the influence of having a supportive administration/principal/district than individual teacher’s beliefs. Interesting because this poster often participates in discussions regarding issues with principals/district are discussed, but problem still viewed as being solved by individual teacher.

Another similar quote from a different poster illustrating same point: “I am blessed to have a assistant superintendent of elementary ed, with an early childhood background. She is extremely supportive of developmentally appropriate kindergarten classrooms. She has provided inservices on the importance of play in kdg and supports a rest time.”
Hello,

My name is Meghan Lynch and I am a Ph.D. student at the University of Toronto. Under the supervision of Dr. Daniel Sellen, I am currently developing a program for kindergarten classes that uses a play-based format to teach healthy eating behaviours.

An important part of the program development is learning from kindergarten teachers (through in-person interviews with teachers, analysis of online teacher message board discussions, and kindergarten teacher-blogger email interviews) to understand how teaching through play and teaching healthy eating have worked in their classes.

One approach we are using is interviewing Canadian kindergarten teacher-bloggers (identified through a Google search). We have found kindergarten teacher-blogs to be insightful and would greatly appreciate the chance to learn more from you. If you agree to participate, you will be asked to volunteer to share your anonymous and confidential opinions during a brief email interview.
Attached to this email is further study information and the consent form. If you are interested in participating, please type your name in the space provided on the consent form and return it to me by email.

Participation in this study is voluntary and any information you provide will remain anonymous and confidential – that is, neither you nor your blog will be identified in any way. In order to participate, I’ll email you the interview questions and ask that you email me back your answers within two weeks.
Appendix F: Kindergarten Teacher-Blogger Letter of Information/Consent

DATE: ______________

You are invited to participate in a research study conducted by Meghan Lynch, a Ph.D. student at the University of Toronto being supervised by Dr. Daniel Sellen. We are from the University of Toronto’s Dalla Lana School of Public Health.

DESCRIPTION OF THE STUDY

The study gives Canadian kindergarten teacher-bloggers an opportunity to play an active role in the development of a play-based healthy eating program intended for Ontario’s schools. Individual bloggers agreeing to participate will be asked to volunteer to share their anonymous and confidential opinions during a brief email interview. Bloggers are not required to participate, and those who do will not be identified in any way in the research findings.

WHAT WILL HAPPEN DURING THE STUDY
Interviews with kindergarten teacher bloggers will be used to develop an understanding of what teacher bloggers think of play-based teaching and healthy eating in kindergarten. Here are some examples of questions that will be asked:

a) Can you describe what play-based teaching means to you?

b) Do you teach healthy eating in your class? If yes, can you describe how?

CONDITIONS FOR PARTICIPATING

Participation in this study is completely voluntary. You may refuse to participate, withdraw at any time, or decline to answer any question without any negative consequences.

BENEFITS TO PARTICIPATING

Interviews may be beneficial to you as the interview process itself will give you an opportunity to reflect on your teaching practices.

You will also have an opportunity to play an active role in the development of a kindergarten play-based healthy eating program.

From this research we hope to provide insight into the complexity of factors that should be considered when developing kindergarten programs, demonstrating for policy-makers and the research community the necessity of involving teachers in the entire process of program development.

RISKS TO PARTICIPATING

The risks involved in participating in this study are low. If you feel uncomfortable at any point in
the interview, you can stop and continue later, or stop altogether. To protect your privacy, a number of different strategies are being used to ensure confidentiality, described below.

*CONFIDENTIALITY*

Neither you nor your blog will be identified in any way as being a participant in the study in any published findings.

Confidentiality will be ensured by pseudonyms, your name will be concealed so that no one will know who you are, or that you did or said a particular thing.

The information you provide will be kept in a locked and secure office. Information kept on a computer will be protected by a password. Once the study is finished, the interview notes will be destroyed after five years.

Data will be shared only with this study’s researchers and only after all personally identifying information has been removed. Information will not be shared with any government departments or agencies, personnel from any agency, research sponsor, or regulatory agency.

*WHERE CAN I FIND THE RESULTS OF THIS STUDY?*

Data from this study is intended to be used to publish articles on play-based teaching and to develop the protocol for a play-based nutrition program.

A summary of research results will be available to all participants in this study. If you would like a copy of these findings, please provide us with your contact information on the consent form (email or mailing address).

*STUDY CONTACT INFORMATION*
If you have questions or require more information about the study itself, please contact

Meghan Lynch (416-275-6630) (meghan.lynch@utoronto.ca)

Dr. Daniel Sellen (416-978-8112) (dan.sellen@utoronto.ca)

This study has been reviewed and approved by the University of Toronto Research Ethics Board and received ethics clearance. If you have concerns or questions about your rights as a participant or about the way the study is conducted, please contact:

University of Toronto Office of Research Ethics
General Phone: 416-946-3273
E-mail: ethics.review@utoronto.ca
CONSENT:

I have read the Information letter and have had a chance to have any questions answered.

I understand the procedures of this research project, that I am agreeing to an email interview to discuss play-based teaching and healthy eating.

I understand that my participation is completely voluntary and I may withdraw from the study at any time without penalty.

By typing my name below, I am indicating my consent to participate.

__________________________________   _____________
Signature of Study Participant   Date

...Yes, I would like to receive a summary of the study’s results. Please send them to this email address ___________________________ or to this mailing address ___________________________.

.....No, I do not want to receive a summary of the study’s results.
Appendix G: Kindergarten Teacher-Blogger Email Interview Guide

Age:

Years of teaching experience:

Play-based teaching

1) Can you describe what play-based teaching means to you?

   a) If not teaching through play:
   Would you try teaching through play? Why or why not?

   b) If already teach through play:
   Can you describe any benefits to teaching through play?
   What about any negatives?

2) Are there other ways of teaching that you have found work better?

3) Do you have a sociodramatic play area in your class? How popular is it compared to the other activities? More popular with girls or boys?
4) Other teachers have said they don’t like teaching through play because there is no “end product” to evaluate. What do you think?

5) Other teachers have expressed concerns about play not preparing children for grade 1. How do you feel about this?

6) What do other teachers think of teaching through play? Do you think people have misperceptions of K teachers?

**Teaching healthy eating**

7) Do you teach healthy eating to your class? If yes, can you describe how?

8) Is there time to teach healthy eating in kindergarten classes?

9) Have you ever had a food-themed dramatic play centre (such as a restaurant or a grocery store)? If yes, how did you acquire materials for it?

10) Do you use food in any way in your class (for example, cooking or using foods as learning tools to teach math skills)?

11) Do you have any thoughts on play-based teaching or teaching healthy eating that you would like to share?