Food, Learning and Children – Crossing the Boundaries Between School and Home

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Introduction

Good nutrition begins with a healthy, balanced diet. Complete nutrition, however, occurs only when individual cells actually receive the nutrients they need. Neo-XX [name changed by the author] focuses on the health of each individual cell, providing the nutrients necessary to sustain optimum cellular function and protect against oxidation damage. Bridge your child's diet "gaps". Assess your child's eating habits and preferences to determine what he/she will need.

This quotation, which I recently found on the Internet, is an example of food-related advertising that families and their children meet daily in newspapers, journals and advertisements, spread out here and there. It is interesting to look a bit closer at what this short excerpt actually implies. The first sentence is an example of the generally known nutrition message: a balanced diet is important. This sentence functions on the level of foods and is therefore easy and simple to understand. The next sentence moves to the level of nutrients. By doing so, understanding becomes problematic. Only a few parents have enough factual knowledge to really understand the meaning of the sentence. The function of nutrients and the well-being of human cells are complicated issues. One has to have studied nutrition, physiology and biochemistry in order to completely grasp the relationships. Where understanding fails, believing begins. Where there is believing, there is a huge unknown territory for a mixture of facts, conceptions and misconceptions. It is not easy to understand what "sustain optimum cellular function and protect against oxidation damage" implies.

Adults and parents are the main target for this particular type of advertisement. Every parent wants the best for his/her child. Therefore, "Bridge your child's diet gaps" starts working on the level of unconscious fears. The parents might take the message very personally and seriously: Do I make the kind of food at home that causes my child to have "diet gaps," and by doing so, am I the main cause of his/her poor health/good health? In this very short excerpt one can see a whole trajectory of specialist information that indirectly blames the parents, who quite often only have a laypersons' knowledge of nutrition.

This article aims to look at food, families and children from the viewpoint of learning. What determines food choices in homes, from the parents' viewpoint? What are children taught at schools? What should "ordinary parents" know about food and nutrition in order to achieve well-being with "healthy, balanced and tasty diets". My standpoint is to focus on the role of learning at home and at schools, i.e. comparing the qualities of leisure time learning and institutionalised learning with regards to nutrition and dietary issues. I want to argue that professionals in the areas of care, health and education should better understand the complexity of food choices and the complexity of using nutrition knowledge in families. Different families do not understand nutrition messages similarly. Nor may factual nutrition information be processed in a similar manner in the minds of parents and children. It may depend on the educational background, cognitive skills and, not least, different interests for food and nutrition. There are many boundaries to cross, each having different qualities.

In the following, I will begin by outlining some conclusions from my empirical study (Palojoki 1997) regarding homemakers'¹ conceptions on food. After describing some implications of the relationship between knowledge and food choice in a family context – children's primary lifeworld – I will then proceed to their second major lifeworld, namely school. School is a place where the different worlds of children meet, as well as the worlds of the educators and learners. Finally, I will introduce the multiple worlds model (Phelan, Davidson & Yu 1993), which, in my mind, enables comprehension of the complexity of contemporary schooling from

¹ In my study (1997) the concept "homemaker" was used for referring to persons that are mainly responsible for food management in families. The concept is not gender-specific and thus equally addresses men and women. In this article I use the concept "homemaker" when referring to my study, otherwise I use the concept parent.

the viewpoint of children and his/her worlds. It is important to address the borders and boundaries described in order to meet the versatile challenges of developing nutrition education.

Food in Families

I have studied food choice from a household perspective (Palojoki 1997). The aim of this study was to better understand the complexity and interactiveness of everyday food-related activities in a household context. The empirical research focused on Finnish homemakers' (N = 18) accounts of their food choices and their conceptions of nutrition knowledge. A qualitative food diary was developed and used to gather data on the homemakers' accounts. It served as a memory-aid in retrospective interviews and helped the homemakers to approximate their activities. Food eaten outside the homes was excluded, except in cases when it influenced the food eaten at home, i.e. introduced new food items or affected meal planning. In addition, the semi-structured interviews revealed the homemakers' conceptions of selected nutritional concepts.

Nutrition knowledge and food-related activities are both shared among the family members and transformed by them. Also, both issues need broad definitions to represent the complexity of everyday activities. For example, in my study the responsibility for food preparation was shared with other family members (Palojoki 1997). Each family developed its own ways of sharing knowledge and activities. It was therefore possible to find all kinds of solutions – from solitary homemakers to those allocating the responsibility of food choice and preparation to all family members. Regarding everyday food-related activities, factors such as the desire to make enjoyable and tasteful food or the taste preferences and habits of family members, had stronger impacts on food choices than factual knowledge.

However, compromises are sometimes needed to achieve a consensus. In these cases, factual reasons may remain inferior to other contextdependent reasons, such as taste preferences or habits of family members. This, in turn, may create a challenge: why is the taste of "good and nutritious food" used so little as an argument in favour of recommendable changes in food-related activities? In the everyday context, food is prepared to be eaten. Why prepare something that is healthy, factually and economically prepared, but which nobody likes or eats? In the everyday

context, this kind of food is considered a waste of money and time, and as such is useless.

If my results, summarized shortly above, are contrasted with the lifesituation of the homemakers and their families, the low priority of health aspects becomes understandable. The families studied were all healthy, had growing children, and were busy with their daily activities, work and hobbies. They did not have any particular need to emphasize healthy aspects. Yet they were worried about the "properness" of their meals, but saw no need for major changes in the future. The immediate family context had a major influence on the foods chosen, yet the role of influences from society and the near-environment were also considered. Previous studies often only focus on influences internal to the family, such as money, time or taste preferences (e.g. Schafer 1978, Glefjell 1985). However, here it seems that food-related choices in families are jointly constructed, balancing both internal and external factors. These shared meanings created in families also create variability among families. Some families consider external factors more and some less, but co-operation with the nearenvironment is important in all cases, as demonstrated by the study of Moll, Tapia & Whitmore (1993).

The influential role of the near social context in the individual's growth and development is emphasized among researchers advocating the shared cognition approach. Rogoff (1991) and Lave & Wenger (1991) propose that cognitive development proceeds through guided participation in socio-cultural activities. Rogoff (1991) claims that communication, i.e. the sharing of cognition between children and their parents provides a medium for participating in more skilled problem-solving tasks. Regarding food and nutrition, the way children are socialized into household tasks and the way they learn the skills of food preparation provides an example of guided participation.

Solving Contradictory Food Choice Situations as a Gap-closing Process

In my study (Palojoki 1997), the need to make compromises was emphasized. However, this is not always easy. Daily food choice is a good benchmark for studying the coherence of families (Palojoki & Tuomi-Gröhn 2001). For example, while choosing food items, such as the different fat spreads or milk types, a homemaker has to deal with contradictory requirements and expectations. If we take milk-choice as an example, there are many different milk types available; nutrient value varies as well as taste and price. There are varieties of locally produced, organically produced milk types and products processed by different technologies. Milk as a food item may be used for different purposes, and the family members may have different taste preferences. Who makes the final decision? Does one family member impose the choice or is it jointly made? At first sight, a simple choice of a milk type contains many different elements.

When studying decision-making processes in a school or laboratory setting, the process itself has often been comprehended as a rational and linear process. Yet, problem solving in a family context becomes more complex. Lave (1988) has argued that it is not a linear process but a gapclosing one. Parts of the problem are solved first, and then new cues from the setting help in the subsequent process. It is notable that this process is viewed as dialectic; the problem and the information with which to solve it influence each other until a final or nearly final, but acceptable, solution is achieved. I have illustrated Lave's thinking in Figure 1.





Figure 1 represents a cyclic view that contrasts with the linear and rational views of human problem solving implied earlier. According to Lave (1988), there is the academically correct solution to a given problem in a school context. If this solution is arrived at by the wrong means, for instance by using judgements instead of mathematical calculations, then the whole process is a failure. In the family context, the solution is the important thing, irrespective of the means used to achieve it. The final solution may be only partial and yet sufficient; i.e., it may be achieved through the problem evolving itself while attempting to solve it (the circles in Figure 1). Regarding everyday food choices, the academically best solution (the most economical, the most rational "best buy solution") may not necessarily be the best for the purposes of the homemaker, and contradictions may arise. The children may complain if the product chosen does not correspond to their taste preferences, and time and energy has to, then, be used for alleviating this conflict.

In a family context, a contradictory situation reveals tensions in the person's thinking and activities; the alternatives available are undesirable and desirable at the same time, but in different respects. On the other hand, contradictory situations and their solution may lead the way to more developed activities (Engeström 1993). Billig et al. (1988) use the concept "dilemma" to describe these situations. They also emphasize the socially shared nature of dilemmas; the individual decision maker is not alone, although the act of choosing can be a lonely act. In a family context, this theoretical viewpoint is very interesting. Billig et al. (1988) explain that dilemmas arise because people share values, norms, social expectations, duties, guilty feelings and hopes. As regards the decision to buy a certain type of milk (i.e., low-fat, skim, whole) at home, contradictions reflect the different criteria for selecting a certain food item, for instance, taste preferences of family members, personal health concerns or family members wishes (e.g. food allergies), health educators' advice or availability of food items at home or in the store.

Learning at School in Contrast to Learning Outside School

Learning in informal settings, such as at home or through leisure activities, differs qualitatively from learning in institutions, such as in schools (Jobim

& Souza 2001, Lave 1988, Rogoff 1991). For example, learning in itself is not the primary goal in informal settings, but instead collaboration and active participation is appreciated. Participation is also voluntary, and therefore these programs strive to be fun. Typically, the child rather than the curriculum is at the centre. Evaluation aims to improve the work rather than rank the individual. For example, parents and children may participate together in a leisure time cooking class. This activity is, and should be, a fun, enjoyable, learning experience. In sum, the many primary qualities of the learning context differ from those that a child meets at school.

When knowledge is shared among active participants, the knowledge is transforming and evolving while the process of sharing is going on (Salomon 1993). This leads to the intelligent use of cues from the situation, from others present, and may lead to the transformation of the original task, a process which is not possible in the school context (Lave, Murtaugh & de la Rocha 1984). Taking the example of a cooking class, the parents and the child are free to choose another recipe if they find that the one used is too complicated for their learning abilities.

Theoretically, the idea of viewing knowledge as shared has arisen with the debate between the different psychological traditions of human cognition (Resnick 1991, Salomon 1993). For example, Moll, Tapia & Whitmore (1993) studied Mexican families and found how family members develop strategies to obtain and distribute material and intellectual resources through the diverse social networks that interconnect families with their social environments. This networking facilitates the distribution of knowledge, skills and labour essential for the family to function optimally in its own context of activities. Evidently, activities in families need these kinds of strategies, and studying everyday knowledge from the individualcentred viewpoint may underestimate the skilful use of these networks. For example, regarding consuming choices, people apply different means and arrive at different ends, each understandable only by comprehending how the context of activities and other people present affect choices.

Are Children Left Alone as Learners?

For a child, the home, the school and peer-groups are also primary worlds for learning. They are characterized by different traditions for tool use and social interaction. Institutionalisation of school learning must be taken into consideration when discussing the learning of food-related issues. If the

learning in a school-context is too distanced from the learning in the world outside schools, as Säljö (2000) proposes, how can one expect good learning outcomes? Calculating nutrients at school may not necessarily provide tools for everyday competence.

Regarding this challenge, it is important to focus on the quality of learning. It has been claimed that there is a need to transform from monologic to dialogic learning in classrooms (Gutierrez, Rymes & Joanne 1995, Säljö 2000). Instead of teacher's teaching and dominating the discourse in the classroom, a "third space" should be created. This is a place where the two scripts, the teacher's and the students', intersect and create the potential for true dialogue to occur (Gutierrez, Rymes & Joanne 1995). By doing this, learning in institutional settings may come closer to the learning in everyday settings, where forms and contents of learning tasks are more open, yet relevant regarding the aim and object of learning activities. In addition, in the "third space," learning activities become more shared. Learners are not left alone with their tasks.

Food and Learning at Schools

One central aim of nutrition education is to disseminate nutrition knowledge which can be used in making food choices. But what is relevant information in contemporary times? We can take the old relationship between fat spreads and coronary heart disease as an example. As I have claimed earlier (Palojoki 1993), in order to make factual-based choices between different fat-containing products, one should understand conceptual knowledge about nutrients, the nutrient content of foods, and causal relations between fats, cholesterol and coronary heart disease. This is very demanding and it should be evaluated critically whether "cholesterol" or "fatty acids" are such pieces of information for everybody to know. If cholesterol is something everybody discusses but nobody understands, what is the value of the discussion?

This question leads to the pedagogical problem of the nature of transfer. The transfer of knowledge into practice should be improved through educational means. Regarding nutrition knowledge and food-related activities, it seems that the dissemination of factual knowledge has little effect on food-related activities. The homemakers are often concerned about the "properness" of their meals (Palojoki 1997). This implies that they put an emphasis on the physical well-being of the family, but pay less attention to mental and social well-being. However, "healthy" meals should be palatable, enjoyable and socially shared events, i.e. contribute to overall wellbeing. Is nutrition and home economics education focusing too much on nutrients, healthiness and "recommended food items," and hence overlooking the whole picture? For example, in this context, physical exercise is often forgotten. Without changes in exercise habits, losing weight is not possible. Despite this physiological fact, many in public debate still focus only on food eaten, and not on the balance of energy intake and energy expenditure.

Households are regarded as "black boxes" (Murcott 1986, Ekström 1993) because each family has its own way of organizing food-related activities and their everyday traditions. We do not know what actually happens, but based on approximations, homemakers do not think about nutrients; they start from meals which are prepared to be eaten. Based on my own experiences in the school context, the traditional way of teaching nutrition-related facts begins with factual knowledge about nutrients and their roles in the human body. Food preparation skills are learned in order to prepare meals, but, in the worst case, the food-based knowledge remains detached from the nutrient-based knowledge, which may be fragmented. The nutrient-based facts are taught, but are they learned?

If teaching in schools should also start from meals, as is done in families, the teachers could then proceed from familiar phenomena to more abstract ones. By following this order, the learning of new concepts is built on previous and familiar experiences. Throughout the learning process, the development of the students' critical thinking is fostered not only by discussing what-questions but also why- and how-questions, thus relating the subject matter to the students' life-situations and environments. By using this order to teach nutrition-related issues at school, students' learning could be fostered from surface-level learning to deep-level learning, and improve the transfer of nutrition-related facts into practice.

Reconceptualizing Learning at Schools

The traditional educational approaches related to nutrition education bring about rather homogenous and middle-classed values and moral-related issues about "recommendable food behaviors": Food should be warm and it should be eaten together with family members, preferably at home. However, the societal context is becoming more heterogeneous and diverse, and the issues relating to food, eating and food choice are of special importance for students that may be at risk of becoming marginalized in society. There are several groups that face this incompatibility, such as immigrants and students with different kinds of learning problems. Multicultural nutrition education is a challenge for in-service teachers, as well as teacher educators. The teacher who is teaching a multicultural class often feels insecure (Banks 1997, Talib 1999). Immigrants behave, think and believe differently than children from the "dominant" culture. They have their own cultural habits regarding work division at home or conceptions of acceptable and non-acceptable food-items, determined by their religion and food culture.

The content of nutrition education also needs critical consideration. In Finland, the content is often seen as teaching cooking, nutrition knowledge and making comparisons between different food items. Nowadays, food and eating are seen as a way of life. Through consumption of food, one is able to build and shape one's identity. In search of new standpoints on food choice, the viewpoint should be expanded from individual decision-making to participation in communities of practice, mainly outside school. These communities of practice can be groups of peers or families. By definition (Wenger 1999), it is important that members of a community of practice share similar sets of values, beliefs, norms, behavioral patterns and traditions. However, basic challenges remain the same; to develop more meaningful learning experiences for children, which also help them to cross the boundary between everyday life and school, and to raise their critical consciousness, by helping them to become more ethically and socially aware.

The Multiple Worlds of a Child

As described above, all children are not alike; they come from different "worlds." Interestingly, Phelan, Davidson & Yu (1993) have described how American comprehensive school students must navigate the borders of family, peers and school cultures. These different cultures represent worlds that contain values and beliefs, expectations, actions and emotional responses familiar to insiders, but not to outsiders of a given world. As with the lines of socio-cultural thinking, they use terms such as social setting, arena and context to refer to the places and events within which individuals act and interact (see more: Lave 1988, Wenger 1999). Their model is presented in Figure 2.



Figure 2. The multiple worlds model (Phelan, Davidson & Yu 1993:56).

In this model, one should focus on the transitions between the worlds of the children and of the school. Which features in school environments aid or impede in making the transitions? The children use cultural knowledge acquired from their family, peers and school worlds in social settings and contexts. These may be found within the boundaries of any one world (e.g. a child having dinner with family members) or may include actors from various worlds (e.g. a child interacting with peers in classrooms). Boundaries between the worlds may be real or perceived. Where boundaries exist, movement between worlds occurs with ease; the social and psychological costs of this movement are minimal. However, borders are more difficult to cross. When borders are present, movement and adaptation are frequently difficult because the knowledge and skills in one world may be more highly valued than those in another. It is possible for children to navigate borders with success, but these transitions can entail personal and mental costs invisible to teachers and others (Phelan, Davidson & Yu 1993). The researchers argue that quite a lot is known about how aspects of

families, schools, teachers and peer groups independently affect educational outcomes. Yet very little is known of how these worlds combine in the day-to-day lives of children. It is important to gain a better understanding of how school features may enable smooth transitions so as to transform borders, real or perceived, into passable boundaries. Borders are created in several ways, and each type is characterized by distinctive properties that are important to understand, as teachers attempt to identify strategies that will enable children to make transitions successfully. Table 1 is a summary of a description by Phelan et al. (1993).

Type of border	Characteristics	Implications for schooling
Psychosocial	- constructed by experience of anxi-	- may hinder the ability to focus
	ety, depression or fear	on classroom tasks
	- may be secondary response to so-	- may block ability to establish
	ciocultural, socio-economic or lin-	relationships with teachers or
	guistic borders	peers
	- may be temporal in nature	
Sociocultural	- cultural components in one world	- if taken the right way, may be
	are viewed as less important than	seen as a possibility not a threat
	those in another	
	- cultural differences per se do not	
	create barriers	
Socio-	- economic circumstances create	- e.g. child may lack time and
economic	limitations	energy for schooling due to
	- may combine with sociocultural	work outside the home
	border	
Linguistic	- communication restricted because	- depending on teachers and
	one group regards another group's	children's definition, do they see
	language as unacceptable or inferior	it as a problem
Type of border	Characteristics	Implications for schooling
Gender	- roles, aspirations, or estimates of	- may be found both in the sub-
	worth are promoted for women dif-	stance and the process of school-
	fering from those offered to men	ing
	- may undermine self-confidence	
Structural	- may occur between all worlds	- school lacks resources and sup-
	- features in school environment that	port to meet the needs of a child
	prevent, impede or discourage a child	- services exist, but there are no
	from engaging fully in learning	bridges to connect the child with
		available resources
		- services are available and visi-
		ble but they do not match the
		needs of a child

Table 1. Borders children are facing in their multiple worlds (Phelan et al. 1993).

In their study, Phelan et al. (1993) found four basic types of adaptation regarding these perceptions of boundaries and borders. These types are not necessarily stable for a child over time, but can be affected by the classroom or school climate conditions, family circumstances or changes in peer group affiliations. These typologies are:

Type I: Congruent worlds/smooth transitions:

For some children, values, beliefs, expectations and normative ways of behaving are, for the most part, parallel across the worlds. The daily contexts may change, but they perceive the boundaries between their family, peer and school worlds as easy to manage. They may have difficulties in connecting with peers unlike themselves. Many may have little opportunity or reason to practice border crossing strategies. For example, the child is satisfied with different "rules of eating" at home, with peers and at school.

Type II: Different worlds/border crossing managed:

The worlds are different (with respect to culture, ethnicity, socio-economic status and religion), thereby requiring adjustment and reorientation while moving between the worlds. However, crossing is not always easy. There might be different strategies:

- Adapt completely: conform to the mainstream at school and hide their home lives, which may differentiate them from the majority;

- Adapt situationally: conform to the mainstream when they belong to a minority, returning to home or community interaction patterns when with peers in social settings, operating successfully across a variety of social settings; and

- Blending aspects of different worlds: transcultural identity may have emotional costs as well as benefits, open to criticism from actors in their various worlds who expect adherence to social rules. These children are often overlooked by their teachers. They appear to fit in and their invisibility as individuals may be due to the fact that the teacher seldom has knowledge about their background. For example, a child may have religious rules at home determining food choice. At school, she/he tries to adapt as successfully as possible.

Type III: Different worlds/Border crossing difficult:

In this type the children define their family, peer and school worlds as distinct. Adjusting and reorienting is needed when moving across worlds and among contexts. Border crossing involves friction and discomfort, and in

some cases is possible only under particular conditions (e.g. she/he may fail in classrooms in which norms and behaviours oppose those they encounter with their families and peers). These children may be at risk of being classified as overall low achievers, and teachers rarely suspect that classroom features or pedagogical style may influence their ability to succeed and connect with the school environment. For example, the family conditions of a child are difficult, low socio-economic status impairs possibilities for food choice or the family may find it difficult to get the daily amount of food needed.

Type IV: Different worlds/Borders impenetrable:

Values, beliefs and expectations are so discordant across the worlds that border crossing is impossible. When attempted, the experience is so painful that children develop strategies to protect themselves against further distress. They may feel that school is irrelevant to their lives. For example, the family conditions are very difficult, both socio-economically and mentally; there are no shared experiences of food and eating together. The child may be totally devoid of any "home food culture".

This model opens up for new perspectives for understanding children's lives in a more holistic way. It may be so that in schools many children are left alone to navigate transitions without assistance from persons in any of their social contexts, yet their competence in moving between settings has great implications for the quality of their lives. This model is useful regarding the multicultural consumer and nutrition education. Understanding children's lives through this model involves more than just understanding other cultures. How can we assist children to acquire skills and strategies to learn comfortably and successfully in divergent social settings and with people different from themselves?

Conclusions

I have discussed here the different worlds a child meets regarding food choice and consumption in his/her different living contexts. Families have the primary responsibility for socializing children with what is the prevailing food culture. Schools should support this work. Therefore, it is not possible to discuss food and children at home without looking at the roles and challenges of schooling. The borders between schools and families should be very transparent. I argue that there are qualitative differences in patterns of learning in both contexts. It is a great task for a child to successfully move in and between these different worlds, as Phelan et al. (1993) have demonstrated. It is an even greater task for parents and teachers to understand these processes. Continuous learning is needed in order to cope with the changing societal and cultural contexts and to empower people to create their own means of coping. Therefore, co-operation between schools and homes is important in achieving the educational goals of both and promoting changes in food habits. The networks of families, relatives and friends are essential in this, because they help members to cope with sudden problems regarding both food-related activities and other, everyday practical activities.

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