Food for Thought

Introducing Organic Food in Norwegian Schools

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Introduction

Interest in organic food and agriculture is growing worldwide. Norway has experienced increasing organic food consumption in recent years, and the Norwegian government has set goals to boost organic production in the coming decade. Schools are one setting where organic food consumption has been starting to grow. Across Norway, some schools are starting to introduce organic food to their pupils. Some are doing this within the framework of the government's School Fruit initiative, while other schools are establishing their own organic school meal programmes. The aim of my research was to explore some of the different ways in which Norwegian schools are bringing organic food to their pupils, and also how they are approaching education about this topic. The four schools which I chose for my study are among those schools in Norway which are making the most effort in the area of introducing their pupils to organic food and farming.

My main research question was:

> How is organic food being introduced in Norwegian lower secondary schools?

In order to explore this question, I also asked the following two questions:

> What do Norwegian youth know, think and feel about organic food?
>
> Do the knowledge and opinions among the pupils vary depending on how much focus the schools place on organic and environmental education, and how integrated organic food and environmental issues are in the school day?

I begin this thesis by presenting the background for my research topic in Chapter 1. I will explain the Norwegian government's School Fruit initiative. This programme is aimed primarily at encouraging healthy eating among

Norwegian youth, but has also been a way for some schools to introduce organic food to their pupils. Next, I present and discuss some different meanings of the term 'organic' in terms of food and agriculture. I continue by explaining Norway's goals of increasing the amount of organic farming in this country. The sections which follow include a look at organic food in schools, with topics such as public organic food procurement, and organic food and environmental education. I will finish the first chapter by briefly describing school meal systems in a few different European countries and comparing them with Norway. These different elements provide the context for my research.

In Chapter 2, I will describe and explain my research methodology. My study was based on qualitative methods. It involved visiting four Norwegian schools and performing a survey and focus group interviews with pupils, as well as some interviews with school staff.

The previous studies which I use to frame and analyse my own research come from the fields of consumer studies, and of educational research and theories. I will present these in Chapter 3. The consumer studies which I used have primarily explored how consumers perceive organic food and agriculture. To frame my own research about how schools teach about organic food and farming, I present some previous work about environmental education and nutrition education.

In Chapters 4 and 5, I present and discuss the results from my own research. I present my fieldwork findings from the four schools in Chapter 4; here I explain the schools' organic food programmes and the motivations behind these, and present the pupils' knowledge and perceptions about organic food and farming. In Chapter 5, I discuss these findings within the framework of consumer studies and education theories. I summarize and conclude the thesis in Chapter 6, and provide suggestions for further research.

In this thesis, I will demonstrate different ways in which organic food can be introduced in Norwegian public schools. Education about organic food can be approached in similar ways to environmental education and nutrition education. Pupils' knowledge and perceptions about organic food vary depending largely on how integrated organic food and education about this topic are in their school and their everyday environment. I will argue that integration and consistency are important elements in education about organic food.

1. Background

1.1 Free Fruit and Vegetables in Norwegian Schools

In recent years, issues surrounding young peoples' health and diet have been prominent in the media as well as in various areas of academic research. As Morgan and Sonnino write, "In many European countries something of a 'moral panic' has recently broken out around food, health and obesity" (Morgan & Sonnino 2007:19). Uglem *et al* note that despite the health benefits of "[d]iets rich in fruits, vegetables and whole-grain bread," studies in many countries have demonstrated that most people do not eat enough of these foods (Uglem *et al* 2007:46). Norway is no exception. According to Bere *et al*, "Norwegian children consume less fruit and vegetables and more added sugar and saturated fat, than recommended" (Bere *et al* 2007, Introduction, ¶ 1). In an effort to begin to counteract this trend, the School Fruit programme (from hereon referred to as *Skolefrukt*) has been initiated in Norway. This programme has been partially subsidised by the government, with parents paying the remainder by signing up for a *Skolefrukt* subscription for their children (Bere *et al* 2007, Introduction, ¶ 2; Skolefrukt 2008a). As of the start of the school year in the autumn of 2007, pupils in Norway's lower secondary schools[1] began receiving one free fruit or vegetable per day at school[2] (Kunnskapsdepartementet 2007).

[1] These schools are called *ungdomsskoler* in Norwegian. They have pupils from the ages of 13 to 16, in grades 8 to 10.

[2] The subscription programme still exists for primary school pupils (*barnetrinnet* and *mellomtrinnet*, or grades 1 to 7), at a price of 2,50 NOK (about 30 Euro cents, or 50 cents US) per pupil per day, with the government paying the remaining 1 NOK (Skolefrukt 2008a). In schools which have pupils from grades 1-10, *Skolefrukt* is free for all of the pupils (Skolefrukt 2008a). At a few lower secondary schools across Norway, the pupils have not been receiving *Skolefrukt*, because the municipal government decided to use the money for other purposes, or because of administrative problems (Grihamar 2007).

Research has been conducted to look at the effects of free school fruit programmes on children's health and eating habits. Bere *et al* (2007) have studied the effects of free school fruit as compared with the programme where parents subscribe. They found that there was "low participation (…) by schools and pupils" in the programmes where the parents subscribed and paid for the *Skolefrukt* themselves (Bere *et al* 2007, Introduction, ¶ 3). For their research, Bere *et al* implemented free school fruit and vegetable schemes at nine Norwegian schools, using 29 other schools as a control group (Bere *et al* 2007, Methods, ¶ 1). Not only did they find that students ate more fruits and vegetables while the programme was in place, but that they still ate more fruits and vegetables three years after the free fruit and vegetable programme had ended (Bere *et al* 2007, Discussion, ¶ 1). The authors of this study note the potential long-term benefits of such free fruit and vegetable plans (Bere *et al* 2007, Discussion, ¶ 1). Thus with the hope of encouraging healthy eating habits among children and youth, the Norwegian government began providing money for the free school fruit programme for lower secondary schools in the autumn of 2007 (Fylkesmannen i Hedmark 2007). The Norwegian government's revised national budget for 2007 proposed to grant 87 million Norwegian *kroner*[3] to ensure that this initiative goes through (Kunnskapsdepartementet 2007). As stated, the government's goal with *Skolefrukt* is to promote healthy eating among youth.

The initiative for free fruit in schools is not implemented directly by the government. Instead each municipality or school makes their own decisions regarding how to put it into practice (Kunnskapsdepartementet 2007). Because of this, the initiative is implemented differently in different schools. Both with the subscription-based *Skolefrukt* program in earlier years, as well as the fully subsidized program which started in autumn 2007, some schools have

[3] Approximately 11 million Euro, or 17 million USD

chosen to supply organic fruits and vegetables rather than conventionally grown ones (Skolefrukt 2008b; Økologisk Skolefrukt AS 2008).

In this thesis I will examine the *Skolefrukt* initiative as one way in which schools can introduce organic food to their pupils, as well as studying some different paths for organic food introduction. *Skolefrukt* and the other school food programmes generally have goals of improving or maintaining individual health; through introducing organic food to schools, the aims expand to include environmental health as well.

1.2 What is Organic Food and Agriculture?

Organic food and agriculture have been focused on in various popular media, as well in government policies in recent years. Organic farming is considered by many to be better for the environment than conventional farming. Its methods avoid the use of synthetic agrochemicals, and focus on pest control and fertilisation processes that occur naturally in the local ecosystem. The Merriam-Webster dictionary has the following definition of "organic": "food produced with the use of feed or fertilizer of plant or animal origin without employment of chemically formulated fertilizers, growth stimulants, antibiotics, or pesticides" (Merriam-Webster OnLine 2008). In this section, I will present the definitions of "organic" from three different organisations. Debio represents how this concept is conceptualized and certified for in Norway. Although Norway is not part of the European Union (EU), the country is strongly influenced by EU policies, and I will therefore continue with their definition. The third definition I will present is from an international authority on organic food and agriculture, the International Federation of Organic Agriculture Movements.

In Norway, there is one certifying body - Debio - for all organic produce (Løes & Schjøth 2006:188). The task of inspecting and certifying organic

products has been granted to Debio through an agreement with the Norwegian Food Safety Authority[4] (Debio 2008a). Although it has been given this role by the government, Debio is an independent, membership-based organisation (ibid). Products certified by Debio are marked with the label seen in **Figure 1.**

Figure 1: Debio organic label[5].

Source: http://www.debio.no/_upl/oe-merke.jpg

Debio's guidelines for organic certification include the following wide range of concepts:

> Organic production builds upon a holistic vision which includes the organic, economic and social aspects of production, in both a local and a global perspective. Organic agriculture regards nature as a whole. (…) The following goals are central to organic production methods:
>
> - To produce high quality food products, in sufficient quantities and fairly distributed
> - To manage natural resources in a way that dangerous environmental effects are avoided, thus ensuring long-term soil fertility
> - Ensure species and genetic diversity
> - Create and environment which satisfies the natural behaviours and needs of farm animals
> - Ensure maximum reuse and recirculation of nutrients
> - Support communication between agriculture and society as a whole
> - Seek to ensure that organic agriculture can provide a secure economic foundation for the producers so that they are economically able to live off of this (Debio 2008c; Salomonsen 2008). [own translation][6]

The European Union's Commission for Agriculture and Rural Development define organic food and farming as follows:

---

[4] *Mattilsynet.*

[5] This label is actually green and yellow; the Ø is green, while the background is yellow.

[6] See Appendix A for the original text in Norwegian.

> It favours renewable resources and recycling, returning to the soil the nutrients found in waste products. Where livestock is concerned, meat and poultry production is regulated with particular concern for animal welfare and by using natural foodstuffs. Organic farming respects the environment's own systems for controlling pests and disease in raising crops and livestock and avoids the use of synthetic pesticides, herbicides, chemical fertilisers, growth hormones, antibiotics or gene manipulation. Instead, organic farmers use a range of techniques that help sustain ecosystems and reduce pollution (European Commission 2008).

As compared with the EU definition, the International Federation of Organic Agriculture Movements (IFOAM) has a somewhat wider explanation of what organic agriculture is. They state:

> Utilizing both traditional and scientific knowledge, organic agricultural systems rely on ecosystem management rather than external agricultural inputs. It is a system that excludes the use of synthetic inputs, such as synthetic fertilizers and pesticides, veterinary drugs, genetically modified seeds and breeds, preservatives, additives and irradiation.
> Organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system (IFOAM 2008).

There are some common elements and criteria between the different definitions of organic. All definitions prohibit the use of synthetic fertilizers, pesticides, hormones, antibiotics, and preservatives. Instead, they encourage the use of more natural alternatives. While they have many similarities, the three definitions I have given differ in terms of scope and depth. The EU and IFOAM definitions focus primarily on the natural environment and on ecological factors. The IFOAM definition reaches a bit wider than that from the EU, looking at the knowledge bases that organic agriculture can draw from. Both the EU and the IFOAM definitions discuss taking the whole system into consideration, but focus only on the natural ecosystem. While the Debio label includes these ecological elements in its guidelines, it broadens its scope from this area and is also more stringent. In the case of Debio, economic and social elements are taken into account, on both local and global levels. It is important in the Debio definition that organic farming be an

economically viable option. Debio looks at agricultural sustainability in a wider context than just organic farming. This could partially be as a result of a northern European focus on the economic viability of agriculture, with the strong rural and agricultural politics in this region. In Norway, for example, the District Policy[7] has long lobbied for keeping rural areas populated; if agriculture is economically unviable, this poses a risk to the survival of rural communities. Debio's idea of the "whole" is thus wider than the ecological "whole" considered by the EU and IFOAM. Although it is useful to have some international standards regarding the definition of organic, it is understandable that these international guidelines remain somewhat more open. This allows for countries to come up with their own definitions based on their own ecological, economic and social situation. The Debio definition is tailor-made for Norway and can thus be more specific than one that is meant to cover a wide variety of countries.

1.3 15% Organic by 2015

In an initiative which was initially unrelated to *Skolefrukt*, the Norwegian government plans to increase the amount of organic agriculture within the country. In a report from 2004, The European Action Plan for Organic Food and Farming encouraged the increase of organic food production and consumption in European countries (Commission of the European Communities 2004). Organic agriculture has been a growing trend in Norway in recent years, with the number of Debio certified farms growing from 19 in 1986 to 2496 in 2005 (Debio 2008b). Norway has also had a research centre devoted to organic agriculture research[8] since 1986 (Løes & Schjøth 2006:189). In 2005, the Norwegian government set a goal that by the year

[7] *Distriktspolitikk*

[8] From 1986 until 2006, this was known as the Norwegian Centre for Ecological Agriculture (NORSØK). In 2006, NORSØK became the Organic Food and Farming Division of Bioforsk (the Norwegian Institute for Agricultural and Environmental Research) (Løes & Schjøth 2006:189).

2015, 15% of Norway's food production and consumption will be organic. This is an ambitions plan; despite there being a general growth in organic farming on a global scale, in most OECD countries organic agriculture only constitutes about one percent of total agriculture (Hughner *et al* 2007:95). Currently in Norway, organic agriculture constitutes about four percent of the country's total agriculture (Landbruks- og matdepartementet 2007b; Sørensen 2008:16). Norway is moving towards the national goal, with 50 of the country's 431 municipalities having reached ten percent organic agriculture as of June 2007 (Landbruks- og matdepartementet 2007a). In order for this goal of 15% organic by 2015 to succeed, there needs to be a solid and consistent consumer base for organic food products. Jervell and Borgen examine new marketing channels for small-scale and specialty farmers in Norway, looking at three possibilities for distributing their products (Jervell & Borgen 2004). These include "(i) the 'new' farmers markets, (ii) retail initiatives where local producers deliver their produce directly to shops, and (iii) companies founded by large cooperatives to market specialty products" (Jervell & Borgen 2004:108). These three methods are, of course, not the only ways to increase the organic consumer base in Norway.

1.4 Public Organic Food Procurement for Youth

Another way to create a steady market for organic foods is to have public institutions (for example daycares, schools, hospitals, etc.) serving organic food (Løes *et al* 2007:1). As Morgan and Sonnino write, "the school meal service (…) constitutes an enormous market in its own right, capable to sustain quality food production systems" (Morgan & Sonnino 2007:19). The Innovative Public Organic food Procurement for Youth (iPOPY)[9] project description predicts that schools would be particularly effective arenas to

[9] For more information on this project, see http://ipopy.coreportal.org/ .

introduce organic food (Løes *et al* 2007:1). This project proposal presents the hope that if young people learn about and get used to organic products, they will be more likely to consume such foods when they begin to make more of their own decisions about food purchases (ibid.:1). Through initiatives such as *Skolefrukt* as well as schools' own local or organic food programmes, providing organic fruit and vegetables in schools is one way in which young people can be introduced to organic foods.

1.5 Organic and Environmental Education

Environmental issues have been in the spotlight in recent years and have entered the general popular discourse. These themes have also become quite significant in schools. More recently, topics surrounding organic food and agriculture have also started making their way into the curriculum. Food and Health[10] classes are compulsory for Norwegian pupils in primary and lower secondary schools. In these classes, pupils learn about health and lifestyle, informed consumption, and different cultural roles of food (Lund & Sommerseth 2008). The classes also include a practical element with cooking and baking. In the new textbook for Food and Health class in Norway, themes related to sustainable and organic food choices come up in various sections. There are chapters about ethical and sustainable food consumption, food safety (including information about pesticides, additives, genetically modified organisms, etc), and different types of food labelling, such as Debio organic (Ask *et al* 2006). The amount of teaching about both environmental and organic food topics varies greatly from school to school. This depends on a variety of factors, for example how involved the local community and municipality are with these themes, and whether there are staff members at the school who are interested and engaged with these topics. The four schools I

[10] *Mat og helse*. Also known in English as Home Economics class. This course is given across Norway in sixth and ninth grades.

have chosen place a greater emphasis on the topics surrounding organic food and farming and on incorporating organic food into their curriculum than the average Norwegian school. By including organic food in their school day as well as teaching about it, they have gone beyond what is assigned in the national teaching plan.

1.6 School Meal Systems: A Brief International Overview

The school systems in the Nordic countries of Denmark, Finland, Norway and Sweden are similar in many ways. Where they differ quite significantly, however, is in terms of school meal systems. Finland and Sweden have similar systems offering warm school meals, whereas pupils in Denmark and Norway bring their own lunches. I will also provide a brief summary of Italy's school meal system, since Italy is often used as a successful model. This section provides a context for understanding the place of food in the Norwegian school system and the changes it is undergoing, such as the introduction of government-subsidized *Skolefrukt* and some schools' own school food initiatives.

Norway

In present-day Norway, children bring their own packed lunches to school. This, however, has not always been the case. From the 1880s to the 1930s, many municipalities offered warm lunches to school children (Løes *et al* 2008:4-5). In the mid-1930s, the "Oslo breakfast" was introduced; this breakfast consisted of "whole-grain biscuits and whole-grain bread with margarine and cheese, 0.5 litres of fresh milk, and (…) a piece of raw vegetable or fruit" (ibid.:5). When the municipalities could not afford to supply school meals, the children were to bring their own ingredients for the "Oslo breakfast" to school with them (ibid.:5). This became the norm in

Norwegian society. As Løes *et al* write, "This packed lunch (*matpakke*) has become such a well-established tradition that Norwegians tend to believe that a cold meal for lunch is the only natural thing, and that eating something warm for lunch (in addition to a warm dinner) would be fattening and unhealthy" (2008:5). According to the Norwegian Ministry of Education and Research[11], pupils in the in the early grades bring their own lunches to school on a regular basis, but that among the older pupils this number tends to drop, meaning that they are more likely to buy unhealthy alternatives from local kiosks or stores (Bjelland 2006:16). Since the 1970s, schools in Norway have had the option of subscribing to a school milk programme, and fruit subscriptions were introduced in the mid-1990s[12] (ibid.:16). While some schools choose to offer only conventional or only organic school milk, others give pupils and parents a choice between the two. Many schools have also started providing organic fruits and vegetables. At the start of the school 2007-2008 school year, it was reported that over 15 percent of the *Skolefrukt* delivered to Norwegian pupils was organic (Grihamar 2007). Norway also has strong political support for local agriculture, and has as history of implementing policies to keep rural areas populated. There are various companies that only supply organic fruits and vegetables, while the largest supplier (a company named "Bama") provides organic fruits or vegetables once a week (Grihamar 2007). Bringing lunches from home has long been the norm in Norway, but this trend is starting to change in some schools.

Denmark

Denmark has a similar school food situation to that in Norway. Pupils bring their own lunches, and schools have the option of signing up for subscription programmes for milk, fruits, vegetables, and warm drinks

[11] *Kunnskapsdepartementet.*

[12] With both the milk and the fruit-and-vegetable schemes, parents were given the option of signing their children up for a paid subscription to these programmes.

(Bjelland 2006:25). The major factors contributing to the fact that few schools have canteens are financial barriers, a lack of political interest from the municipality, and limitations of the school buildings (for example, not having appropriate kitchen facilities, or space for a canteen) (ibid.:25). The general aims of those promoting school food systems are related to health and increased learning ability, with a smaller focus on environmental issues (ibid.:12). It is currently more common in Denmark to find organic food being served in nurseries and daycares than at schools (Hansen *et al* 2008:11). However, some municipalities have been increasing their focus on organic food in schools. Copenhagen has been most active in this regard; there, all public schools have at least some organic food, and there is a goal that 75 percent of this food will be organic (ibid.:13).

Sweden

Although the school system in Sweden is generally quite similar to that in Norway, there is a significant difference in school meal systems. In Sweden, schools have been providing warm meals since 1946, and in 1997 it was written into law that all pupils would receive a free school meal (Bjelland 2006:24). The municipalities have always been financially responsible for these meals (ibid.:24). The school meals are based on guidelines from the National Food Administration[13], which provide recommendations for planning, purchase, preparation, portion sizes and quality (ibid.:24). In order to increase the chances that pupils will eat the school meals, it is also recommended that schools provide a choice between two meals on a daily basis (ibid.:24).

[13] *Livsmedelsverket.*

Finland

Finland's school meal system is more similar to that in Sweden, as compared to Denmark and Norway. Since 1948, free school meals have been served (Bjelland.:25). The laws concerning basic education rights include the right to school meals (ibid.:25). While the costs of school meals are shared by the state and the municipalities, the contents of the meals are decided through cooperation between the municipalities and the schools (ibid.:25). Finnish school children are served warm meals which are generally prepared in a municipal kitchen (ibid.:25). In terms of organic food in Finnish schools, there are big differences between the different municipalities and schools, and also depending on the participation of other active stakeholders (Mikkola 2008:10). There is a strong connection between organic and local food in Finland (ibid.:10). Locally grown food has stronger political support in Finland than does organic food. Mikkola (2008) describes different patterns of organic and/or local food use in public procurement settings. In some cases the organic and/or local food is integrated into the regular meal system without the eaters being aware of any changes (Mikkola 2008:10). In other cases the organic and/or local foods are part of a special meal day or event (ibid.:10). Still other examples demonstrate cases where the use of organic and/or local food is made much more visible through the use of various certifications and labels (ibid.:10). There are, however, no entirely organic school meal systems currently in place in Finland (ibid.:10).

Italy

Italy's school meal system is often seen as a model in terms of organic food as well as local food traditions. They stress the importance of quality and environment, and draw strong connections between local food production and local food traditions, as well as between school meals and food education (ibid.:26). The right to health and the right to education are both essential elements of school meals (Morgan & Sonnino 2007:21). As Morgan and

Sonnino write, “the Italian model integrates the nutritional dimension of the food served in schools into a wider cultural framework that emphasizes the educational purposes of school meals and assigns to them the specific function of protecting the ‘local’” (ibid.:21). There is also a strong focus on integrating school food values with those food values learned at home (ibid.:22). The public sector in Italy is playing a strong role in promoting organic and local foods, as well as sustainable consumption (ibid.:21). Already in 2003, 68 percent of Italian schools included at least some organic food in their school meals (ibid.:21). In Italy, the school meal is viewed as an “educational tool” for promoting local identity as well as “the values and meanings attached to food” (ibid.:22)

* * *

In this chapter, I have presented a variety of factors – the *Skolefrukt* initiative, the conceptualization of organic food, the role of organic food in Norway, and the place of organic food in schools – which are all important for understanding the context of my research. In the next chapter, I describe the research process of my study.

2. Methodology

I decided to perform my research using a variety of qualitative methods. I wanted to study how young people in Norway relate to organic food and farming, and what they think and know about it. In other words, I wanted to ask how young people in Norway define and describe organic food and farming, and what meanings and characteristics they attach to this. Rather than gaining an understanding about what Norwegian youth in general think about organic food, I wanted to study specifically those young people who had been exposed to organic food in the school setting and to gain an in-depth understanding of their relationship towards organic food and farming. The open-ended nature of my survey and focus group questions allowed the pupils to express their own opinions and thoughts, rather than choosing from among a set of predetermined answers. (I wanted the pupils' voices to be heard through my research and writing. In order for the pupils' voices to come across as authentically as possible, I have generally kept the original spelling and grammar when directly citing the pupils in my text. In the cases where the pupils answered in Norwegian, I have provided my own translation into English in the text, adding the original text as a footnote.)

I will begin this chapter by explaining how I selected the four schools where I performed my research, including how I found them, how I contacted them, and how I narrowed my choice down to four schools. My choice of specific research methods was influenced somewhat by my initial contact with the schools. During the initial phone calls to the schools, many of the teachers or administrators I spoke with were concerned about the time that my study would take at their school. My choice of study methods was therefore partially based on the efficiency of these methods, which ensured that I would need to spend no more than two or three days at each school. My research involved two separate visits to each of the four schools. The survey allowed me to

reach many pupils in a relatively short period of time. The focus group interviews with the pupils were also less time-consuming than individual interviews would have been. When planning my interviews with the teachers and school administrators, I also had to be aware that they would likely be unable to spend enough time with me during a school day for a formal interview, so I chose to perform somewhat more informal interviews instead. In the following sections, I will describe how I planned for and performed these different research methods, and how I analyzed the results from them.

2.1 School Selection

My study has involved four lower secondary schools[14] in different regions of Norway. I chose to focus specifically on lower secondary schools due to a few different reasons. First, those are the schools that began receiving fully-subsidised *Skolefrukt* in the autumn of 2007. Also, the pupils there are at an age where they have been learning English for quite a few years, making it easier for me to communicate with them than it would have been with younger children. Teenagers are also an interesting age group to study in this context, since they are starting to make more of their own decisions about what they eat and are therefore likely to be thinking more about their food preferences and choices.

The selection process spanned over the course of several months. I began by contacting the various companies which distribute organic *Skolefrukt* to schools across Norway.[15] These companies then supplied me with lists of the schools that they deliver to. Although I contacted all of the relevant companies that I am aware of, two of the seven companies did not reply to my requests

[14] *Ungdomsskoler*. Grades 8 to 10, ages 13 to 16.

[15] I also tried to contact the Norwegian fruit and vegetable marketing board (*Opplysningskontoret for frukt og grønnsaker*) which runs the *Skolefrukt* programme, but did not receive any information from them until after I had chosen my schools and had begun my fieldwork research.

asking for a list of schools that they supply to. I did, however, receive lists with a combined total of 39 schools, giving me quite a range of schools to choose from[16]. Due to Norway's low population density, some of the 39 schools on the lists have only a handful of pupils in each grade; I decided not to contact the schools with so few pupils. Also, some of the schools are physically difficult to access[17], so I decided against contacting them for practical reasons. After a brief internet search of the schools and their communities, I proceeded to contact 18 schools. As I noted above, I chose to focus my study on pupils in lower secondary schools, and below I will explain my decision to study public schools[18].

My first phone-call to each school involved an informal interview with either the school's principal[19], or with the person responsible for running the *Skolefrukt* programme at the school. In most cases, the first person I talked to at the schools was the secretary, who decided whom I should speak with after I had explained the reason for my call. During this initial contact with the principal or person responsible for *Skolefrukt*, I asked some general questions about the demographics of the school, how the supplying company was chosen, who decided that the school should supply organic School Fruit, and briefly about organic and environmental education at the school. It turned out that one of the schools that I called was in fact not getting organic *Skolefrukt*, but was rather starting their own food project based on organic and local foods. This struck me as an interesting case demonstrating another way besides *Skolefrukt* in which organic food can be introduced in Norwegian schools.

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[16] According to a list from *Skolefrukt* (Johansen 2007), there are approximately 130 schools in Norway which order their school fruit from organic suppliers. This number includes many alternative schools (for example *Steinerskoler*, or Waldorf Schools), as well as elementary schools.

[17] For example, schools in small mountain, fjord or island towns and communities.

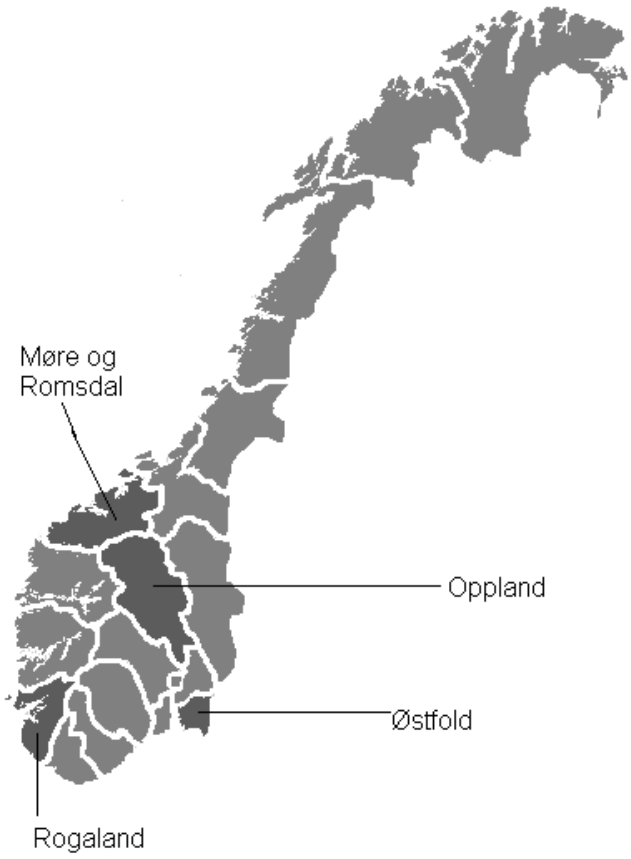
[18] I use the term "public schools" to refer to government-run schools.

[19] *Rektor*, or "Headmaster".

After eliminating the schools uninterested in or unable to take part in my study, I had eight potential schools remaining on my list. I further narrowed down my selection based on the schools that seemed to be most active in educating their pupils about organic food and farming, as well as about environmental issues. It may have been interesting to compare schools which do not have education about organic food with those that do, or schools which do not have organic *Skolefrukt* with those who do; however, the schools which were less active in introducing organic foods to their pupils were generally far less willing to take part in my study. Also, since this is a new area of research, I found that it would be interesting to specifically study schools where organic food is being introduced to the pupils in order to gain an idea of how this is being done in different contexts. Although many alternative schools (for example, *Steinerskoler*, or Waldorf Schools) place a great emphasis on education about organic agriculture, I decided to focus on public schools where this type of education is a newer phenomenon. The decision to order organic *Skolefrukt* was presumably a less obvious decision for the public schools than for the alternative schools that have historically had a connection with organic agriculture. I chose three schools with organic *Skolefrukt*, and also included the one school where they were starting their own local and organic food initiative while having conventional *Skolefrukt*. The number of pupils at my four chosen schools is roughly within the same range, spanning from about 200 pupils to about 370 pupils[20]. The four schools are located in different counties in Norway – Møre og Romsdal, Oppland, Rogaland, and Østfold (see **Map 1**). Of the eight potential schools for my study, three were in Oppland and three were in Møre og Romsdal. Deciding the four final schools was therefore also partially based on my wanting to study schools in a range of different areas in Norway

[20] I consider this to be an acceptable range for comparison, since some of the schools I chose not to contact had between 20 and 80 pupils, many having this number of pupils ranging all the way from grades 1 to 10.

Map 1: Map of Norway showing the four counties where the research took place.



Because I have chosen a non-random method of study, I have to be cautious about generalizing my results. It is likely that the four schools I have chosen are among the most active of Norway's public schools in terms of organic and environmental education, and are thus not representative of what is happening in Norwegian schools as a whole. What they do represent are potential ways in which organic food can be introduced in Norwegian public schools. The choice of schools was not simply up to me – their own willingness to participate was essential. While some schools were simply uninterested in taking part in my research, some others were concerned about the amount of time that this would take from their regular lessons. Although there were some minor exceptions, the schools that were willing to take part in my study seemed to be those with the greatest focus on environmental and organic

agriculture topics. Thus, my study provides an examination of different ways of approaching the topic in four distinct schools and regions, rather than an overview of how organic food is being introduced to Norwegian youth in general. The selection process I used was similar to that used by Higgs and McMillan (2006:40-41) in their study of four North American schools teaching sustainability. They too chose to focus on schools which fit specific criteria, rather than providing a representative sample of sustainability education in North American schools. After selecting my four schools, it was time to visit them all and begin my fieldwork.

2.2 Fieldwork: Visiting the Schools

I spent a total of two or three days at each school, on two separate visits to each school. The two visits to each school were about two or three months apart. Most of my communication with the pupils took place during their English classes. Although communicating primarily in English may have caused some minor language barriers, the pupils tended to be relatively comfortable with the language. I am also competent enough in Norwegian that I could understand and explain if they had any questions about the survey or during the focus group interviews. Doing most of my research during English classes allowed me to give back to the schools which were an essential part of my research. The teachers welcomed the opportunity to have their pupils speak English with a native English speaker; in some cases I spent some time speaking with the pupils after they had completed the survey, often telling them a bit about my home country of Canada. The pupils seemed to think it was pretty "cool" that someone from so far away is interested in learning from and about them. As one girl wrote at the end of the survey:

> I think it is very nice to get visit, and that someone cares. No one else has done a survey, at least that I know about (Grade 8 girl).

Another girl commented that:

> I think it was a cool survey. And it's cool that you care so much about the environment (Grade 8 girl).

My fieldwork at the schools included survey questionnaires and focus group interviews with the pupils, semi-structured interviews with school staff, and some observations. I will explain my use of these methods in the following sections.

2.2.1 Survey questionnaires with pupils

The first part of my fieldwork research involved having pupils at the schools fill out a survey questionnaire. The questions were written primarily in English, but I told the pupils that they could reply either in English or Norwegian, or in a combination of the two. The pupils also had the opportunity to ask me or their teacher for clarification about the questions. Before handing out the survey questionnaires, I ensured the pupils that I - the researcher - would be the only person to see the completed surveys; their answers would thus remain anonymous. I also told the pupils that they had the option of not filling in the survey, or skipping any questions that they did not want to answer. There were very few who left most questions unanswered. In each school, the survey was filled out in two or three classes with a total of 167 survey respondents from the four schools.

I used a convenience sampling strategy to select my survey respondents. Berg explains that "This category of sample relies on available subjects – those who are close at hand or easily accessible" (Berg 2001:32). The classes in which I conducted the survey were chosen based on which teachers were willing to have me come to their classes rather than on random sampling across the whole school; these classes were therefore those which were accessible to me. Although random sampling would have been ideal in terms of generalizability, it is unlikely to have been feasible in the school setting within the timeframes that the schools were able to provide for my research.

Had I used random sampling, I would likely have needed to take a few pupils out of a relatively large number of classes, thus interrupting most of the classes at the school and needing all teachers to be willing to participate. I would also have needed to have access to full school list ahead of time, in order to perform the random sampling, and I would have needed to find a separate location at the school where the selected pupils would have filled out the survey. With the method that I used, regular class time was taken away only from a relatively small number of classes and only from classes where the teachers were willing to give me that time. My study methods had to fit with what was feasible and practical within the schools, without causing major disruptions in their daily plans and routines. Despite these challenges, I claim that my survey results were quite representative within each individual school. A large majority of my survey questionnaires were filled out in compulsory classes[21], meaning that I had a range of pupils filling out the survey[22]. As far as I could tell from observations and informal discussions at the schools, these classes where I performed my survey were generally not classes where the teachers or the pupils were more, or less, interested in organic food or environmental issues than the average at each school. Using the survey allowed me to reach a larger number of pupils at each school than would have been possible if I would have only used interviews or focus groups. Although surveys are generally used in quantitative studies, mine involved primarily open-ended qualitative questions[23]. The open-ended survey questions resulted in many interesting and unexpected answers that I would not necessarily have given as answer options had I created a multiple choice survey.

Analyzing the survey results consisted of finding common themes and trends among the given answers. I began the analysis without preconceived

[21] English, Social Studies, and Christian Knowledge and Religious and Ethical Education (*Kristendoms-, religions- og livssynskunnskap* [*KRL*]).

[22] One group of 5 or 6 pupils was in an elective French class.

[23] See Appendix B for a copy of the survey questionnaire.

ideas of what these themes would be, but rather came up with the different categories based on the answers which the pupils had given. After finding a set of themes for each question in the survey, I used a spreadsheet to fit each survey answer into one of the themes. I then created bar graphs in order to see the general trends among the answers, and to see which themes had been more prominent than others. I later separated the results by school so that I could compare the results from the four schools. I also wanted to see if there were any differences between genders, and therefore also separated the boys' results from those of the girls. These survey questionnaires were the method that allowed me to reach the largest number of pupils possible at each school.

2.2.2 Interviews with school staff

In order to gain an overview of the schools, I had some "semistandardized interviews" (Berg 2001:70) with some teachers and school administrators. These types of interviews involve a set of questions to be asked, but also allow other relevant themes to be discussed as they arise (Berg 2001:70). Schools are busy places with constant activity, making it challenging to sit down with a teacher or administrator for a formal interview. In most cases, there was a brief chance to sit down and talk, but many of my interviews consisted of asking questions throughout the school day as we moved between classes or activities. Who I spoke with at each school depended on who was interested and who had time to speak with me. This means that I generally spoke with those with the most interest and knowledge of organic food and farming, or about environmental issues. Although the interviews were generally informal, I did have a written list of questions that I carried with me so that I could refer to the questions I had planned[24]. This ensured that I asked essentially the same questions at each school, thus making it possible to compare interview responses. In formulating my interviews, I was inspired and guided by books

[24] See Appendix C for the interview questions for school staff.

on qualitative research by Rubin and Rubin (1995) and by Berg (2001). Interviews were useful in this case, as compared with written questionnaires, because they allowed me to expand on topics that came up and to explore themes that I had not originally thought of discussing. As Berg writes, "Usually, interviewing is defined simply as a conversation with a purpose" (2001:66). The purpose in my interviews was to get a general overview of each school, as well as an account of the role of organic food in that setting. The personal opinions of the interviewees also came through in the interviews.

2.2.3 Focus group interviews with pupils

I performed one focus group interview at each school, with five to six pupils in each group. Focus groups are often associated with marketing research, but their use in social science research has been growing (Dürrenberger *et al* 1997:7; Berg 2001:113-114). Focus group interviews are a combination of focused interviews and group discussions; they are led by a moderator with a list of questions to spark the discussion (Dürrenberger *et al* 1997:6; Berg 2001:122). I decided to perform group interviews with the pupils rather than individual interviews based on various reasons. I was initially inspired to use this method after a conversation with a previous SUM master's student, who had recently also done her study with Norwegian youth in schools. From her research experience, she found that the pupils were more open and talkative in a small group setting than they were in individual interviews. This recommendation was supported by various sources. Dürrenberger *et al* agree that focus groups are a more natural and comfortable setting than individual interviews, and that focus group participants feel "less exposed" in these group situations (1997:15). Berg notes specifically that focus group interviews are "an excellent means for collecting information from young children and teens" (2001:111). Besides being appropriate for studies with youth, focus groups are suitable for my study in other aspects as well. Greenbaum suggests that one use for focus groups is in "attitude

studies" (1998:11). Dürrenberger *et al* find them useful for gauging opinions, attitudes and experiences, as well as being good exploratory tools for relatively new research topics (1997:7, 15). Another reason I chose focus group interviews was based on pragmatic reasons. Namely, focus groups can be performed within a short time span (Dürrenberger *et al* 1997:15; Berg 2001:111). Performing focus group interviews with the pupils rather than individual interviews allowed the pupils to discuss and exchange ideas, and also minimized the amount of time I needed to spend at each school.

There are also some limitations involved with using focus group interviews. In my case there was somewhat of a language barrier between myself and the pupils, who are native Norwegian speakers. This was not a major obstacle, however, since the pupils were quite fluent in English and I have also become relatively comfortable with Norwegian. We were therefore able to discuss the topic in a combination of the two languages. This gave the pupils an opportunity to speak English with a native English speaker, which many of them were enthusiastic about. Focus group interviews also yield less detailed results than individual interviews (Berg 2001:115). Likewise, they prevent the collection of purely individual data. However, individual responses are something that I was able to gather through the survey questionnaires from the earlier school visits. Despite these limitations, I believe that the benefits of focus group interviewing – especially in terms of the increased openness and comfort for the participants - outweigh the disadvantages of this method.

In combination with the individual answers from the survey, using focus group interviews allowed for triangulation of my research data. My focus group questions were based mainly on results from the survey questionnaires, and allowed me to gain a deeper and more detailed understanding of answers and themes from the survey. The results from the focus group interviews generally corresponded with the responses from the survey; the focus group interviews thus confirmed my survey results, while also adding depth to the

responses. I went to the focus group interviews with a set of questions that I wanted to discuss with the pupils, along with several more specific probing questions in order to encourage conversation if necessary[25]. At each school, I spoke with five or six pupils. The pupils at each school were all from one class, and thus homogenous in terms of which grade they were in. Each group had a mix of boys and girls. All pupils took part in the focus group voluntarily, but in some cases the pupils themselves volunteered to take part, while in other cases the teachers or principals asked specific pupils if they would be willing to take part. After receiving permission from the school and the pupils themselves, I audio recorded the focus group interviews. This allowed me to participate fully in the discussions, rather than constantly having to take notes. It also gave me the opportunity to listen to the interviews later and to create full transcripts to be used for analysis.

When analyzing the focus group interviews, I began by writing full transcripts from the taped interviews. Once I had typed copies of the interviews, I again looked for general themes and trends as I had done with the survey results. The themes from the focus groups were generally the same as they had been in the survey, such as taste, health, convenience and availability, environmental issues, and so on. The focus group interviews also included a more in-depth look at issues surrounding education (both about organic food and about environmental topics) than did the survey. I used various these themes in coding the focus group transcripts.

2.2.4 Observations at the schools

While visiting the schools, I had the chance to observe some of their daily activities. Since I only spent two or three days at each school, my observations were limited as compared with, for example, an anthropological participant observation study. However, I did gain more of a feel for the schools than if I

[25] See Appendix D for my focus group interview guide.

had, for example, sent the survey to the schools by mail. I was shown around at the different schools, in some cases by pupils and in other cases by teachers or school administrators. I had the opportunity to sit in on some classes in which organic food and farming, or environmental issues were being discussed. Spending some time at the schools allowed me to see how the organic foods that the schools have is presented and distributed to the pupils.

2.3 Reading and 'Library Research'

Besides visiting the schools, my research also involved some "armchair" research. I read and consulted some books related to qualitative research methods. I also read journal articles from a variety of disciplines, including education research and theory, consumer research, food and nutrition, health, nutrition education, agriculture, environmental education, and sociology. Since the topics associated with my research are relatively new areas, there was more information available in journals than in books. The internet provided a wealth of information about initiatives such as *Skolefrukt* and Norway's' *15% by 2015* goal. It also allowed me to keep up to date on news relating to *Skolefrukt* and developments in organic food in Norway. Norwegian government websites provided information about their policies and initiatives related to food in schools and organic farming. Organizations such as Debio[26] and Oikos[27] distribute information about various topics related to organic food and farming primarily in Norway.

* * *

Throughout the research process, I moved back and forth between performing and analyzing my own research, and reading about previous

[26] "Debio is a private, non-profit association" (Debio 2008b) which "performs auditing and certification assignments in fields lying both within and beyond the scope of the definitions of organic production" (Debio 2008a) in Norway.

[27] "Oikos is the national movement of organic producers and consumers in Norway" (Oikos 2008).

studies; my research did not involve a linear progression from reading to research to analysis. Instead, the reading influenced how I performed my research and analysed my data, while my research process inspired me to explore new directions in my reading. The next chapter about previous studies and existing theoretical perspectives is based on the various studies which I read.

3. Previous Studies and Existing Theoretical Perspectives

In this chapter, I will give an overview of some studies that have previously been done in the areas of environmental education and nutrition education. I will also present some consumer studies which have been done regarding organic and sustainable food consumption. When describing the various consumer studies, I will look at different themes that come up when consumers are asked about their opinions and behaviours regarding food, especially organic and sustainable food. The section about environmental education includes the concepts of interdisciplinarity and holistic thinking, as well as learning by experience. Since organic agriculture is closely related to environmental topics, environmental education theories are relevant in examining teaching about organic food and farming. Holism, integration and consistency are also relevant themes in nutrition and food education, as is the importance of forming habits. Nutrition education provides a relevant framework for examining organic food, since both are clearly concerned with food and eating habits. This chapter will provide a theoretical background for the analysis of my case studies. I will begin by presenting the different themes presented in consumer studies with organic food consumption. I will continue with a discussion about education theories, specifically those related to environmental and nutrition education.

3.1 Consumer Studies

There are various factors that affect consumers' decisions regarding the purchase and consumption of organic foods, for example taste, health, environmental concern, price, etc. Numerous studies demonstrate these different themes. Magnusson *et al* (2001, 2003) performed their quantitative study about attitudes regarding organic foods among Swedish adults, asking

specifically about the purchase of organic milk, bread, potatoes and milk. Sparks and Shepherd's (1992) study from nearly two decades ago looked at links between self-identity and "Green Consumerism," using organic food consumption as one example of 'green' consumer behaviour. Vermeir and Verbeke (2006) conducted research in Belgium, studying the gap between attitudes and behavioural intentions in terms of sustainable food consumption. In a study done in New York City, Bissonnette and Contento examined "adolescents' perspectives about the environmental impacts of food production" (Bissonnette and Contento 2001:72). Hughner *et al* (2007) have reviewed and compiled results from over 30 previous studies, mostly from Europe and the United States, which look at why people buy organic food. Roos' (2002) study of "Food and Embodiment among Children in Kentucky" was not related to sustainable food consumption, but did demonstrate some similar themes related to food choice as did the other studies, and was interesting for my study because of focus on children. The following sections are not aimed at describing facts about organic food and farming, but rather at discussing the opinions and attitudes of consumers.

3.1.1 Consumers' perceptions and experiences of organic food

Defining the concept "organic" is complex, and consumers have varying ideas about what it signifies. While Magnusson *et al* write that many consumers are familiar with the idea of "organic food" (2001:210), they also agree with Hughner *et al* who maintain that there is still a significant amount of confusion about what this term really means (Magnusson *et al* 2001:223; Hughner *et al* 2007:96). Different demographic groups may have varying ideas about organic food (Hughner *et al* 2007:94), and numerous other labels such as "cage-free" and "natural" also add to this confusion (ibid.:96). The concept of "local" food is also often combined or confused with organic food. The move of organic food to the mainstream can have an effect on how

consumers perceive and define the term. Consumers who view organic food as existing in the domain of small independent farmers may be affected in their food purchase decisions when organic moves into the realm of big business and large food companies (Hughner *et al* 2007:106). Despite this confusion about the concept and definition of organic food, Magnusson *et al* found that the majority of the respondents in their study had positive attitudes regarding the purchase of organic foods (Magnusson *et al* 2001:216). Just as there are various definitions of organic, there is a diversity of reasons for why people choose to purchase and consume organic foods, based on their own "subjective experiences and perceptions" (Hughner *et al* 2007:95). In this section, I will present different themes regarding why consumers choose or avoid organic food. The themes which were apparent in earlier consumer studies were the taste of the food, personal health considerations, convenience and availability, price, environmental concern, local food production, gender and age, lifestyle, skepticism towards organic food, and informed consumption.

Taste

The taste of food tends to trump other factors related to food choices. Magnusson *et al* found taste to be the most significant purchase criterion for food in general (2001:218), and pointed out that their findings on this topic correspond to other studies (2001:222). Although that study was done with adults, taste is an important factor for all ages. Teenagers rate taste as very important, and say that they buy food based on that factor (Bissonnette and Contento 2001:75, 79). Younger children also base their food choices on personal preferences towards specific foods (Roos 2002:7). Some studies have also found that consumers choose organic foods over conventional foods because they prefer the taste of organic. Hughner *et al* found taste to be among the top reasons for purchasing organic food (2007:103). Bissonnette and Contento found that the teens that they surveyed thought that organic foods tasted better than conventional foods (2001:75, 78). Although taste is

far from the only criterion for food purchases, it does tend to be a very important one.

Personal health

Health is another aspect that often tops the list of factors related to food choices. Many studies demonstrate that people will choose organic food based on perceived health benefits (Bissonnette & Contento 2001; Magnusson *et al* 2001; Magnusson *et al* 2003; Hughner *et al* 2007). Hughner *et al* write that a majority of the studies that they reviewed had reported that the leading factor for buying organic foods was 'health' (2007:101). Among Swedish consumers, organic foods were perceived as being healthier than their conventional counterparts (Magnusson *et al* 2001:218, 222, 223). As well, personal health was seen to be the most important factor for choosing organic, and health was also seen as "the most important predictor of attitudes (…) and purchase intention" (Magnusson *et al* 2003:109, 115). Teenagers in Bissonnette and Contento's study also believed organic food to be superior in terms of health, they were also influenced by healthfulness in their food decisions, and they often asked their parents to buy healthy foods (Bissonnette and Contento 2001:75, 76, 78). Younger children used health as one of the main categories when classifying different types of foods, but were more likely to prefer the foods that they had identified as 'junk' foods (Roos 2002:1).

Increasing concerns and criticism about food safety have also had an impact on the growth of the organic food market. Hughner *et al* note the consumer concerns about long-term health effects of pesticides and other agro-chemicals (2007:101). Recent scares about food-borne illnesses - such as BSE ('mad-cow' disease), foot and mouth disease, *e-coli*, and salmonella - have been other reasons for skepticism about the conventional food system which have led consumers to consider other food source options (Hughner *et al* 2007:102; Vermeir & Verbeke 2006:169). Consumers often consider organic foods to be less likely to present such health risks.

This discussion about health revolves around personal well-being. Magnusson *et al* contrast this concern for personal health with concerns for the environment, with the first being described as an egoistic motive for the consumption of organic foods, while the latter is viewed as involving altruistic motives (2003:109-110). Personal health and that of family members was found to be the most prominent indicator of attitudes towards the purchase of organic foods (Magnusson *et al* 2003:115). The egoistic concerns about health were found to be better predictors for organic food purchase than altruistic motives related to the environment (ibid.:115-6). The evidence for organic foods being healthier or more nutritious than conventionally grown foods remains ambiguous and inconclusive (Magnusson *et al* 2003:109; Hughner *et al* 2007:106). Hughner *et al* discuss this "health paradox," wondering whether the growth of the organic food market depends on these health claims and whether it would be detrimental to the organic food sector if these claims were to be disproved (Hughner *et al* 2007:106). Despite this, health remains a major motive in food purchase decisions in general, and is often associated by consumers with organic foods.

Convenience and availability

Consumers are generally drawn to foods that are convenient and easy for them to access. The lack of availability or the inconvenience of obtaining organic foods is often brought up as an obstacle to purchasing these products (Magnusson *et al* 2001:211, 221; Magnusson *et al* 2003:116; Vermeir & Verbeke 2006:184; Hughner *et al* 2007:104). Vermeir and Verbeke found that "The general public believes that sustainable products are difficult to obtain," and that those consumers who disagree with this statement are more likely to purchase sustainably produced foods (2006:184-5). For the teenagers in Bissonnette and Contento's study, convenience, along with taste, was rated as a leading factor in food choice (2001:79). Most of the teens thought that the availability of organic foods should increase and that the foods should be

clearly labelled as such (Bissonnette and Contento 2001:75, 78). Overshadowing any concerns the teens had about how or where their food was grown, was a belief that they should be able to access their favourite foods all year round (ibid.:75). Therefore, if organic food consumption is to increase, it must be made visible and accessible to the general public.

Price

Organically and sustainably grown foods tend to present a higher direct cost to the consumer than do conventional foods. The idea of consumers having to pay premium prices for organic foods has arisen in many research studies (Sparks & Shepherd 1992:391; Bissonnette & Contento 2001:75, 76; Magnusson *et al* 2001; Magnusson *et al* 2003:116; Hughner *et al* 2007:96). Price seems to be a major factor which inhibits the purchase of organic foods (Hughner *et al* 2007:103). Magnusson *et al* found it to be important to consumers that organic foods not cost more than conventional foods - a finding that agreed with previous studies they had examined - and that price partially explains the low purchase rates of organic foods (2001:222, 224). The importance of price as a deciding factor in food purchases was found to be related both to the respondent's level of education and income; those respondents with higher education and/or with a higher income were more willing to pay the higher prices associated with organic products (Magnusson *et al* 2001:211). Hughner *et al* point out a paradox related to food price and quality (2007:106). They state: "While consumers indicate the high price of food to be prohibitive in their purchasing behaviors, they use price to form opinions about the quality and taste of organic food items" (Hughner *et al* 2007:103). This means that while consumers are often unwilling to pay more for organic foods, the less expensive organic foods are often viewed as being of lower quality (ibid.:106). Price is a theme which is often discussed in consumer studies about organic food.

Environment

Organic farming practices are often associated with environmentalism, but the degree to which this factor has been shown to influence organic food purchases varies between different studies. In describing sustainable agriculture, Vermeir and Verbeke (2006) raise economic, ecological and social components. They give the following description of the ecological aspect:

> The ecological component involves care for the natural environment and livestock production conditions, the living environment in general, and the quality of life for humans. The ecological component refers to sustainability in the strict sense of preserving the environment and sustainable use and management of natural resources (Vermeir & Verbeke 2006:170).

Increased interest in environmental issues and in sustainable consumption has been related to a rising interest in organically and sustainably produced foods (Sparks & Shepherd 1992:391; Magnusson *et al* 2003:109; Vermeir & Verbeke 2006:169, 170; Hughner *et al* 2007:102). Adolescents also see conventional farming as harmful to the environment and view organic agriculture as a more environmentally friendly alternative (Bissonnette & Contento 2001:75, 78). There are various environmental problems that consumers relate to conventional farming as compared with organic farming. Pesticides, herbicides and other agrochemicals are considered as environmentally harmful (Bissonnette & Contento 2001:75; Hughner *et al* 2007:102), and there is a concern that these will leak into water sources (Bissonnette & Contento 2001:75). Consumers also associated conventional agriculture with a significant use of fossil fuels, as well as with pollution generated during food transport (ibid.:75). Magnusson *et al* describe concern for the environment as an altruistic motive for organic food purchase, as compared with health which is seen as an egoistic reason (2003:109-110). Another altruistic factor that motivates some consumers to choose organic food is animal welfare (Magnusson *et al* 2003:109-110; Hughner *et al* 2007:102). In some cases, this factor is related to environmental effects with consumers believing that conventional farm-animal raising practices are

harmful to the environment (Bissonnette & Contento 2001:75). The benefits from environmentally friendly behaviours require a collective effort and the effects of these actions may not be felt during the consumer's own lifetime (Magnusson *et al* 2003:115-6). Hughner *et al* found that although consumer attitudes are positively affected by environmental concerns, these do not constitute a driving factor in the decision to buy organic foods (2007:102). Magnusson *et al* had similar results; health and environment were the two most frequently expressed reasons for buying organic foods, but personal health was seen as the more important factor (2003:109). Most consumers are not willing to give up short-term egoistic health-related motives in exchange for long-term altruistic environmental factors (Magnusson *et al* 2003:110). Despite the relatively strong perceived association between the environment and organic agriculture, it appears that environmental concern on its own will not influence most consumers to buy organic foods.

Local

Like the terms "natural" and "free-range", the concept of "local" food is something that often gets associated or confused with organic. Local food is connected to the physical place where it is grown, but also to traditional, social and cultural aspects (Holt & Amilien 2007, ¶ 2, 15). Local knowledge helps to preserve certain foods and recipes, as well as the historical and cultural context of those foods (ibid.: ¶ 18). One major element in the growing popularity of local foods has been to revitalize rural communities (ibid.: ¶ 7) socially and economically. Another factor is that the increasingly urban population is becoming more and more distanced and alienated from their food sources (Graham *et al* 2004:201; Holt & Amilien 2007, ¶ 25). Environmental questions have also risen in the discourse around local food, with some people arguing that local food requires less transportation, and also that it is easier to trace one's food to its source and thus be more aware of the farming practices used (Holt & Amilien 2007, ¶ 20, 22). Although there is still considerable

debate surrounding the environmental aspects of both organic and local foods, Holt and Amilien write that "Local food is now seen as greener than organic" (2007, ¶ 22). Like with organic food, local food movements have been growing in recent years.

The focus on local food has been influenced by different factors in north, west Europe as compared with south, east Europe. In the south and east there has been a focus on regional cuisines and food traditions (ibid., ¶ 29). In the north and west the focus has been largely on "the health of agriculture" (ibid., ¶ 29). In other words, countries in north, west Europe have placed a stronger emphasis on the economic viability of agriculture than on cuisine and food traditions. Italy is one southern European country with many examples of how support for local food is tied with regional cuisines and traditions. Whole foods and organic ingredients have been promoted since the 1980s through "constructing a discourse that emphasized the values of the Mediterranean diet" (Morgan & Sonnino 2007:21). Italy is also the birthplace of the Slow Food movement, which has been working towards saving "local values and traditions" since its inception in 1986 (Holt & Amilien 2007, ¶ 6). This focus on regional cuisines and food traditions is also evident in Italy's school meal systems. There, school meals are a way of teaching children about the values and meanings of food, and are "embedded in a food culture that is intimately related to local identity" (Morgan & Sonnino 2007:22). France provides other examples of this southern European mind frame surrounding local food. In 1993, France initiated an EU programme to support regional food, called "Euroterroirs" (Holt & Amilien 2007, ¶ 10). It links food products to "traditions, region and culture," and sees these products as part of the national identity and the national cultural heritage (ibid., ¶ 10). In northern Europe, local food has been linked more strongly with the health of agriculture itself, rather than with the food products. The Debio organic guidelines which are used in Norway do briefly note the importance of producing high quality food products; however, the majority of the guidelines are related to the health and

viability of agriculture. These guidelines include goals of managing natural resources in a sustainable way, maintaining soil fertility, ensuring diversity, reusing and recirculating nutrients, and ensuring economic viability of organic agriculture (Debio 2008c; Salomonsen 2008). Holt and Amilien note that similar attitudes regarding the health of agriculture have existed in Germany, the United Kingdom, Sweden and Denmark (Holt & Amilien 2007: ¶ 29). Mikkola writes that in Finland, local agriculture has strong political support (Mikkola 2008:10). There, local food and organic food are closely related, and the distinctions between the two concepts are often blurred (ibid.:10, 15). In Norway too, local agriculture has strong political support. Linking organic with local in both Finland and Norway can be seen as a way of legitimizing organic agriculture, by associating it with local agriculture which already has such strong support. Despite the differences in attitudes towards local food and farming in southern and northern Europe, Holt and Amilien point out a common thread of wanting "to demonstrate the role of local food in revitalising rural areas" (2007, ¶ 29). Local food is considered to be sustainable not only in environmental terms, but also in terms of social, cultural and economic factors in rural communities.

Gender and age

Differences in organic food purchase and consumption behaviours and attitudes have been found based on gender and age. Various studies have shown that women are more likely than men to be interested in and to hold more positive attitudes towards organic foods (Magnusson *et al* 2001:211,224), as well as to be consumers of these foods (Hughner *et al* 2007:96). The results from Bissonnette and Contento's study with adolescents agreed with previous studies, which had found that "females perceived more environmental risks and reported more health-conscious behaviors than males" (Bissonnette & Contento 2001:79). The link between gender and health consciousness was also apparent in Roos' (2002) study with schoolchildren.

In this case, girls were seen as having healthier eating habits than boys; the children associated girls' food choices with health and appearance, while boys were seen to "need more and stronger food" because they are more active (Roos 2002:11, 16). The gender aspect in food choice differences tends to largely surround the question of health.

Environmental and health concerns vary according to age, and this affects attitudes and behaviours related to organic food. Younger people tended to be more focused on environmental issues, and chose organic foods on this basis; older respondents were more likely to choose organic foods due to concerns about personal health (Magnusson *et al* 2001:211). While younger consumers were found to hold more positive attitudes towards organic food (Magnusson *et al* 2003:115), older people were more likely to actually purchase it (Hughner *et al* 2007:96). A partial explanation for this might be that older respondents are more able to afford the higher prices associated with organic products (ibid.:96). In contrast to these findings, Vermeir and Verbeke found there to be quite high levels of involvement with sustainable food consumption among young people in Belgium (2006:184). They add that "consumers with high involvement have more positive attitudes and are more willing to purchase sustainable products" (Vermeir & Verbeke 2006:184). Age and gender have both been found to be factors influencing organic food attitudes and purchase behaviours.

Lifestyle

Certain lifestyles are often more associated with organic food consumption than others. Hughner *et al* (2007) discussed comparisons between regular consumers of organic foods and occasional consumers. For many regular consumers, the consumption of organic foods was related to ideologies and personal values (Hughner *et al* 2007:96). They found that "The values of altruism, ecology, universalism, benevolence, spirituality, and self-direction have all been connected to regular consumers of organic foods (ibid.:96).

Certain alternative lifestyles, such as "environmentalism, vegetarianism, and/or alternative medicine" have also been associated with regular organic food consumption (ibid.:96). While occasional organic food consumption (including the regular purchase of some organic food items) may be becoming more mainstream, those consumers who aim to always buy organic foods are still generally viewed as leading alternative lifestyles.

Skepticism towards organic

Many consumers remain skeptical towards organic products and are discouraged from buying them due to a variety of factors. I discussed some of these factors above, such as higher prices, limited availability, and the relatively minor importance of organic as compared with taste and health. Many consumers are also simply satisfied with their current choice of conventionally produced food (Magnusson *et al* 2001:211; Hughner *et al* 2007:104), do not view organic as superior to conventional, and thus see no reason for breaking their normal habits and changing to organic (Magnusson *et al* 2001:220, 224). Hughner *et al* note that there has been insufficient marketing of organic foods, so that consumers are lacking knowledge about the products (2007:104). Related to this argument is that many consumers consider it difficult to identify whether food is organically produced (Magnusson *et al* 2001:221). There is also some skepticism regarding the authenticity of the guidelines and procedures for organic certification and labelling (Hughner *et al* 2007:104, 106). It is also often important to consumers that their food looks good, and this may not always be the case with organic foods, on which chemical pesticides and preservatives have not been used. The appearance of food is important to many consumers, making them unwilling to purchase produce which has cosmetic defects (Bissonnette & Contento 2001:75; Hughner *et al* 2007:104). Skepticism towards organic products continues to be a deterrent to purchasing these foods.

Informed consumption

Many of the themes discussed above come together in the concept of informed consumption. Informed and reflexive consumers are an important driving force in the move towards sustainable consumption (Vermeir & Verbeke 2006:170). Vermeir and Verbeke provide an explanation of the concept of sustainable consumption as being "based on a decision-making process that takes the consumer's social responsibility into account in addition to individual needs and wants" (2006:170). This is relevant in all areas on consumption, including sustainable food purchases. Organic farming is not the only source of sustainable food; local food is another concept that fits into this realm. In order for consumers to make sustainable consumption choices, they have to feel assured that their decisions and actions are effective in making a difference in the areas that they are concerned about, for example with environmental or social concerns (Vermeir & Verbeke 2006:175-6). The likelihood of having positive attitudes towards sustainable products and of purchasing them is higher when consumers believe that their decisions can make a positive contribution (ibid.:184). Increased awareness and education about the potential impacts of sustainable consumption are therefore important if this ideal is to take hold. Currently, consumers generally have a narrow understanding of agriculture and food production processes and are not aware of "the implications of their food purchase decisions" (ibid.:174-5). Information about sustainable products should be easy to access and to understand, and from sources that the consumers find reliable (ibid.:174-5). Vermeir and Verbeke believe that this information and education should focus on the individual's role, relevance and effectiveness, and should aim to pull down the barrier caused by a perceived lack of availability of sustainable products (ibid.:187). There should also be an aim to make sustainable consumption to more of a social norm rather than exception (ibid.:187). Teenagers represent a good potential group to educate about sustainable consumption practices and effects. Bissonnette and Contento found that the

majority of the teens in their study were interested in learning more about organic and local foods (2001:81). Teenagers are at an age "where they are forming their personal identity and developing a personal system of beliefs, morals, and values" (Bissonnette & Contento 2001:72). These values will affect their consumer decisions now, as well as into their adult lives (ibid.:72). Although many adolescents showed interest in organic food, perceived organic as more environmentally friendly and reported having eaten some organic food in the past (ibid.:76), they seemed to lack a sense of personal effectiveness and responsibility in this area. The teenagers did not feel that it was their personal responsibility to buy sustainably produced food or to help work towards changing the way that food is produced (ibid.:75, 78). This might signify a lack of accessible knowledge and effective education in this area.

* * *

The consumer studies which I have presented demonstrate a variety of factors which influence consumers' attitudes and behaviours towards organic food and agriculture. In the context of organic food, the idea of informed consumption is closely related to education about the environment as well as about nutrition.

3.2 Education Theories

Educating consumers about their different food options will help them make more informed decisions in this area. Learning about organic food can occur through the media and through advertising, but is also increasingly being addressed in schools. Organic food education does not fit neatly into any specific class or discipline, but can be introduced within contexts of environmental education and nutrition education. In the following section, I will introduce these two different branches of educational theories.

3.2.1 Environmental education

Environmental issues do not fall into the realm of just one academic discipline. Environmental education should thus be examined through interdisciplinary and holistic approaches; as Poudel *et al* write, "Broad-based, holistic and community-oriented agricultural and environmental education programs are necessary to solve contemporary agricultural and environmental problems" (Poudel *et al* 2005:11). Mogensen and Mayer argue that environmental education should include more than the examination of the natural environment; it should also include themes of citizenship, participation and responsibility in cultural, social and economic contexts (Mogensen & Mayer 2005:11). Jensen and Schnack believe that environmental problems must be looked at from social perspectives as well as scientific ones; they require qualitative changes as well as quantitative ones (2006:472). Many environmental education theories also emphasize the importance of learning by experience. Hands-on activities and real-life experiences allow students to connect with what they are studying. These activities and experiences can be varied, for example gardening, conducting experiments, or participating in school democracy. Place-based education (Smith 2007) lets students experience their local environment, both natural and social. I will first discuss how concepts of role-modelling, consistency and integration fit into the idea of holism within the context of environmental education. I will then continue with a discussion about learning by experience.

Holism: role-modelling, consistency and integration

Many themes from environmental education theories fit into the idea of taking a holistic approach to environmental issues. These include the interconnected concepts of role-modelling, consistency and integration. Role-modelling can be an effective tool in teaching about environmental topics, and can help form and retain a sense of consistency between different parts of the school day, as well as outside of school. Higgs and McMillan (2006) studied

four secondary schools in North America, looking at their different methods of sustainability education. They define sustainability education as having a goal of helping "students understand and respond to complex environmental, social, and economic issues in a way that promotes sustainable living" (Higgs and McMillan 2006:40). There are often inconsistencies between what students are being taught in the classroom in terms of sustainability, and the unsustainable examples that the schools set (ibid.:39-40). These inconsistencies can lead to confusion, and can give an impression that the school is being hypocritical and is sending mixed messages; this will likely decrease the chances that the students will adopt the environmental behaviours they have learned about (ibid.:40, 51). Role-modelling has been shown to "shorten and improve learning" as well as to increase motivation (ibid.:40). Role-models can be varied in the school environment; they can be teachers, students, the school's culture and governance structure, or even the school buildings (ibid.:40, 41, 44, 47). Individual role-modelling from teachers to students may be the form of modelling that comes to mind first, but students can also serve as important role-models to their peers as well as to teachers (ibid.:41-42). The more an individual can relate to their role-models, the more effective this learning strategy will be (ibid.:43-44). The school buildings and facilities can also act as role-models and are an important part of the consistency between classroom teaching and the school day in general. The schools that Higgs and McMillan studied had decided to 'green' their facilities mainly for the reason that this would provide a model of sustainability to their students (ibid.:44). Sustainable school facilities provide an opportunity for dialogue about environmental topics, and providing opportunities for hands-on experiences (ibid.:46). Through these methods, teaching about sustainability becomes implicit rather than the students feeling that teachers are preaching about things that they do not put into practice (ibid.:46). School culture is another aspect of this role-modelling and consistency which Higgs and McMillan (2006) discuss. They explain school culture as being "manifested

through the school's rituals, traditions, buildings, programs, instructional methods, and extracurricular activities" (ibid.:47). They believe that a 'cultural shift' in a school towards sustainable behaviours and activities can help to provide consistency (ibid.:51). Higgs and McMillan predict that the level of consistency between the environmental messages during different aspects of the school day has an effect on how much the students take out of their environmental education (ibid.:51).

Integrating environmental education into various parts of the school setting is another important element related to the concept of holism. Writings from Mogensen and Mayer (2005) and Poudel *et al* (2005) clearly demonstrate this. The environmental problems that we face are complex, making it problematic to view them simply "as problems in nature or between humans and nature" (Mogensen & Mayer 2005:12). Environmental issues should be studied from a variety of perspectives and disciplines (ibid.:12-13), and integrated into classes in the social sciences and humanities, as well as being studied in science classes. As Mogensen and Mayer write about environmental topic: "no one subject has a monopoly on describing and dealing with them" (ibid.:13). This concept of integrating environmental education also appears in the Norwegian education plan for sustainability; this education plan addresses concepts such as "interrelationships in nature", nature-human relationships, "solidarity and common efforts," as well as indicating that economic interests should not take precedence over the limits of nature (Sandås 2005:293). Norway's Ministry of Education, Research and Church Affairs[28] developed an Action Plan for education for sustainable development in 2000, which states that environmental issues should be increasingly integrated into the areas covered by this ministry (ibid.:294). It promotes the introduction of environmental activities into the various departments and institutions that make up this

[28] In Norwegian, *Kirke-, utdannings- og forskningskomite*. This department has since been divided into the Ministry of Education and Research (*Kunnskapsdepartementet*) and the Ministry of Culture and Church Affairs (*Kultur- og kirkedepartementet*).

ministry (ibid..294). Another aim of this action plan is to raise awareness about the interdependence between "the natural resource base, ways of living, economics and politics" and that environmental issues should be integrated into all of these areas (ibid.:294). This interdisciplinary approach can be challenging to introduce into the current school structure; the Environmental Education Network[29] has been created to help support schools with this challenge (ibid.:297-8). This network encourages environmental education plans and projects which involve collaboration with the local community, student participation in project development, action-oriented approaches, and interdisciplinary strategies, and which are integrated into the school's overall curriculum (ibid.:298). Mogensen and Mayer (2005) suggest introducing environmental topics in a variety of subjects which are already common in today's schools, such as Social Studies, Economics, Political Science and Natural Science. Poudel *et al* (2005) suggest that education about agriculture should also be a part of environmental education. They stress that environmental and agricultural problems are interrelated and that education about the two cannot be separated (Poudel *et al* 2005:10). Learning about the interactions between these areas is important in forming a holistic view of environmental issues. Environmental education should be viewed from a variety of perspectives and disciplines, and should be integrated into various aspects of the school day.

Learning by doing

An important theme in the methods of environmental education is that of learning by experience. In this discussion about learning by experience I will also include hands-on learning, as well as the importance of place. Hillcoat *et al* studied young people's perceptions of the environment, and found that youth retain more from what they learn from their own experiences, because they trust this information more than what they have learned, for example, in

[29] More information can be found at www.miljolare.no (in Norwegian) or at www.sustain.no (in English).

the media (1995:165). Mogensen and Mayer's discussion about teaching through "real experiences" and using "real problems" as the basis for environmental education (2005: 18, 20) suggests that they agree with Hillcoat *et al* on the importance of experience. The Environmental Education Network includes in its aims that experiencing nature first-hand is an integral part of sustainability education (Sandås 2005:296-7). Poudel *et al* also note the importance of learning by experience, writing that students learn more effectively if classroom teaching is integrated into real issues and experiences which occur outside of the classroom (2005:11). Hands-on learning and place-based education are both components of learning by experience.

One way in which students can learn through experience is with hands-on activities. A variety of examples of such methods have been studied. In the Farm to School Connection programme in Davis, California, pupils take part in hands-on activities about composting and recycling during farm tours (Graham *et al* 2004:201). These activities are tied to what the children have learned in the classroom (ibid.:204). Sustainable school facilities, as described above, provide students with "hands-on opportunities to try sustainable practices" (Higgs & McMillan 2006:46). Poudel *et al* (2005) designed various activities to study the effects of hands-on learning in agricultural and environmental education. These activities involved the topics of water quality, plant science, soil, land management, and aquaculture (Poudel *et al* 2005:12-14). The students who had taken part in these hands-on activities began to relate environmental and agricultural issues more closely to themselves and their communities, had increased motivation and interest in learning about these topics, and began thinking more critically in these areas (ibid.:20). Hands-on educational approaches let students personally experience the topics about which they are learning.

Another important element in the theme of learning by experience is the importance of place. Place-based education involves a process of breaking

down or permeating the boundaries between schools and their social and natural environments (Smith 2007:190). This includes "real world problem solving," looking at local cultural, historical, environmental, and economic issues, as well as participation in decision-making (ibid.:190-191). If people feel connected to their local community and environment, they are more likely to feel a sense of 'stewardship' for the place where they live (ibid.:192). Place-based education helps to create this connection to the local, as well as the confidence and skills to make a difference (ibid.:192). Place-based education is not simple to initiate or to implement. As Smith describes, "Place-based education does not look like conventional education. Students don't sit quietly at their desks listening to teachers and completing worksheets" (ibid.:204). But this type of education can be an important step in starting to bridge the disconnect between students and their local environments. Smith (2007) looks at this disconnect in a general context of environmental education, while Graham *et al* (2004) look more specifically at how people living in urban areas think very little about how their food ends up on their plates or their supermarket shelves. They write that "Children, especially, have lost touch with how and where food is grown" (Graham *et al* 2004:201). As I wrote above, Graham *et al* (2004) describe one example of place-based education, where school groups spend some time becoming familiar with local farms. Place-based education helps to connect students with their community and local environment, increasing the likelihood of them forming a personal sense of responsibility for these places.

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Environmental education theories emphasize the importance of learning by experience, as well as of looking at the whole picture. Learning by experience includes place-based education, where pupils gain an understanding of their local environment and community, thus establishing a sense of responsibility for these. Hands-on activities and participating in decision-making allow

pupils to learn through their own experiences rather than simply through classroom lectures. Rather than placing environmental education into the context of a single subject or discipline, it is more effective if it is integrated into the whole school setting. This can be done through role-modelling, ensuring consistent environmental messages in and out of the classroom, and through making environmental themes a part of the school culture. Since organic agriculture is closely related to environmental issues, topics about organic food and farming can potentially be introduced in similar ways as environmental topics, and can be integrated with various environmental education themes. Some of the same ideas and themes that are brought forth in environmental education can also be seen in discussions about nutrition education. The ideas of consistency and integration, for example, are also evident in discussions about nutrition education.

3.2.2 Nutrition education

Along with teaching about organic food from an environmental point of view, it can also be introduced within a context of nutrition and of food itself. In recent decades, nutrition education has begun to expand from an individual concept to a wider social concept. Harmon and Maretzki write that

> The traditional definition of *nutrition education* is ‘any learning experience designed to facilitate the voluntary adoption of eating and other nutrition-related behaviors conducive to health and well-being’ (2006:91).

They say that now, however, nutrition education often also includes significantly broader themes of food system sustainability and natural resources (Harmon & Maretzki 2006:91). Various studies related to health and nutrition education in general demonstrate holistic and integrated approaches, where classroom teaching is consistent with what the children experience outside of the classroom. Many studies suggest that there should be a consistency between what is taught and experienced during different parts of the school day, as well as outside of school. The authors of many of these

studies also discuss how eating habits established in childhood tend to continue into adult lives, thus the importance of educating informed consumers. In the following sections, I will present the concepts of consistency, integration, and forming habits within the context of nutrition education.

Sending consistent messages

Like environmental education, nutrition education stresses the importance of consistency between what the students are taught and the messages they are surrounded by. Linda Burke (2002) stresses the importance of taking a holistic approach to healthy eating in schools, and supports the idea of consistency. She writes: "The curriculum that pupils are taught within the classroom environment can either be reinforced or weakened by what goes on in the rest of the school environment" (Burke 2002:159). Although pupils generally receive "accurate and consistent" information about nutrition and health within the classroom, this is often not reflected in what is available to them at the school canteen (ibid.:160). Vereecken *et al* (2004) also emphasize the importance role that schools play in nutrition education, not just in classrooms, but throughout the school environment. In their study in Belgium-Flanders, they found that secondary schools especially were much more likely to have vending machines selling "high-fat, salt and sugar food items" than they were to have the option of buying fresh fruits (Vereecken *et al* 2004:276). Instead of these junk food choices, Vereecken *et al* suggest that "Schools should provide a supportive environment in which healthy food choices can be made" (2004:272). The pupils are likely aware of what they should be eating, but healthy food is not always accessible to them during the school day. There should ideally also be a consistency between what is taught and experienced at school, and what the children experience outside of school. Morgan and Sonnino cite the Italian Councillor for Education who emphasizes that it is important that parents and schools are on the same page in terms of children's

nutrition and eating habits (2007:21). Graham *et al* (2004) give an example of a school district in California where this integration and consistency has been quite successful. The pupils receive the same information in the classroom, in the school cafeteria, and while in the school garden, thus ensuring a "consistent and repetitive message" throughout the school setting (Graham *et al* 2004: 201). They aim to establish links between the school and the pupils' homes, as well as to the local community with such activities as farm visits (Graham *et al* 2004:200). This concept of consistency is closely related to the idea of integrating nutrition education with a variety of elements in the regular school day.

A 'whole school' approach

Integrating nutrition and health themes into the whole school environment allows children to experience what they have learned in the classroom. The teachers at the California schools participating in the Farm to School Connection programme found it rewarding to reinforce what they had taught in the classroom with "real-life examples and experiences" on school trips to local farms (Graham *et al* 2004:204). Graham *et al* emphasize the importance of integrating farming into everyday learning, writing that:

> The incorporation of agriculture into the school curriculum provides an excellent avenue in which to discuss food – where it comes from, its health benefits, how to choose healthy foods and factors contributing to human health, as well as concepts important to planetary health, such as composting and recycling (Graham *et al* 2001:201).

Morgan and Sonnino's idea of a "*sustainable school meal service*" (2007:19) carries similar themes, although it is not as focused on teaching about agriculture. This concept aims at providing "fresh and nutritious food", it "conceives healthy eating as part of a socially negotiated 'whole school' approach" which forms a symbiotic relationship between the classroom and the school canteen, and it also focuses on local and seasonal foods (Morgan and Sonnino 2007:19, 24). As with environmental education, taking a holistic

view of nutrition and health education in schools can reinforce what is taught in the classroom.

Forming habits

Another important theme in nutrition education is forming habits. We tend to carry our childhood health and nutrition habits into our adult lives, and once these habits are established they are difficult to break away from (Burke 2002:159; Roos 2002:2). It is therefore important to establish healthy habits at a relatively early age (Burke 2002:159; Roos 2002:2; Vereecken *et al* 2004:271). Throughout adolescence, these food habits are still developing (Vereecken *et al* 2004:271). Burke views schools as ideal settings to familiarize children and youth with the benefits of making positive choices about food (2002:159). Roos notes that family meals are also important in developing these food habits (2002:2). This concept of forming habits can also involve educating informed future consumers. Morgan and Sonnino write about empowering consumers by educating them about healthy food choices, allowing them to make informed decisions; the consumers still have the opportunity to choose unhealthy options, but would be aware of the consequences of their decisions (2007:24). As Burke argues, "Today's students are tomorrow's consumers and citizens. There is, therefore, a need to develop aware, informed users and consumers of food" (2002:161). This idea of informed future consumers is relevant not only in terms of healthy food decisions, but also in the context of education about organic food. The iPOPY project description expresses the ideal that if children learn about organic food at school, they will be more likely to purchase this food in the future (Løes *et al* 2007:1). Educating children and youth about nutrition and health can be done in the classroom, but it is important to reinforce it through lived experience in integrated, whole school approaches. Some of these education techniques are also likely be relevant when teaching about organic food.

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Environmental education and nutrition education share many common themes. Particularly strong in both is the importance of consistency. Classroom lectures about both environmental and personal health lose their meaning if students get contradictory messages from the overall school setting. Integrating classroom topics into the whole school setting helps to ensure that consistent messages come across. Consistency and integration are relevant in discussions about organic food education as well; it is quite possible that classroom learning about organic food and farming will be more effective if organic food is also part of the regular school day.

4. Presentation of Findings

In this chapter, I will present results from my fieldwork at four middle schools in different regions of Norway. I begin with a brief description of Norway, before continuing with descriptions of the four schools. I will introduce the schools based primarily on interviews with staff members. Then I will present results from the pupils, gathered through open-ended survey questionnaires and focus group interviews.

Location of study: Norway

Norway is a sparsely populated country; the mainland has an area of about 324 000 square kilometres, and has a total population of about 4.7 million. Norway's climate is temperate and rainy in coastal areas, with more varied temperatures in inland areas (Norway – The Official Site in Canada 2008a). Being a mountainous northern country, only about 3 percent of Norway's land is usable for agriculture (Statistisk sentralbyrå 2007). About 4 percent of that agricultural land is currently used for organic agriculture (Sørensen 2008). Having such a small amount of arable land means that Norway is dependent on its other natural resources, which include "petroleum, natural gas, various ores, fish, timber and hydropower" (Norway – The Official Site in Canada 2008b). Mostly due to these industries, Norway is currently one of the richest countries in the world. Due to social distribution policies, incomes are relatively equal "independent of place, gender, age or profession" (ibid. 2008b). For many years, Norway - a welfare state - has been at or near the top of the United Nations Development Programme (UNDP) Human Development Index in terms of living conditions (ibid. 2008e). Norway is constitutional monarchy and is governed through a parliamentary democratic system (ibid. 2008d). It has 19 counties and 434 municipalities, and political power is divided between the state, the counties and the municipalities (ibid. 2008c). Among other

services, municipalities are responsible for primary and lower secondary education (ibid. 2008c).

4.1 The Schools' Approaches to Organic Food and the Environment

In the following section, I will introduce each of the four schools where I conducted my research. The schools all had somewhat different approaches to introducing organic food and to addressing environmental issues. I will describe how organic food is being introduced in these four schools, who the main actors have been in the school having organic food, what the motivations have been for getting organic food into the school, as well as how the school approaches environmental issues. This section is based primarily on my interviews with teachers and school administrators, and includes descriptions of what is happening at the schools in terms of the aforementioned topics, as well as some of the opinions expressed in these interviews. **Table 1** provides a summary of who of the staff members I spoke with at the four different schools. **Table 2** summarizes the similarities and differences between the four schools in terms of organic food, and food and agriculture activities in general.

Table 1: Primary informants (school staff)

	Primary informants (school staff)
Møre og Romsdal	- Food and Health teacher (grade 9) - Social Studies teacher (grade 8) - School secretary
Oppland	- Grade 9 teacher (Food and Health, Social Studies, etc.) - School principal
Rogaland	- Assistant principal - Special needs teacher (school's *Skolefrukt* contact)
Østfold	- Assistant principal

Table 2: Summary of organic food programmes at the schools

	Skolefrukt	**Other organic food**	**Food and agriculture activities**
Møre og Romsdal	Organic	- choice between organic and conventional School Milk - organic products often used in Food and Health class	- local and organic food market each autumn - collecting food from nature in autumn - cooperation with local organic research institute
Oppland	Organic		
Rogaland	Organic	- school canteen approved by Debio	- cooperation with local organic farm - pupils help with organic school canteen
Østfold	Conventional	- new school meal programme based on organic and/or local ingredients	- organic school meals prepared by pupils - trip to organic flour mill

4.1.1 Møre og Romsdal

In a small town in western Norway, not far from the shore of the fjord, is a school with a view over the surrounding snow-capped mountains. The municipality is home to about 3000 people, of whom about 1000 live in this town. The local economy is based on a textile factory, agriculture, an organic agriculture research institute, and many residents are also employed by the municipality. While my research focused on the pupils in grades 8 to 10, this school has a total of about 210 pupils from grades 1 to 10. My primary informants at this school were a secretary and two teachers.

Organic Skolefrukt *and* Skolemelk[30]

For several years, this school has subscribed to the *Skolefrukt* programme, and they have chosen in recent years to order organically grown produce. Last year, the school ordered its organic fruit from a large national company, and organic products were more expensive than their conventionally grown equivalents. Because of this price difference, some parents were against the idea of having specifically organic *Skolefrukt*. Starting in the autumn of 2007, the programme has been fully subsidised by the government, meaning that parents no longer have to pay or worry about the price difference. Another complaint with the previous supplier was that the fruit and vegetables that they delivered had often spent too much time in the warehouse and had therefore started to go bad by the time they reached the pupils. The current supplier is a somewhat smaller and more local company, which has been able to supply organic at a lower cost than the previous company, and has also delivered fresher produce. The *Skolefrukt* is delivered to the school twice a week and the pupils get it during their first break in the morning. The school also subscribes to the *Skolemelk* programme, where parents can choose to sign up and pay for their children to get a carton of milk every day. In this case, there

[30] School Fruit, and School Milk.

is a choice between organic and conventional milk, with the organic being slightly more expensive.

Advocating for organic

The push towards providing organic food to the pupils came primarily from one teacher at the school. Although some parents had been suggesting that the school supply organic *Skolefrukt* and *Skolemelk*, it is unlikely that these plans would have borne fruit had it not been for the work of this one teacher. Among both staff and pupils at the school, one of the first associations that they had with the word 'organic' was this teacher; when I told various teachers about my research project, many of them suggested that I speak with this teacher, and over a third of the pupils wrote her name when I asked "What are the first words that you think of when you see the word "organic" (or *økologisk*)?" in the survey. Among other classes, this teacher teaches the ninth grade Food and Health class. I spoke with her about her use of organic foods in the Food and Health course, and about organic foods in the school and community in general. Organic food and agriculture are vaguely covered in the official teaching plan for the Food and Health class, but this teacher has expanded on this topic based on her own knowledge and experiences. She has also gathered information from organic agriculture researchers in the area, and the school often cooperates with the local organic research institute. In her Food and Health classes, they use both organic and conventional foods, and have a few weeks each year with a focus on organic food and farming. In the autumn, some of the pupils have the chance to enjoy the local nature as part of their Food and Health class. When learning about local food sources, they have been out to collect berries and mushrooms and have also taken part in slaughtering and preparing a sheep at a local farm museum; they have then used all of these foods in their Food and Health class.

The school holds an annual organic and local market, where all of the pupils participate. Each class makes something to sell to parents and other

community members. The wide range of products has included jams, juice, cake, cookies, bread, skin lotions, shampoos, and so on. Some local producers have also taken part, selling their wares at the school's market. A few years ago, the school received a national prize for this initiative.

This Food and Health teacher has a personal interest in organic food and farming, which she has brought into her classroom. The main reason that she is interested in organic agriculture is because she sees it as more environmentally friendly than conventional agriculture. She also enjoys preparing her own foods, as well as growing some food herself. She finds that eating organic foods is not just something that people should consider in terms of their own health; her main focus with organic is on the health of the environment. In terms of personal health, she says, it is more important to eat less sugar. Although some of her pupils are interested in learning about organic food and farming, she finds that many of them do not think that it is 'cool' to learn about it at their age. She remains inspired with the expectation that this knowledge will come back to them as they start making more of their own food decisions in a few years. She also finds that it is important to influence parents as well as kids, since parents' decisions and opinions influence those of their children. In her opinion, there have been positive developments relating to organic food in recent years, for example that the availability of organic food has increased in the local grocery stores.

Environment and informed consumption

At this school, I was also given the opportunity to sit in on a Social Studies[31] class, where a teacher was discussing environmental topics with his eighth grade pupils. The Social Studies class consists of a variety of topics, including geography, history, law and politics, economics, identity, sexuality, etc. Within this context, this teacher has woven the theme of making informed

[31] *Samfunnsfag.*

decisions, including the topic of informed consumption. He wants his pupils to learn to think and to make decisions for themselves. He also encourages them to "look at the whole picture" while making these decisions. In the lesson that I attended, he was starting to introduce themes related to the atmosphere such as climate change, and included a discussion about making decisions about transportation options. He told me that earlier in the school year, he had talked about organic food and farming within this context of informed decisions and consumption. The organic food topic was not something included in the general teaching plan, but something that he had added on his own.

4.1.2 Oppland

Stepping off the train for my first visit to this inland community north of Oslo, I was treated to my first true winter day of the year; it was nearly 20 degrees below zero, and everything was covered in a thick blanket of sparkling snow. This town is the largest in the municipality; about 6000 of the municipality's 13 000 inhabitants live here. The town itself is quite industrial, and the surrounding area is one of Norway's primary agricultural regions. The school has about 290 pupils, in grades 8 to 10. At this school, my main contact and source of information was a ninth grade teacher, who among other subjects, teaches Food and Health and Social Studies classes. I also had a chance to speak with the school's principal.

Organic Skolefrukt

At the beginning of this school year, the school began getting *Skolefrukt* for the first time. Reactions towards *Skolefrukt* have generally been very positive. The principal finds it to be a good and important offer that the government has provided. The grade 9 teacher I spoke with agreed, and said that although most of the pupils get enough food and fruit from home, "For some pupils this is the only lunch they get – for them it's a gift." The only complaint about the *Skolefrukt*, from both the principal and the teacher, was that it creates problems

with the pupils littering, leaving orange peels and apple cores on the ground rather than throwing them away properly.

The school orders organic fruits and vegetables from a small local supplier, who is able to offer the same price as the school would be paying for conventional products from a different company. They are satisfied with this company and with the quality of produce they deliver. It gets delivered to the school once a week, and it is sorted and handed out to the classes by school assistants and pupils. Teachers are not involved with the *Skolefrukt* process.

Deciding to go organic

The school's principal was the main actor involved in deciding that this school would have organic *Skolefrukt*. He is interested and involved with environmental issues in general, and is the leader of a local chapter of an outdoors club. He was described to me as being very "green", biking to school all year round and encouraging the sorting of waste in the staff room. Last summer, he made the decision to have organic *Skolefrukt* along with some municipal leaders and the principal from the other middle school in the municipality. During the summer, they met with a local businessman who had plans to start up an organic food company, as well as a representative from a food importing company who was able to ensure them that there would be a consistent supply of organic products. The principal had a preference for organic, and being offered it at the same price as conventional *Skolefrukt* made it an easy decision. He finds it important to support agriculture which uses fewer poisons and sprays. It is also important for him that they know what country the fruits and vegetables come from, and this demand has been met by the supplier. He said that they try to have Norwegian products (for example carrots) when possible, although the teacher I spoke with felt that there could be more foods from the local area. In addition to their *Skolefrukt* being organic, the principal also saw advantages to having specifically a local supplier. He sees this new local company as a potential actor in developing

organic agriculture in the region; he hopes that if this company does well, organic production in the area will to increase. There is some focus on fair trade products at the school as well, with coffee and tea in the staff room being fair trade certified.

Organic food education

In this school, I was shown the Food and Health, and Social Studies textbooks, which have sections about organic food and farming. There has been an increase in the amount of education about organic food and agriculture in recent years. The national lesson plans for ninth grade Food and Health and Social Studies classes now have some topics about organic food and agriculture; while the older textbooks had very little information about organic, the theme comes up in various sections of the new books, including in chapters about ethical and sustainable food consumption, food safety, and food labelling. At the time when I visited, they had not yet reached the sections in the curriculum about organic food. The national teaching plan is not as specific as it used to be; it now provides general guidelines for themes to be covered, rather than precise plans of what needs to be covered in each class. The theme of informed consumption comes up in various classes, such as Food and Health, Social Studies and Science, and is one theme that organic food can come under. The principal finds that the selection of organic food in the local grocery stores, and in Norway in general, is very small. He thinks, therefore, that they cannot depend on the pupils being exposed to organic products outside of school; if he wants them to be introduced to organic at all, he finds that it has to happen at the school. He believes that teaching the pupils about organic food and farming will make them informed consumers, and will lead them to choose and demand organic food in the future.

Environmental education

Environmental topics are covered in various classes at this school. Although the topic of recycling and sorting garbage has come up in some classes, the principal finds it challenging enough to get the pupils not to litter, let alone to sort their garbage. The Science class has a block of lessons about environmental topics; however, the textbooks available for this course are quite old and therefore do not necessarily cover recent environmental themes. They were planning to watch Al Gore's film *An Inconvenient Truth* - about global climate change - in Science class.

4.1.3 Rogaland

This school is located on the outskirts of a large town in western Norway, in a residential area between a fjord, farmers' fields and forests. The town's primary industry is oil drilling and production. The school has about 370 pupils from grades 8 to 10 and is located in a city with a bit under 120 000 inhabitants. At this school, I spoke primarily with the assistant principal, and also had a chance to talk with the teacher who is responsible for contact with their *Skolefrukt* supplier.

Organic Skolefrukt *and an organic school canteen*

This school has had organic *Skolefrukt* for several years. When the offer for fully subsidised *Skolefrukt* was announced by the government, the school asked if they could continue to order it from an organic supplier which offers the fruits for the same price as the conventional. I spoke with the teacher who is in charge of placing the *Skolefrukt* orders. The fruits are delivered twice a week by a small, local company. They have found that they like to support a small company rather than a large national *Skolefrukt* supplier. The fruits are placed in baskets in a common area in the school; this way, pupils can take them when they are hungry and can choose what they would like to eat. This teacher finds that this solution is not ideal, but that sorting and delivering the

Skolefrukt to each class would be too time-consuming. Although the school has about 370 pupils, they tend to order *Skolefrukt* for about 250, since not everyone eats it and it would otherwise go to waste.

Besides organic *Skolefrukt*, the pupils at this school also have access to other organic food. In cooperation with an organic farm down the road, they started slowly introducing organic food to the school several years ago. They have now worked their way up to a Debio approved school canteen, where students have the option of buying some food such as sandwiches and salads. About half of the products used and sold in the canteen are organic. A few days before my visit, a representative from Debio had visited the school for the annual inspection, and had again approved the canteen. The current price of some organic products restricts the school from having a higher percentage of organic food. For example, products such as organic corn, juice and feta cheese are significantly more expensive than their conventional counterparts. The teacher I spoke with said that if the food sold at the school were too expensive, the pupils would go down the street to the grocery store rather than buying anything at school. The school does not hire anyone to run the canteen; it is instead run on a volunteer basis. A number of teachers take turns doing this, and there are about 40 or 50 pupils who alternate days. The pupils volunteer to work in the canteen, in exchange for getting a free lunch on the days that they work.

Integrating organic and environmental education

This school prides itself on being an innovative school. A ‘green’ theme or frame of mind is woven into the overall school setting. The staff members who I had a brief chance to speak with seemed to be proud and enthusiastic about their school. When interviewing the teacher who I wrote about earlier, I asked him if they teach about organic food and farming at the school. His immediate answer was “Of course!” He continued, saying that when looking at environmental topics, they look at the importance of what you eat, what you

do, and how you act. Some classes from the school have been to the organic farm down the road, and have a small field there. They grow a variety of things including potatoes, garlic, flowers, and herbs, and use what they have grown both in their Food and Health classes and in the school canteen. He found it to be important that the "kids get dirt on their hands". The assistant principal sees the organic canteen as part of the vision of their whole school. The school has created and handed out a pamphlet to families explaining what organic food is, and why they have chosen to supply it at the school.

Besides serving organic food, the school has a variety of projects and goals related to environmental issues. When I asked the teacher who I was interviewing whether they teach about environmental subjects in their classes, the answer was the same as when I asked about organic education: a resounding "Of course!" In 2007, the school published a quality plan for the following four years, including academic goals as well as goals and plans focusing on culture, and physical activity and health. It also includes a set of initiatives focused on being a 'green' school and integrating environmental issues into the different subjects and themes addressed in the school. Included in this are the further development of their outdoor education programmes, posting news about their environmental initiatives on the school's website, having pupils establish small 'green' businesses, ordering environmental journals, using the school building as a tool for teaching, and working together with various levels of government for strengthening the school's green image. They have also been taking part in various national and international environmental campaigns and projects. Besides having the canteen certified by Debio, the school has also been certified as being environmentally conscious by *Grønt Flagg*[32] and *Miljøfyrtårn*[33]. They have also been active in

[32] "Green Flag". *Grønt Flagg* is the Norwegian name for the Foundation for Environmental Education's Eco-Schools initiative. More information in Norwegian can be found at www.fee.no or in English at www.eco-schools.org

a campaign led my *Grønn Hverdag*[34] called *Miljøsteget*[35]. This campaign was described to me as an appeal or a kind of contract which aims to improve attitudes towards environmental issues on a day-to-day basis; the pupils have been introducing this in the school and the wider community. The school has also initiated its own Green Movement campaign; it is aimed at encouraging parents to leave the car at home and to bike or walk instead, especially when coming to parents' meetings at the school. It was clear throughout the school that garbage sorting is viewed as an important environmental act; in common areas and classrooms, there were containers for different types of waste. Sorting waste is something that is required in this municipality. Rubbish is seen as a resource to be reused, and some classes have learned more about this topic on a school trip to a garbage processing plant. Recycling and reusing are not just something that the school does by sending their waste to a processing plant. The school has invited local designers to help pupils design their own clothing from second hand materials, and has put on a fashion show displaying them. As the assistant principal told me, this school prides itself on being innovative, which gives them energy to go further with their goals and plans.

It is not only at school that these youth are surrounded by environmental messages. The assistant principal who I spoke with also emphasized that these kids are growing up in an environmentally aware setting in general. About half of the pupils come from an elementary school which is also *Grønt Flagg* certified. The municipality has a focus on environmental issues; among other campaigns, they have proposed banning plastic bags in stores, and encourage residents to bike to work.

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[33] "Eco-Lighthouse". This is a Norwegian certification scheme for small and medium-sized private and public companies and institutes. More information can be found at www.miljofyrtarn.no (in Norwegian) and at www.eco-lighthouse.com (in English).

[34] "Green Living". *Grønn Hverdag* is a Norwegian environmental network, consisting on individuals, groups and organizations from across the country. The website for the network is www.gronnhverdag.no (in Norwegian).

[35] "Green Pledge". More information in Norwegian can be found at www.gronnhverdag.no/miljosteget

4.1.4 Østfold

The town is in a rural area quite close to Oslo. The assistant principal who I spoke with described the community as being relatively homogenous and harmonious. The town is home to about 5000, and the school has about 200 pupils from grades 8 to 10. This school has conventional (i.e. non-organic) *Skolefrukt*, but has started their own food programme based on organic and local foods. My contact at this school was with the assistant principal.

Conventional Skolefrukt

As I mentioned, this is the only one of my four research school which has conventional *Skolefrukt*. This school also has conventional *Skolemelk*. Despite wanting to encourage the consumption of organic food among his pupils, the assistant principal was skeptical of the idea of ordering organic *Skolefrukt*. He was doubtful about whether it would be possible to get organic at the same price as the conventional, and as far as he knows, there are no organic *Skolefrukt* suppliers in the area. However, he was unsure of whether he would have chosen to have organic *Skolefrukt* even if it was available to them; he was skeptical of the quality that these companies would be able to provide, and he did not want to turn his pupils off organic food with potentially bad quality fruits and vegetables. As it stands, they are pleased with the quality of fruits that they get. At this school, pupils are largely in charge of running the *Skolefrukt* programme; it is pupils who hand it out and who clean up afterwards.

Organic and local lunches

Rather than providing pupils with organic *Skolefrukt*, this school has started their own programme with lunches made from organic and/or local ingredients. The planning for this project began in 2004, when pupils complained that the food available at school was not healthy enough. Applying for funding and approval was a long process, and the programme

finally got started in the autumn of 2007. As of now, they have one or two meals per week made from organic and/or local ingredients, although enough of these foods are not yet available to have the meals as fully organic or local. While most of the fruits and vegetables that they use are organic, products such as organic meat are still very expensive and hard to find in Norway. The food is prepared by pupils who volunteer to work in the kitchen on the days that the programme is run. There is often a warm meal option, such as soup or tacos, as well as salad, bread, and so on. The pupils pay for the meals, but the programme is also subsidised by local and regional governments, and some businesses from the area. The ideal goal is to eventually have fully subsidised warm meals every day, but for now they are working on a compromise with the county and municipal governments to develop a programme where the pupils receive sandwich materials such as bread, cheese and jam, like in a typical Norwegian packed lunch. The aim for this is to have families pay 3 Norwegian *kroner*[36], of the total cost of 15 *kroner*[37] per meal.

The primary actor in this organic and local food project has been the assistant principal at the school. He has been working at this school for 12 years, and has a personal interest in organic food. The municipality also has goals of increasing organic production and consumption in the area, and has been involved with helping to start and run this school's food programme. The mayor has helped with applying for funding from the county. The municipality is working towards ordering organic food for public institutions (including schools) in the area, with the hope that they will get better prices if they order large quantities. They aim to eventually involve other schools and daycares in the project, as well as a local public catering company. Increasing the involvement of local farmers and producers is another important goal. At the beginning, a lot of the organic food was imported from other countries or

[36] About 40 Euro cents or 60 cents US.

[37] About 2 Euros, or 3 US dollars.

from across Norway. The assistant principal finds that having locally grown and produced foods is at least as important to him as having organic foods. They currently buy local, organic flour from a local mill and the pupils themselves bake bread for the school lunches. They also see a potential for this school meal programme to lead to increases in organic farming and production in the area. As the assistant principal told me, he sees that organic school meals are an important and realistic way of fulfilling Norway's goal of 15 percent of its agriculture being organic by the year 2015.

Although he has faced some skepticism, the assistant principal finds that most people have been supportive of this organic school meal programme that he is implementing. He says that many colleagues have said that he should be more aggressive with pushing the programme and the use of organic food. However, there are some barriers. One of those is the price of organic products. He finds that the project is currently still quite fragile, and does not want to push it too much and risk losing it all together. As he said, "you can't change things overnight."

Food and organic education

During their Food and Health course, some classes have visited a local mill which produces organic flour – the same flour that the school uses to bake bread for their meal programme. I was told that the owner of this mill is very enthusiastic about this cooperation with the school. There are some hopes and plans to introduce topics about organic food and farming into the curriculum in the future. The assistant principal believes that having organic food at the school is not just about the food itself, but about changing the way that the pupils and the community think about food and agriculture. As he told me, "It's not just the food part – it's also a mind thing." As with introducing the organic food programme, this is not an overnight process. He thinks it will be at least about ten years before organic and local products become the normal way of thinking about food.

Environmental education

The school has had more of a focus on environmental issues in general than on organic food. Environmental topics have come up often and in a variety of classes, such as Science, Social Studies, and English. A major theme has been that of global climate change. When showing Al Gore's *An Inconvenient Truth*, the assistant principal found that his pupils were focused, asked questions, and were quite knowledgeable on the topic.

4.2 The Pupils' Perspectives

In the following section, I will give a summary of the pupils' responses to the survey and focus group interview questions[38]. I will begin with an overview of the combined results from all four schools. I will then continue with summaries of results from each school individually. Finally, I will present some of the gender differences in the pupils' answers. Since the opinions about *Skolefrukt* itself were consistent between the schools and genders, I will discuss this topic only in the section with the combined results from the four schools. The other themes that I will cover in this section are what the pupils know and think about organic food and farming, and what they have learned about environmental topics in general.

4.2.1 All schools

In my research, the pupils were my primary source of information. Through the survey questionnaires and the focus group interviews, they provided me with an interesting range of thoughts and opinions about *Skolefrukt*, organic food and farming, and environmental topics. While some answered the questions briefly, others gave thoughtful and thought-provoking

[38] See Appendix B and Appendix D for the questions on which section 4.2 is based.

answers. **Table 3** shows the distribution of survey and focus group respondents by school, grade and gender.

Table 3: Distribution of survey and focus group respondents (pupils)

	Total pupils at school	Completed surveys		Focus group participants
		Gender	Grade	
Møre og Romsdal	**210** (grades 1-10)	**Boys:** 20 **Girls:** 11 **Unspecified:** 0	**Grade 8:** 11 **Grade 9:** 20 **Grade 10:** 0	**Boys:** 4 **Girls:** 2 **Total:** 6 **Grade:** 9th
		Total: 31		
Oppland	**290** (grades 8-10)	**Boys:** 19 **Girls:** 19 **Unspecified:** 4	**Grade 8:** 17 **Grade 9:** 23 **Unspecified:** 2	**Boys:** 2 **Girls:** 3 **Total:** 5 **Grade:** 9th
		Total: 42		
Rogaland	**370** (grades 8-10)	**Boys:** 31 **Girls:** 25 **Unspecified:** 0	**Grade 8:** 56 **Grade 9:** 0 **Grade 10:** 0	**Boys:** 1 **Girls:** 4 **Total:** 5 **Grade:** 8th
		Total: 56		
Østfold	**200** (grades 8-10)	**Boys:** 20 **Girls:** 16 **Unspecified:** 2	**Grade 8:** 16 **Grade 9:** 0 **Grade 10:** 22	**Boys:** 2 **Girls:** 3 **Total:** 5 **Grade:** 10th
		Total: 38		
All schools		**Boys:** 90 **Girls:** 71 **Unspecified:** 6	**Grade 8:** 100 **Grade 9:** 43 **Grade 10:** 22	**Boys:** 9 **Girls:** 12 **Total:** 21
		Total: 167		

Skolefrukt

From the survey results, it is evident that a large majority of pupils (over 90 percent of my survey respondents) enjoy getting *Skolefrukt*. The most prominent reason was that they like the tasty fruits and vegetables. A significant number also stated that *Skolefrukt* is healthy and that it is important

to eat fruits and vegetables. For many pupils, both the taste and health factors were important, as demonstrated in the following answers to the question "Do you like getting *Skolefrukt* every day? Why/Why not?"[39]:

> It's good and healthy for me, and tasty in the morning! (Grade 9 boy)
>
> I love fruits and want to eat them everyday. 'Cause it tastes good and the same time it's healthy! (Grade 8 boy)
>
> Because it is a good and tasty addition to the lunch. It's also healthy (Grade 8 boy).

A smaller number thought that it is convenient to receive free fruit at school, and some noted that it helps raise their energy and concentration in class. Following are some answers related to convenience and concentration:

> If I forgot my food at home, there is plenty of fruit at the school. If feel it is very refreshing too have fruit in one, or all, of my breaks (Grade 8 girl).
>
> Because I like fruit, and it is stressful to bring fruit from home (Grade 8 boy).
>
> Because it's sort of a energi boost before the food break (Grade 10 boy).

During a focus group interview, one grade 8 girl had a particularly positive and wide-ranging opinion about *Skolefrukt*, and explained why she thinks that they get it for free:

> I think it's because it gets the teenagers more healthy, and if you get fruit you might be more concentrated and work better, you might concentrate better in class so you can answer more questions and learn more (Grade 8 girl).

The few pupils that had negative views towards *Skolefrukt* wrote that they either did not like eating fruit, or were allergic to fruit. Generally, however, *Skolefrukt* was very popular among the pupils.

Organic knowledge and perceptions

The bulk of the questions in my surveys and focus groups were related to organic food and farming. Knowledge and opinions about these topics were varied, though some common themes did arise. When I asked "What are the

[39] As I explained in the methodology chapter (Chapter 2), I have kept the original spelling and grammar from the pupils' answers whenever possible.

first words that you think of when you see the word "organic" (or *økologisk*)?", I received quite a range of answers, spanning topics such as health, fruits and vegetables, environmental issues, and the absence of pesticides. There was a strong association between organic Food and Health. Some health-related answers included the following:

> I'm thinking: healthy, fresh, different (Grade 8 girl).
>
> I think it is something with good and healthy food. Vegetables and all that (Grade 8 girl).
>
> VERY healthy food (Grade 8 girl).

A large number said that they thought of fruits and vegetables, while some thought about food in general, and others specified that they thought of dairy products. Some associations with environmental issues were apparent, and many stated that organic foods are grown without artificial sprays or additives, as demonstrated in the following quotations:

> I think that the product comes from a farm that does not use 'poisonous' substances on the products, for example against insects (Grade 8 girl). [own translation][40]
>
> Farming in a way that pays more attention to nature (grade 9 girl). [own translation][41]
>
> That the farmers don't use bug poison on fruit and vegetables (grade 8 boy).

In connection with the word organic some pupils thought of it being "different," others mentioned farms and gardens, while other pupils associated organic with themes such as freshness, price (both expensive and inexpensive), a specific country or region, or a specific person. Some stated simply that they had nice or positive associations with the word organic.

The Debio label is used in Norway to identify organic products, and I wanted to know if the pupils had been exposed to this label and what they associated with it. On the survey, I showed them the Debio label and asked

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[40] *Jeg tenker at produktet kommer fra en gård som ikke bruker "giftige" midler på produktene sine som f.eks midler mot insekter.*

[41] *Jordbruk på en måte som hører naturen mer til.*

whether they had seen it, where they had seen it, and what they thought that it means. Three quarters of the respondents said that they had seen the label. Most of those who had seen it identified having seen it on food products. Most who specified what types of foods they had seen it on said that they had seen it on fruits and vegetables, and some had also seen it on various dairy products. Some remembered having seen it at a food store or at school. I then asked "What does this label mean?" A large number wrote that it means that the product is organic, and many also wrote that it means that it has been approved. This does not necessarily demonstrate a familiarity with the label, because the label itself says "Organic approved by Debio"[42]. Many answers using these terms were quite vague, for example:

> It means it is approved and it is organic (Grade 10 boy).
>
> That the fruit is organic and approved. I don't really know (Grade 8 girl). [own translation][43]
>
> That the fruit is approved and that the fruit is edible (Grade 8 boy). [own translation][44]

Some pupils had a somewhat clearer idea of what the Debio label signifies, writing that the food is produced without the use of sprays, additives or poisons, or that it was produced naturally:

> It means that the food not are sprayd with poison or other bad things (Grade 8 boy).
>
> It means that it is not sprayed with products that make the fruit look better, taste better, etc. (Grade 8 boy) [own translation][45]
>
> That the food is organic and therefore not sprayed (Grade 8 boy). [own translation][46]
>
> That means that for example a cow, who makes meat, got natural food when it was alive. You didn't use unnatural stuff (Grade 10 male).

As with the general associations with the term organic, some saw the Debio label as being related to health factors. A few pupils also confused it with the

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[42] *Økologisk godkjent av Debio.*

[43] *At frukten er økologisk og godkjent. Jeg vet ikke helt.*

[44] *At frukten er godkjent og at frukten er spiselig.*

[45] *Det betyr at det ikke er sprøytet inn stoffer som gjør at frukten ser bedre ut, smaker bedre, osv.*

fair trade label, writing that they thought the Debio label means that the product is a fair trade product.

I also wanted to get an idea of where these youth have gathered their information about organic food and farming. I asked "Have you learned or talked about organic food and farming at school?" followed by "If yes, during what lessons, classes, projects or school trips?" In response to the first question, about a third of the pupils said yes, another third said no, and most of the remaining pupils wrote that they had learned a bit or had maybe learned about it. The classes or lessons which came up most often for where this topic had been discussed were Science, Social Studies, and Food and Health. Several also said that they had talked about it at school, but not in a specific class. Some mentioned school trips, special activities or projects, or specific teachers or staff members. These answers varied quite significantly from school to school, as I will discuss when describing the pupil's responses at the different schools. I continued by asking "Have you ever learned or talked about organic food anywhere else? (For example, at home? with friends? on TV? on the internet?...)." I asked them to specify by asking "If yes, where? With whom?" About half of the respondents answered yes, some said 'maybe' or 'a little bit', while a bit less than half did not recall having learned or talked about organic food outside of school. Of those who answered yes, most had talked or learned about it at home, with their parents and family, and on TV. Some had spoken about it with friends and with farmers, and some had learned about it on the internet.

In order to find their general perceptions about organic food, I asked two questions. The first of these was "Are you interested in organic food?"; I also asked them to briefly explain their answer to this question. About half of the pupils said that they were not interested in organic food, while slightly less

[46] *At maten er økologisk og derfor ikke sprøytet.*

than half were definitely or somewhat interested. These proportions varied quite significantly between the different schools. The most common explanation for not being interested was that they choose their food according to what tastes good and do not care if it is organic. This answer summarizes this point of view:

> Honestly I eat what I think is good, don't really think about if its organic food or not (Grade 10 girl).

A few others wrote that they would eat organic food but would not go out of their way to get it, that they do not know very much about it, or that it is expensive. Some said that they enjoy eating it, but are not particularly interested, writing for example that:

> It is not very interesting, I think. But I love to eat it (Grade 9 girl).

Of those who answered that they were interested in organic food, health was by far the most often given explanation. Other reasons included environmental concern, the food not being toxic or sprayed, that it tastes good, or that it is generally good or better than conventional food. These quotations summarize some of the explanations from those who said that they are interested in organic food:

> I think it is interesting because of the enviroment problems we are facing today. And I sort of like the thought of that my food is not toxic or anything (Grade 10 boy).

> It's more healthy because it isn't any poisons in it or something (Grade 8 girl).

> I'm a bit interested because it's healthy and made on farms without any polutin machines (Grade 8 boy).

The second question regarding the pupils' perceptions of organic food was quite general, allowing for a wide range of answers. I asked "Who do you think eats most organic food? Why?". Again, the theme of health was prominent. Health-conscious or healthy people were the category that came up most often. Some examples of general health themes include:

> Those who is on diets and such. Because they usually thinks a lot of what they eat, and that is must be healthy (Grade 10 girl).
>
> Health freaks - they worry and care about they're bodies (Grade 8 girl).

Related to this health theme, many also believed that athletes eat a lot of organic food, as is evident in the following answers:

> I think people who trains a lot eat them the most. Because they want to stay healthy (Grade 8 boy).
>
> The strong muscles man, beacause they eat good food for to be strong (Grade 9 boy).
>
> Top athletes, because they has to eat healthy (Grade 8 boy).

While some thought that young people eat more organic food, more respondents believed that adults eat more organic food than children because they are more concerned about their health:

> The adults because they're more concerned of health than the younger (Grade 8 boy).
>
> I think it is adults. They think more about being healthy (Grade 8 girl).

Vegetarians were viewed as eating a lot of organic food, both because of a perceived concern for health and also seemingly because there is a stronger association between organic and plant-based food than between organic and animal-based food. Some explanations for why vegetarians are seen as regular organic consumers include the following:

> Vegitarians. Because the vegiterians are very contious about what they are eating to start with (Grade 10 boy).
>
> Vegetarians, because it’s all natural without any “add ons” (Grade 10 boy).
>
> Vegitariens. Cus they only eat fruit and vegetables (Grade 8 boy).

Some pupils believed farmers to eat a lot of organic food, since they are more aware than the general population of what types of substances are used in conventional farming. Here is a short bit of dialogue between two tenth grade pupils during a focus group interview, in response to the question “Who do you think eats the most organic food?”:

> Grade 10 girl: Those who make it. The farmers probably. If they make it they know it's healthy and eat it themselves.
> Grade 10 boy: Yeah, I wouldn't like to eat something if I know how it was produced and it was really terrible.

One last theme that came up a number of times was that of the environment. Some pupils wrote that people who are concerned about the environment eat most organic food:

> People who really care about the environment (Grade 8 girl).
>
> Those who want to protect nature (Grade 9 boy). [own translation][47]

Some other types of answers that came up a few times regarding who eats most organic food included public institutions (schools, kindergartens and seniors' homes), and people with enough money to buy organic. Although a variety of answers were given in response to the open-ended questions in the surveys and focus group interviews, some themes emerged more often and more strongly than others. Those themes included health, taste, environmental concern, and pesticide use.

Environmental education and concern

Organic agriculture is defined as being more geared towards environmental sustainability[48] than conventional agriculture, and is often marketed as such; I wanted therefore to explore whether the pupils made any connection between organic food and environmental topics, and whether education about these topics was combined in any way. In the survey, I asked some general questions about environmental education. During the focus group interviews, I probed a bit more into connections between the two themes.

Environmental issues have been receiving increasing attention in various areas of everyday life in recent years, and schools are no exception. About two thirds of the pupils who filled out my survey had talked about environmental

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[47] *Det som vil beskytte naturen.*

[48] See Debio, EU and IFOAM definitions in the Background chapter (section 1.2) of this paper.

issues at school. The most common classes where these themes had come up were Science and Social Studies classes, with several pupils also mentioning that it had come up in class or school meetings or discussions. By far the most talked-about topic was that of global warming or climate change. Other themes that were mentioned several times were garbage and recycling, pollution, and the ozone layer. Nearly 80 percent of the pupils believed that learning about the environment is important. Learning about the environment was seen as important in a general sense of improving the current situation, or at least not making it worse, while several also noted the importance of knowing how the natural environment works:

> It's important to know how it works, and know how not to destroy it (Grade 10 girl).
>
> Because it's important, the world is getting warmer and it's not good (Grade 8 boy).
>
> It's important because otherwise we would trash our planet with much bad stuff (Grade 8 boy).
>
> I think because it will probably learn us to take more care of the environment and not pollute so much (Grade 8 boy) .

Some pupils wrote that we need to take care of the environment because we are dependent on it, and also because of a concern for future generations:

> We have to think about the earth, and not destroy it (Grade 9 girl).
>
> I think the environment is important because the future generations are going to live on the same planet as I (Grade 10 boy).
>
> Yes, it is important [to learn about the environment]! If not, it would not be especially "favourable" to live in 100 years (Grade 8 boy). [own translation][49]

A few pupils also made a connection between food and farming and environmental issues in their survey answers, for example:

> If we buy the right food, we can save the environment a little bit, I think (Grade 9 pupil).

[49] *Ja, det er viktig! Hvis ikke ville det ikke blitt spesielt "gunstig" å leve om 100 år.*

During the focus groups, I asked more directly whether the pupils saw any connection between organic food and environmental issues. Some explained that they view organic agriculture as more environmentally friendly, because "toxic" or "poisonous" substances are not used, the farming is "more natural," and there is less pollution caused by transportation. Environmental topics in general are clearly issues that these pupils have learned about in school, and that they generally find important.

Gender differences

Throughout the surveys and focus group interviews, the answers given by the boys and by the girls were generally quite similar. However, there was one major theme in which the genders differed; more girls tended to be concerned and interested about health issues than the boys. This was most evident in response to the question "What are the first words that you think of when you see the word "organic" (or *økologisk*)?" Forty percent of the girls associated healthiness with organic foods, while about twenty percent of the boys made the same association. With the girls, health was also the dominant answer, whereas the boys' answers were more distributed among different themes. Many boys also connected the term organic with nature or the environment, and many also wrote that organic food is food that has not been sprayed. There were also some gender differences in response to the question "Are you interested in organic food?" In explaining why they were or were not interested in organic food, the dominant answer from the girls was that they were interested in it because of healthiness, while the boys tended not to be as interested in organic food because for them taste was the most important factor. In answering "Who do you think eats most organic food? Why?", the category of health conscious people was the most common category for both girls and boys. However, this answer was again more dominant among the girls than among the boys. With all three of these questions, the boys tended

to make associations with health as well as with a variety of other factors, while with the girls were more specifically focused on the topic of health.

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In the four different schools, there were varying degrees of knowledge and interest about the topics of organic food and farming, and the environment. In the following sections I will present the results from each school individually.

4.2.2 Møre og Romsdal pupils

Organic knowledge and perceptions

In response to the question "What are the first words that you think of when you see the word 'organic' (or *økologisk*)?" nearly half of all of the survey respondents wrote the name of the ninth grade Food and Health teacher. Some other themes were also touched upon by a few pupils. These topics included environment and nature, fruits and vegetables, foods produced without sprays or additives, and health. A couple of pupils also noted that organic food is expensive, or that it tastes bad. Although a variety of themes came up among the survey answers from this school, reference to the Food and Health teacher was by far the dominant answer in the surveys. The main theme that emerged in response to this question in the focus group interview was that organic food is not sprayed or that 'fake' substances are not used in its production.

The level of familiarity with the Debio label was high; over 80 percent of the respondents reported having seen it before. Many wrote that they had seen it on food or food containers, with many also specifying that they had seen in on fruits and vegetables, and on milk or dairy products. About a fifth of the respondents noted having seen it in a food store. Two thirds wrote that the label means that the product is organic. When asked whether the *Skolefrukt* at their school is organic, two thirds answered yes and one third did not know. During the focus group interview, I asked whether it mattered to them if the

Skolefrukt was organic or not; while one pupil said that he preferred organic, the other five pupils were indifferent.

Slightly over half of the pupils answered yes to the question of whether they had learned about organic food or farming at school and a few others responded that they had learned a little bit. Food and Health class - which is taught by the teacher described earlier - was the most common answer regarding where they had learned about organic food and farming at school. Some specified that they had learned about it from their Food and Health teacher, and a few mentioned school trips or projects. Fewer pupils had learned or talked about organic food outside of school than at school; about one third answered ‘yes’ to this question, a few answered ‘a bit’ or ‘maybe’, and about half answered ‘no’. Those who had learned about it outside of school had mostly done so at home with their family, or from television programmes. About a third of the respondents were aware of having bought organic food before, about a third said that they had not, and the remaining third did not know. Fruit was the organic product which they had most commonly purchased.

Despite having been exposed to information about organic food and farming, the general interest toward this topic was quite low. Two thirds said that they were not interested in organic, while one fifth of them were at least somewhat interested. The primary reason stated for this lack of interest was that they base their food decisions on taste rather than on other factors.

Asking them who they think eats the most organic, it was again evident that they associate organic food with one specific person. Of those that answered this question, a large majority wrote the name of their Food and Health teacher, while a few also noted more generally that people who are interested in organic food eat it a lot. Explaining why they specified this teacher, they wrote such things as:

> Because she talk about organic food a lot (Grade 9 boy).
>
> Our [Food and Health] teacher, because she thinks it is healthy and good (Grade 9 boy). [own translation][50]

It seems likely that if it was not for the efforts of this teacher, the pupils at this school would have a much smaller understanding and knowledge about organic food.

Environmental education and concern

Over three quarters of the survey respondents in the Møre og Romsdal school said that they had learned about environmental topics at school. Science and Social Studies classes were where these themes had most often been addressed. Although few specified which topics they had covered, a few mentioned pollution and climate change. Two thirds of those surveyed found it important to learn about the environment, mostly so that they can learn to improve or at least not worsen current environmental problems.

4.2.3 Oppland pupils

Organic knowledge and perceptions

At this school, the strongest associations with the word organic were fruits and vegetables, and health. Some pupils wrote that they thought of food produced without sprays or additives, while a few thought of farms or agriculture. A couple of pupils related organic with nature and the environment, and a couple of others associated it with freshness.

About two thirds of the pupils had seen the Debio organic label, and most of them said that they had seen it on fruits or vegetables. A small number specified that they had seen it on the *Skolefrukt* at their school. Some also said that they had seen it in a food store. Many wrote that the Debio label means

[50] *[*Name*] our teacher, fordi hun synes det er sunt og godt*.

organic or approved. Also, half of those who had seen the Debio label specified that it meant that the food was produced without sprays or additives, or that it was produced naturally. Three quarters of the survey respondents knew that the *Skolefrukt* at their school was organic, a few answered maybe, and about a sixth of them said that they did not know. To those who participated in the focus group, it did not matter to them whether their *Skolefrukt* is organic or not.

When asked if they had learned about organic food or farming at school, about two thirds of the survey respondents said that they had, with most of those saying that they had only learned a little bit about it. About one third wrote that they had not learned about the topic at school. Most of those who remembered having talked about organic food and farming at school said that they had done so during a school meeting with the principal. A small number wrote that they had learned about it in Science and Social Studies classes. During the focus group interview, I asked whether they had been told that the *Skolefrukt* they are getting was organic. They answered that they had been told that it was organic, but that the concept of organic had not really been explained to them. When I asked if they wished to learn more about it, one of the focus group participants answered: “I think we should have learned what it meant”(Grade 9 boy); a couple of the other pupils agreed with this statement. Some pupils had also learned about organic food outside of school. A bit fewer than half of them said that they had learned at least a bit about organic outside of school; most of them had done so at home on television or on the internet. During the focus group interview, some of the pupils said that they had also sometimes eaten organic food at home. Two thirds of the pupils said that they had bought organic food, and most of the remaining one third said that they did not know whether they had. The organic food most commonly reported as having been purchased was fruit.

When asked whether they were interested in organic food, the theme of taste trumping other food choice factors came up again. About one third answered that they were at least a little bit interested in organic, while one half said that they were not. Taste was a more important factor than whether the food was organic or not, though in both the surveys and the focus group, some said that they think that organic fruits taste better than conventional.

There was a variety of answers in response to the question "Who do you think eats most organic food?" The most common answers were farmers, athletes, and people who are conscious about their health. Some also mentioned environmentalists, and adults.

Environmental education and concern

More pupils remembered learning about environmental topics than about organic food themes. Half of the respondents said that they had learned about environmental topics, and an additional few said that they had learned a little bit. One fifth said that they had not discussed environmental topics at school. Again, Social Studies and Natural Science classes were those in which these themes had been addressed. Very few specified what topics they had learned about; a couple of pupils mentioned climate change and garbage. In the focus group, they said that they had recently had a test in Social Studies which covered the topic of climate change. Three quarters of the survey respondents thought it to be important to learn about environmental topics, in order to learn how to take care of the environment.

4.2.4 Rogaland pupils

Organic knowledge and perceptions

Among the survey respondents in Rogaland, the strongest association with the term organic was healthiness. Many also thought of fruits and vegetables. In both the surveys and the focus group interview, several pupils made an

association between organic food and the environment, and several also noted that pesticides and additives are not used in organic food. During the focus group interview, there was some discussion about local food within this context as well.

The Debio label was quite well-known at this school, with over two thirds of the respondents saying that they had seen it before. Most had seen it on some kind of food or food containers, with many specifying that they had seen it on fruits and vegetables and on milk or dairy products. Nearly a third of those who were familiar with the label also noted that they had seen in on their *Skolefrukt*. Most pupils said that the label means that the product is organic, and several said that it means the food is approved. Some saw the label as an indication of healthiness, and a few wrote that it meant that the food was grown without the use of sprays or additives. Over two thirds of the pupils knew that their *Skolefrukt* is organic, while a quarter of them said that they did not know.

When answering the question "Have you learned or talked about organic food and agriculture at school?", over two thirds of the survey respondents at this school said yes, and an additional one fifth answered a little bit or maybe. One quarter of the respondents said that they had not learned about this topic at school. Social Studies and Natural Science classes were again the most common places where this theme had been covered in school. At this school, several pupils also said that they had talked about organic food and farming during class and school discussions. During the focus group interview, the pupils specified that they had a meeting with the school principal at the beginning of the school year, where she had explained what organic food is and that it was available at their school. In the surveys, some pupils mentioned that they had been on school trips or had had special activities relating to organic food. In the focus group discussion, some pupils told me that there is some cooperation between the school and a local organic farm. Four of the

five focus group participants said that they had helped out at the school's canteen, something that pupils from several classes volunteer with on a rotating basis. From the focus group interview and from observations at the school, I got the impression that even though these pupils did not necessarily learn a lot about organic food and farming in class, they were exposed to it in various contexts in the school setting, for example at the school's canteen. Many survey respondents from this school said that they had also been exposed to topics about organic food and farming outside of school. Over two thirds had talked at least a bit about organic food outside of school. From the surveys and focus group, it was clear that many had discussed this topic at home with their families. Some had also talked about organic food with their friends. Several pupils had learned about the topic on television or on the internet. A large majority (over 80 percent) of the pupils surveyed had bought organic food before. Many specified that they had bought organic food at school. Fruit was the most common category of what organic food they had purchased, but many had also bought bread and grain products, dairy products, vegetables, and drinks.

More pupils at this school said that they were interested in organic food than at the other schools. In response to the survey question "Are you interested in organic food?" a little fewer than half of them answered yes, and a few additional pupils answered that they were maybe or a little bit interested. Slightly over one quarter of them said that they were not interested. The major reason for being interested in organic food was related to health. Some were interested because they find that organic food tastes good, and some others thought generally that organic food is good or is better than conventional food. Some of those who were not interested had the same reason as came up at the other schools: taste is a more important factor in making food choices than it being organic.

The theme of health was dominant in response to the question "Who do you think eats the most organic food?" The justification for many different groups or types of people eating organic food was that they eat it in order to be or stay healthy. This included a wide range of groups, including vegetarians, athletes, young people, and adults. One answer that came up more at this school than at the others was that school pupils eat more organic, since they get it at school.

Environmental education and concern

Around 90 percent of the pupils who filled out my survey at this school said that they had recently learned or talked about environmental topics at school. Most had done so in Science class, and many had also discussed environmental themes in Social Studies class. Climate change was the most commonly stated environmental topic, and a few also wrote that they had learned about garbage and recycling, and about pollution. About 90 percent of the pupils thought that it was important to learn about the environment, mostly in order to make it better, or not make it worse. During the focus group interview, the pupils expanded on the topic of environmental education at their school. Two girls described a project that they had done about pollution, where they had interviewed various people in the community and had made a video. There was also a brief discussion during the focus group about the benefits of recycling, both in terms of conserving resources and in terms of economic factors. In the surveys and in the focus group, some pupils pointed out that the school has been certified by *Grønt Flagg* and *Miljøfyrtårn*.

During the focus group interview, the pupils demonstrated that they, to some degree, link organic food and farming with environmental issues. A short excerpt from the focus group interview demonstrates this connection:

> Grade 8 girl: (…) I think both things are about the environment, about pollution and the global warming and stuff, that's ruining the world (…)
> (…)
> Grade 8 boy: I think [organic farming is] more environmentally friendly. Because

> when we spray with toxic things to kill bugs… if we spray too much, it can kill bigger animals…

Raising livestock with conventional farming techniques was viewed as a polluting practice, as was the transportation of food to Norway from other countries by airplane. Here again, the perceived association between local and organic was apparent. At this school, it was quite clear that the pupils had been exposed to information about organic food and about environmental issues in a variety of contexts, and not just in the classroom.

4.2.5 Østfold pupils

Organic knowledge and perceptions

Like at the other schools, health was strongly associated with the term organic, as were fruits and vegetables. Some pupils also thought about milk. Several pupils also wrote that organic is better for nature or for the environment. A few thought of food that is produced without sprays or additives. Themes surrounding the environment and nature were the main ideas that came up during the focus group discussion in relation to what the pupils associate with the term organic. The focus group participants said that they found organic to be more environmentally friendly since the food is not sprayed with chemicals. One boy also found organic farming to be better for farm animals, because farmers “let their animals go free, just eat grass” rather than feeding them foods “filled with vitamins and stuff” (Grade 10 boy).

The pupils at this school were quite familiar with the Debio label; nearly three quarters of the survey respondents reported having seen it before. Most had seen the label on food and food containers, while several had seen it at the grocery store. As in the other schools, many wrote that the Debio label means that the food is organic and approved. Over a quarter of all respondents knew that foods that have been approved by Debio have been produced without the use of chemical sprays or other additives.

Over half of the pupils at this school wrote that they had learned at least a little bit about organic food and farming at school; of these, one fifth answered yes, while almost twice as many answered that they had learned a little bit. Some pupils said that they had learned about the topic in Science class, others in Food and Health class, and a few said that they had "just talked about it" (Grade 10 boy) or had talked about it "here and there" (Grade 10 boy). More pupils had learned or talked about organic food at home than at school. Half of the respondents said that they had discussed this topic outside of school, and an additional handful said that they had learned a little bit about it. The majority of those who answered yes or a bit to this question had talked about organic food at home with their parents, or had learned about it on television. Over half of the surveyed pupils said that they had bought organic food, and about one third did not know whether they had done so. The most commonly bought organic foods were again fruits and vegetables, followed by bread and grain products, and dairy products.

In terms of whether they were interested in organic food, about one quarter of the pupils answered yes, one fifth said maybe or a little bit, and one half wrote that they were not interested in organic food. The reasons for not being particularly interested in organic were that taste is the most important factor in food choice, and that they did not know much about organic food and farming. Those who were interested explained that they were so because of a concern for the environment, or because they prefer food that has not been sprayed with toxic substances.

Vegetarians were the group most commonly referred to when I asked who they think eats the most organic food. The topic of health also came up often. Farmers and environmentalists came up a few times, as did the general theme of people who are interested in organics. In the focus group interview, there was discussion about vegetarians and adults eating the most organic food

because of health reasons, while some others thought that young people eat most organic because they are more concerned with environmental issues.

Environmental education and concern

As in the other schools, environmental topics were something that the pupils recalled learning about at school; over 80 percent of the respondents at this school said that they had learned about this theme. Science class was again the most common place to learn about this topic, and many had also discussed environmental issues in Social Studies and in English classes. During some English classes in the autumn, they had watched the film *An Inconvenient Truth*; many pupils also noted that the environmental topic they had learned most about was climate change. During the focus group interview, one of the boys said that they had also made speeches about different environmental topics in English class. Over 80 percent of the pupils said that they found it important to learn about environmental topics. They found it important because of a dependence on the health of the environment, and they thought that knowing how the world works will help them improve things in the future.

* * *

What these four schools have in common is that they are all making an effort to introduce organic food to their pupils. The schools which I studied in Møre og Romsdal, Oppland and Rogaland all have organic *Skolefrukt*; a majority of the pupils at these schools was aware of this. Organic food is often also used in Food and Health class in the Møre og Romsdal school, and there the parents can choose whether they order organic or conventional milk for their children. At the school in Rogaland, the school canteen sells organic food on a daily basis. While the school in Østfold has conventional *Skolefrukt*, they bring organic and local ingredients into their school in the lunches which are currently served twice each week. At the schools in Møre og Romsdal,

Oppland and Østfold, there has been one key staff member who has led the initiative to bring organic food to the school; at the school in Rogaland, this effort seemed to be distributed among a number of staff members. In all four schools, the staff members who were promoting organic food made a strong link between organic agriculture and environmental issues. The pupils in Rogaland and Østfold connected organic farming with environmental topics more often than did the pupils in the other two schools. Environmental topics were covered in all four schools; while some schools covered environmental topics primarily in the classroom, at the school in Rogaland, these themes were integrated into the whole school setting. Despite these differences, the four schools where I performed my research are all doing more to introduce organic food to their pupils than the average Norwegian school.

5. Discussion of Findings

My research process involved a constant dialogue between my own research findings, and the theories and previous studies which I had read about. When beginning to analyze my survey and focus group data, I found several themes in the responses from the pupils which were quite similar to the themes found in previous consumer studies about organic food. Many concepts from environmental education and nutrition education studies were also evident in my own research results. In this chapter, I will demonstrate how my research fits in with previous studies in the areas of consumer studies, as well as with environmental education and nutrition education.

5.1 Opinions and Perceptions about Organic

Earlier, I presented various themes which have come up in many consumer studies about organic food and agriculture, and about organic food consumption specifically. These themes include taste, health, convenience and availability, price, environment, local production, gender and age, lifestyle, as well as reasons for skepticism towards organic products. The questions in my surveys and interviews were open-ended and not directed at asking specifically about these different themes; despite this, the pupils in my study had similar opinions and perceptions about organic food to what has been found in earlier studies primarily done with adult respondents. In this section, I will demonstrate how my results fit in with previous studies about consumer perceptions. I will also present ideas about why the pupils hold the views that they do about organic food.

Taste

Previous consumer studies with children, teenagers and adults have demonstrated that the taste of food is a dominant factor in consumers' food

choices in general (Bissonnette & Contento 2001; Magnusson *et al* 2001; Roos 2002). This theme was very evident in my own research, both from the survey responses and the focus group discussions. The most common reason for liking *Skolefrukt* in general was that it is good and tasty. When asked if they were interested in organic food, many of the pupils who were not interested found taste to be a more important factor:

> No I am not [interested in organic food] because there is no taste difference (Grade 8 boy). [own translation][51]
>
> I think it is more important that the food tastes good (Grade 8 boy). [own translation][52]

During a focus group discussion about the differences between organic and conventional foods, one girl said that sometimes organic fruit does not look as good as conventionally grown fruit, to which another focus group participant responded:

> I don't think it has something to say if the apples look dirty, it has something to say how it tastes, so it doesn't matter how it looks (Grade 8 girl).

Here again, the importance of taste was apparent. Studies by Bissonnette and Contento (2001) and by Hugher *et al* (2007) found that many consumers think that organic food tastes better and often base their purchase of organic food on this factor. Several of the pupils I spoke with and surveyed also held this opinion:

> The organic food is very, I think it's very good 'cause umm you get more taste I think (Grade 8 girl).
>
> I think the fruit tastes better. More juicy sort of (Grade 10 boy).

At the same time, a few other pupils found that organic food tastes the same as conventional, while others still found that organic food tastes worse. One boy found that organic apples have a more sour taste, and another said that while he likes organic fruits, he thinks that organic milk does not taste as good

[51] *Nei det er jeg ikke fordi det er ikke noen smaks forskjell.*

[52] *Jeg syns det er viktigere at maten smaker godt.*

as conventional. Some other pupils simply said that organic food tastes bad or has often gone rotten. Whether they preferred organic or conventional foods, the pupils definitely found taste to be a very important criterion for their food choices. This finding is very much in accordance with earlier studies, which have found that food purchases and choices are based primarily on the taste of food (Bissonnette and Contento 2001:75, 79; Magnusson *et al* 2001:218). Bissonnette and Contento (2001) found this to be true among teenagers, and Magnusson *et al* (2001) found that adults' food decisions are also very much affected by taste. In my own study, I also found that young people were not the only ones concerned about the taste of food. The assistant principal in Østfold also pointed out the importance of food tasting good. He finds that the success of the new food programme at his school hinges on whether the pupils enjoy the food; as he said, it does not matter if the food is organic if the pupils will not eat it. Whether the food is organic or conventional, it is clear that people of all ages want above all for their food to taste good.

Personal health

A variety of factors are associated with the link that consumers draw between organic food and health. Many consumers hold a general perception that organic food is healthier than conventional food, and base their food choices on this assumption (Bissonnette & Contento 2001; Magnusson *et al* 2001; Magnusson *et al* 2003; Hughner *et al* 2007). Some people perceive there to be differences in nutritional quality, despite the ambiguity surrounding such claims (Magnusson *et al* 2003:109; Hughner *et al* 2007:106). Some consumers link conventionally produced foods with food safety concerns, such as food-borne illnesses and the potential health effects of agro-chemicals (Vermeir & Verbeke 2006:169; Hughner *et al* 2007:101, 102). My own research results also show that health is a theme that is often associated with organic food. Many of the pupils who participated in my survey and in my focus group interviews had relatively general beliefs about organic food being

healthier than conventional food. Several pupils specified that they perceive organic food to be more nutritional, or that it is safer to eat because it has been grown without the use of various agrochemicals.

General themes surrounding health came up in response to a variety of questions that I asked about organic food. Many pupils said that they thought organic food to be healthier than conventional food, but were unable to specify why. Many of them made general statements about organic food, such as:

> Maybe healthier than normal fruit (Grade 9 girl).
>
> [People] should probably eat more [organic], because it's healthy and good (Grade 10 girl).
>
> I think about healthy and good food. Good for the body (Grade 9 boy). [own translation][53]
>
> I think it makes you feel better (Grade 9 boy).
>
> I like it and I know that organic food is more healthyer than not organic food (Grade 8 girl).

This general association between organic food and health was also evident when I asked what types of people are most likely to eat organic food:

> People who play a lot of sport and are generally healthy (Grade 9 boy).
>
> And I also think parents, they with kinda unhealthy kids, will make them eat more healthy and organic food (Grade 8 girl).
>
> [Vegetarians and people who work out, because] they are like more conscious about what they eat, if it's healthy or unhealthy (Grade 10 girl). [own translation][54]

At the same time, groups of people who the pupils viewed as being generally unhealthy were assumed to never eat organic food:

> The one who doesn't eat much is one who is really fat and junk food maniacs (Grade 8 boy).
>
> Truck drivers. They're fat. They like to just stop and have a burger of a hot dog… or yeah, McDonalds, Burger King (Grade 10 boy).

---

[53] *Jeg tenker om sunn og bra mat. Good for the body*.

[54] *They are liksom mer oppmerksom på hva de spiser, er sunt eller usunt.*

The pupils tended to associate organic food primarily with fruits and vegetables; the general perception of healthiness that they have about organic food is likely connected with this fruit and vegetable association. That these pupils connect organic specifically with fruits and vegetables is no surprise, since most of them (except in Østfold) are exposed to organic food mostly through *Skolefrukt*. The primary goal of the *Skolefrukt* initiative is related to health, and the pupils seemed to be quite aware of this. Following is an excerpt from a focus group discussion on this topic:

> *Interviewer*: What do you think about *Skolefrukt*? Do you like getting it?
> *Grade 9 boy*: It's nice to have some opportunity to get some healthy snack in the middle of the day.
> *Grade 9 girl*: It's good most of the students can eat it and be more healthy at school.
> *Interviewer*: Why do you think that this is something that the school or the government is paying for?
> *Grade 9 girl*: To have brought fruit to the students, to have healthy food at school.
> *Grade 9 boy*: To give us more energy so we can learn more.

Many pupils also made direct connections between fruits and vegetables and healthiness. This association carried into their answers to the question of who they think eats most organic food. Several pupils believed that vegetarians eat a lot of organic food:

> Vegetarians, they never eat meat, only salad and stuff (Grade 8 boy).

> Vegetarians, because they eat more vegetables (Grade 10 boy).

Several pupils believed vegetarians to be regular organic consumers both because they perceive vegetarians to be more concerned about health, and also seemingly because there is a stronger association between organic and plant-based food than between organic and animal-based food[55]. Very few pupils thought of meat products when discussing organic food. When I asked specifically during the focus group interviews whether meat was something that could be organic, most pupils were unsure. Again, this is no great surprise; their main exposure to organic food comes primarily through

[55] Among animal-based foods, there seems to be a stronger association with organic and dairy products than with meat products.

Skolefrukt, and as pointed out by some of the staff members at the different schools, organic meat is generally quite hard to come by in Norway. Since a large number of the pupils think of *Skolefrukt* when they think of organic food, it is quite logical to then think of organic food as being healthy. The pupils in my study are not alone in making strong connections between fruits and vegetables and healthiness. Fruits and vegetables, whether organic or conventional, are often seen by consumers as very health foods. Paquette reviewed numerous studies about the perceptions of healthy eating, a large number of which "found that fruits and vegetables were most often mentioned by participants as healthy foods, as part of a healthy diet or as most important for healthy eating" (Paquette 2005:S16). If the pupils associate organic with *Skolefrukt*, and fruits and vegetables with health, it is therefore quite logical for them to also draw strong connections between organic food and health.

Another factor that can help to explain the association between organic food and healthiness is noticing where organic food can be purchased (outside of the school context); based on my own observations in Norway, I have found that organic food is most often available in health food stores, or in the 'health' sections of regular grocery stores. Although the pupils are not the primary food buyers in their households, their perceptions about organic food are still likely to be somewhat influenced by the locations where it can be purchased.

Some pupils had more precise ideas about why they think of organic food as being healthier than conventional food, as compared with those who made general connections between *Skolefrukt*, organic and health. A few pupils believed there to be differences in nutritional qualities between the two categories. One boy thought of organic food as having lower amounts of fat and sugar than conventional food. Two girls explained that the coach of their sports team had encouraged them to eat more organic food when they are training, because it has a lot of vitamins and minerals. Another specific factor that some pupils associated with healthiness was that various agrochemicals

are not used in growing organic food. Non-organic food was seen by some as potentially dangerous or poisonous:

> If you eat like that with a lot of stuff sprayed on, you get like sick and be like not normal (Grade 8 boy).
>
> It's more healthy because it isn't any poisons in it or something (Grade 8 girl).

The pupils gave a variety of reasons for why they find organic food to be healthier than conventional; the strongest of these reasons was that they associated organic specifically with fruits and vegetables. Some pupils also perceived organic food generally to be nutritionally superior to conventional food, while others pointed out the potential dangers of agrochemicals in conventionally grown foods. The general idea of healthiness associated with organic food was also evident in the various earlier studies done with adult and teenage consumers (Bissonnette & Contento 2001; Magnusson *et al* 2001; Magnusson *et al* 2003; Hughner *et al* 2007). Among the school pupils in my study, like with the adults from previous studies, personal health tended to be an important factor in making food choices and was also strongly associated with organic food.

Convenience and availability

Convenience and availability are important factors in determining what young people eat. Bissonnette and Contento found that for the teenagers in their study, convenience played a major part in determining their food choices (2001:79). Most of the comments from the pupils in my study regarding convenience and availability were about *Skolefrukt* in general, rather than about organic food specifically:

> I think this is good because this gives us an opportunity for youths to eat some fruits/vegetables every day (Grade 10 boy).
>
> Because I don't really eat much fruit. So when I get it on school it's bigger chanse that I eat it (Grade 10 girl).
>
> It's healthy, free, and if I don't have money or food with me, I can eat fruit!! (Grade 8 boy)

> I like getting skolefrukt every day because then we dont have to bring fruit from home. And its easyer to eat it (Grade 8 girl).

During the focus group interviews, there was some discussion specifically about the availability of organic food. While one girl said that her family lives close to an organic food store where they can easily buy organic products, another girl believed that organic food should be easier to access:

> Maybe also get the food to the normal grocery shops where people normally go, because here if you're going to buy organic food we have to go up to the farm. And I didn't know there was a farm like that before I heard about it from a friend. So I think that maybe it would be smart to have it near where people actually go shop for food (Grade 8 girl).

As seen with both the *Skolefrukt* and with other organic foods, if something is conveniently available, it is more likely that it will be eaten. Over the past several years, the school in Rogaland has made more and more organic food available to their pupils. Since this organic option is both affordable and conveniently located at the school, the pupils have less reason to choose non-organic options from a grocery store down the street. Although these pupils have yet to reach an age where they are making the majority of their own food decisions, they have demonstrated the important role that convenience and availability play when they are making these choices.

Many studies have shown the perceived lack of availability of organic food as a deterrent to buying organic food (Magnusson *et al* 2001; Magnusson *et al* 2003; Vermeir & Verbeke 2006; Hughner *et al* 2007). This was a challenge that many of the staff members I spoke with at the schools were struggling with and were trying to overcome. Some of the foods that they wished to serve at their schools were either not available as organic products in Norway, or were too expensive to be practical in a school setting. Many of the teachers and school administrators I spoke with were aware that organic food is not very accessible in the community, and thus wanted to make such products available to their pupils within the school setting. Several of them also

expressed the hope that if they support local and organic farmers, it will lead to increased availability of organic products in their communities.

Price

Among adult consumers, the higher prices associated with organic food deter many people from purchasing organic products (Magnusson *et al* 2001:222, 224; Hughner *et al* 2007:103). The topic of price was not significant with the pupils in my study, since their major association with organic food was the free *Skolefrukt*. Price was something that did come up, however. While a couple of pupils believed organic food to be cheaper than conventional food, most of those who brought up the issue of price found organic to be more expensive. While discussing in the focus groups whether the pupils thought they would choose organic foods in the future, some of them thought that the price might restrict them. As one boy said:

> I think it depends on my personal economics. If I can afford it" (Grade 10 boy).

The issue of price came up more with the teachers and administrators at the schools, than it did with the pupils. It was important to the schools that their organic *Skolefrukt* supplier could offer organic produce at the same price as the conventional *Skolefrukt* suppliers. In the school in Møre og Romsdal, it was apparent that the price difference was also something that concerned the parents. In previous years, when the parents had to pay for *Skolefrukt* subscriptions, some parents had been unhappy with the choice to have organic products since that meant *Skolefrukt* would be more expensive. With *Skolemelk*, which the parents still pay for, the school in Møre og Romsdal gives parents the option of ordering organic or conventional due to the price difference. In the two schools which had other organic food programmes rather than or in addition to organic *Skolefrukt*, price was a significant issue. In both Rogaland and Østfold, the school staff members I spoke with were aware of the risks to their organic food programmes of making the meals too expensive for the pupils, but at the same time hoped to maintain a certain level

of organic or local ingredients. In Østfold, where the local and organic food programme was just getting started, it was important to them to get financial support from local governments and businesses. In Rogaland, they were finding it difficult to increase the amount of organic food in their canteen from its current level of about 50 percent; this was due to the significant price premiums on some of their staple items. While the pupils were generally unconcerned about the price of organic food at this time in their lives, they are still affected by the impacts that these prices have on their schools and their parents.

Environment

Environmental issues may not have been the first thought that came into mind when the pupils were thinking of associations with the word organic, but when asked more specifically about perceived differences between organic and conventional agriculture, most pupils considered organic farming to be more environmentally friendly. In their survey responses, some pupils made a connection between organic food and environmental issues. For example, in response to the question of who they think eats most organic food, some pupils gave the following answers:

> People who care a lot about the environment (Grade 10 girl).
>
> I think that those who work with environmental protection eat most organic food (Grade 8 boy). [own translation][56]
>
> Those who are very environmentally conscious, because it is environmentally friendly to produce organic food (Grade 8 boy). [own translation][57]

The most commonly stated reason for why the pupils view organic farming as more environmentally friendly was the avoidance of using such things as "sprays", "toxins" and "chemicals." A few pupils thought of organic agriculture as causing less pollution; some thought of organic food as requiring

[56] *Jeg tror at de som jobber med miljøvern spiser mest organisk mat.*

[57] *De som er veldig miljøbeviste, for det er miljøvennlig å lage økologisk mat.*

less transportation or being "made on farms without any polutin machines" (Grade 8 boy), while a couple of pupils believed that raising animals on factory farms causes more pollution than raising them using organic methods.

In discussing their study about Swedish consumers' perceptions of organic food, Magnusson *et al* (2003) demonstrated that egoistic motives (such as concerns for personal health) were more important factors for choosing organic than were altruistic motives (such as environmental concerns). Although my own study did not look at consumers' purchasing behaviours and purchasing attitudes *per se*, it was evident that egoistic motives were more relevant for the pupils than altruistic motives. In response to my asking whether they were interested in organic food, only a handful of pupils said that they were interested because of environmental issues, while nearly three times as many said that they were interested because they see it as being healthy. Another altruistic motive that came up both in the previous studies and a couple of times in my focus group interviews was that of animal welfare. During one focus group discussion, one girl made a connection between the egoistic and altruistic concerns related to organic food and farming. I asked whether they saw any connection between learning about the environment and learning about organic food and farming, to which she answered:

> Yes, I think both things are about the environment, about pollution and the global warming and stuff, that's ruining the world and I think organic food doesn't exactly help the environment, but it's helping for us as humans to be healthier and then might think more about the environment if we're healthier, so I think there's a little connection between them (Grade 8 girl).

Although egoistic motives are prioritized in this quotation, it also shows that it is unlikely that people will care about acting in favour of the greater good if their so-called egoistic needs are not being fulfilled.

The teachers and school administrators who I spoke with drew a much stronger connection between environmental concerns and organic food and farming. For most of them, choosing organic or local food was primarily an

environmental question. The Food and Health teacher I spoke with in Møre og Romsdal found organic food to be more related to environmental issues than to health issues, saying that "You don't eat organic just for yourself, but for the environment!" When the school in Rogaland published their four-year quality plan, the further development of the school's canteen was listed among the various other environmental initiatives that the school is working on. While the school staff members seem to be primarily motivated to provide organic food because of environmental concerns, the major health motive behind *Skolefrukt* seems to be making it through to the pupils more strongly. While several pupils connected organic food with environmental concern, their primary association with organic food was health. But these organic food programmes are of course relatively new at the schools, and such changes in perspective take time; as the assistant principal in Østfold pointed out, peoples' perceptions cannot be changed overnight.

Local

Among replies from the pupils and the school staff in my study, there were some connections made between organic food and local food. A few pupils made the assumption that organic food is, by definition, locally grown. They thought, for example, that:

> Organic fruit, that is fruit which is grown in this area and not like in another country or something (Grade 8 girl).

Some pupils from the schools in Rogaland and Østfold thought of organic food as being more environmentally friendly because they connect organic with being local, which does not have to be transported over long distances. One boy described his school's use of local food:

> They pick up ingredients from the farmers in the area. So there would not be so much pollution (Grade 10 boy).

The focus on local food in northern Europe has been motivated by concerns for "the health of agriculture," unlike in southern and eastern Europe where the

focus on local cuisines has been more prominent (Holt & Amilien 2007, ¶ 29). This concern for the viability of local farming was evident in discussions with some of the school staff I spoke with. The schools in Møre og Romsdal and Rogaland both cooperate with local farms and gardens in their organic food education. For the principal at the school in Oppland, it was important to support a local business by ordering *Skolefrukt* through them. The main motive for supporting this local supplier was the hope that it would lead to the development of organic agriculture in the area. The assistant principal in Østfold has similar motives. He wanted to encourage cooperation between the school and local food producers. He also linked organic school meals with Norway's goal of 15 percent of its agriculture being organic by 2015. As part of Norway's national 15% by 2015 plan, the municipality where this school is located is also initiating such a plan on a local level. Ensuring the vitality of local agriculture is thus one reason that the staff members at these different schools are interested in supporting local farmers, producers and suppliers.

Gender and age

Age and gender are factors which influence opinions about and behaviours related to food in general, as well as specifically about organic food. Women and girls tend to be seen as more health-conscious than men and boys (Bissonnette & Contento 2001:79) and are viewed as making their food decisions based on health factors (Roos 2002:11, 16). There were some differences in the answers given by the boys and girls in the survey responses in my study. As in a number of previous studies, the main gender difference was related to health; the girls were more focused on healthiness than the boys. While boys also perceived connections between organic and health, they provided a wider range of answers overall than did the girls. Magnusson *et al* found that women tended to be more interested in organic food than men (2007:211). This trend appeared in my study as well; over a half of the girls surveyed were at least somewhat interested in organic food, while about a third

of the boys said that they were interested. The pupils in my focus group interviews also generally viewed women as being the main decision-makers in terms of food, at least in their own families; most pupils said that their mothers either do the grocery shopping for the family, or at least make the grocery list. Gender differences related to organic food fit with previous studies; females tend to have a greater focus on health, and are generally more interested in organic food than males.

Many pupils perceived age differences when thinking about who eats the most organic food. Again, the theme of health was a primary factor in these answers. Most pupils who thought that adults or 'old people' eat the most organic food believed this to be because adults are more conscious of eating healthy food than young people:

> I think maybe it is older [people], because they trouble themselves more about their body (Grade 10 girl). [own translation][58]
>
> Adults, because they want to be healthy (Grade 8 boy).
>
> Maybe older people, because they know what to eat in order to keep them healthy (Grade 8 girl).

A small number of pupils also thought that people who are concerned about the environment eat most organic food, but answers were split in terms of what age group is more occupied with this topic. The pupils in my study generally linked organic food with health, and this trend was evident in how they saw differences in organic food consumption among different ages and genders.

Lifestyle

Some of the lifestyles associated with organic food consumption in Hughner *et al*'s (2007) article also came up in my study. Hughner *et al* found that organic food consumption has been associated with alternative lifestyles such as "environmentalism, vegetarianism, and/or alternative medicine"

[58] *Jeg tror kanskje det er eldre, fordi di bryr seg mer om kroppen sin.*

(2007:96). The assumption that vegetarians and environmentalists eat most organic food also arose in the answers from the pupils in my study. However, equally as many pupils thought that farmers eat the most organic food. Leading a health-conscious lifestyle was a significantly more common theme among the answers given by the pupils. While a couple of pupils thought that people who are "crazy about organic food" (Grade 9 boy) eat most organic food, it did not seem that the pupils in general associated organic food consumption with "alternative lifestyles." Having organic food as a regular part of their school setting may be influencing the pupils to view organic as more mainstream than it was viewed in recent decades.

Skepticism towards organic

The major reasons that pupils were skeptical towards or not interested in organic food were that they choose their food based primarily on taste, that they were just as happy to eat conventionally grown food and therefore saw no reason to choose organic, and that they were unaware of what organic food is or why the should choose organic over conventional. These are some responses to the question "Are you interested in organic food?":

> I eat the food I got. I don't really think so much about it (Grade 10 girl).
>
> Same for me if I eat organic or not (Grade 9 boy). [own translation][59]
>
> I have not fully understood what it is (Grade 8 boy). [own translation][60]

Some pupils noted that they although they would not go out of their way to get organic food, they would choose it if the option was given:

> I don't really care much, but if I have a choise, I will choose organic food (Grade 10 pupil).

During the focus group interviews, a couple of pupils said that the might avoid choosing organic food because they do not last as long, and because there are

[59] *Samme for meg om jeg spiser økologisk eller ikke.*

[60] *Jeg har ikke helt skjønt hva det er.*

"Bugs in the vegetables, maybe" (Grade 9 girl). While some pupils pointed out that organic produce does not look as nice as conventional fruits and vegetables, some others thought that appearance should not matter, as long as the food tastes good and is healthy. Despite the fact that these young people do not purchase most of their own food, the themes surrounding skepticism were quite similar to those that came up in the studies among older consumers: the appearance of the food (Bissonnette & Contento 2001:75; Hughner *et al* 2007:104), the lack of knowledge about organic (Hughner *et al* 2007:104), they are satisfied with the conventional food that they currently eat and therefore see no reason to change to organic (Magnusson *et al* 2001; Hughner *et al* 104), and that taste and health are more important than the food being organic. A lack of knowledge or education about organic food has been one factor leading to skepticism towards organic products; this has been evident in my own research as well as in previous studies. While the pupils did have a general knowledge about organic food and farming, their opinions and beliefs about it were often based on widely-held misconceptions. The clearest example of this was the common assumption that organic food is inherently healthier than conventional food. While the definition of organic food and agriculture includes a focus on environmental sustainability, this idea has not been strongly conveyed among consumers. These misconceptions and lack of knowledge point to a need for more education about organic food and farming.

5.2 Education Theories in Practice

Several of the themes that were discussed in the literature on environmental education and nutrition education theories were also apparent in the schools where I performed my research. The first of these themes is holism. Under the heading "Looking at the whole picture," I will include consistency and integration. Consistency between what is taught in the classroom and what the pupils experience during the school day, as well as at home, is important both

in environmental education (Higgs & McMillan 2006) and in nutrition education (Burke 2002; Graham *et al* 2004). Higgs and McMillan (2006) also point out that using various role-models can be effective in teaching about environmental issues. Both environmental topics and nutrition and food topics can be integrated into a variety of classes and activities at school (Graham *et al* 2004; Mogensen & Mayer 2005; Poudel *et al* 2005; Sandås 2005) as part of a holistic approach to education. "Learning by doing" is the next theme; this will include both learning by experience, and the importance of place. Having a chance to experience things for themselves helps pupils to learn and retain more than they would have in only a classroom setting, both in terms of the environment and nutrition (Hillcoat *et al* 1995; Graham *et al* 2004; Mogensen & Mayer 2005; Poudel *et al* 2005; Sandås 2005). Place-based education leads pupils to experience and connect with their local environment (Smith 2007) and can also be tied to discussions about local food. The third theme which I will discuss is informed consumption, which will include the topic of forming habits. Making informed decisions is important both in terms of environmental sustainability (Bissonnette & Contento 2001; Vermeir & Verbeke 2006) , and regarding personal health (Burke 2002; Roos 2002; Vereecken *et al* 2004). While the topic of organic food and farming is not an evident or specific part of either environmental education or nutrition education, the topic can fit into both of these areas. In the following section, I will demonstrate how these theories and strategies are being put into practice at the four different schools where I conducted my study.

Looking at the whole picture

Two important elements in a holistic approach to education are consistency and integration. If pupils are to take seriously what they are taught about environmental and food-related topics in the classroom, this needs to be consistent with what is happening outside of the classroom as well. Within the context of food and nutrition education, this consistency between the

classroom and the school's food options is related mostly to health rather than to organic food. Having *Skolefrukt*, whether organic or not, is a good step in establishing this sense of consistency, since the pupils receive a healthy snack option from the school every day. Some schools or municipalities in Norway did not manage to keep the *Skolefrukt* programme running, and instead used their *Skolefrukt* money for other purposes (Andersen 2007). At the four schools where I conducted my study, the free *Skolefrukt* was available to the pupils on a daily basis, giving them a consistent message about the importance of eating fruits and vegetables. The school canteen in Rogaland offers healthy food, such as salads and sandwiches, to the pupils. During the focus group interview at this school, one of the pupils told me that they are not allowed to have sugary drinks at the school, because "the school is so healthy" (Grade 8 boy). Instead, the school has machines where the pupils can fill up their own water bottles with still or carbonated water. A few years ago, pupils at the school in Østfold seem to have noticed an inconsistency between their nutrition education in the classroom, and their food options at school; the school's current food programme began being organized after the pupils complained about the unavailability of healthy food options at school.

Consistency is apparent in the way in which environmental issues are addressed in the school in Rogaland. Sorting garbage, for example, is not something that the pupils simply learn about in class; waste sorting facilities are very visible and accessible at the school, and some pupils have also been on a school trip to a waste processing plant. Higgs and McMillan (2006) present the role that "school culture" can play in sustainability education, if there is a "cultural shift" towards this goal. The school in Rogaland has adopted a "green" school culture; as the assistant principal at the school said, this "green" theme is woven into the overall school plan and setting. The environmental messages here are not confined to within the school walls; the messages that these young people receive in their community seem to be quite consistent with those they receive within the school setting. This municipality

in Rogaland was described to me as one which has a focus on the environment, encourages the sorting of waste, and is currently discussing whether to implement a ban on plastic bags. This consistency between the classroom lessons, the school setting, and the community in general supports Higgs and McMillan's (2006) prediction that pupils absorb more from their environmental education if they encounter a high level on consistency in the environmental messages that they receive from different sources.

Integrating themes from food and nutrition education and from environmental education into a variety of contexts is another important component of this idea of looking at the whole picture. It is evident already from the curriculum and textbooks that environmental studies are no longer confined to the realm of Natural Science, but are taught in Social Studies classes as well. These were the two subjects that the pupils noted most commonly for where they had covered environmental topics. In the school in Østfold, pupils had also learned about environmental issues in English class. They had, for example, watched Al Gore's film, *An Inconvenient Truth*. Rather than showing just any movie simply because it is in English, showing *An Inconvenient Truth* integrated the topic of global climate change into the English class. In this same class, the pupils were also assigned to make presentations about environmental topics. At the school in Rogaland, a variety of environmental activities are integrated into daily life there, and many special activities and projects have an environmental focus. The pupils are active in a variety of environmental groups and campaigns, and have also had such activities as the fashion show which I described earlier, where the pupils designed and created clothing made from second-hand items. Having organic food at the school was also seen by some as being integrated with this school's overall environmental image. The teacher I spoke with there said that "of course" they teach about organic food at the school, and talked to me about organic food in the context of environmental topics. One of the pupils also said that she knew that the *Skolefrukt* that they get is organic "because the

school is a green school" (Grade 8 girl). Besides coming up in the context of environmental issues, organic and sustainable food also comes up when talking about health and nutrition. Integrating nutrition and health-related themes into the whole school environment is closely related to the idea of consistency, where what is taught in the classroom is reinforced by what the pupils see and experience in the overall school setting. Education about agriculture is also beginning to be integrated into food and health education, as well as environmental education; this was seen in the schools in my study, as well as in Graham *et al*'s (2004) study of California schools. Through such activities such as farm visits, pupils begin to see and understand the whole picture of where their food comes from. Taking a whole school approach to education involves the aspects of integration and consistency; these are both relevant in educating young people about organic food.

Learning by doing

The idea of learning by experience, which has been widely discussed within the context of environmental education in earlier studies, is quite relevant also in terms of food education. Many previous studies demonstrate the effectiveness of integrating classroom learning with activities and experiences outside of the classroom (Hillcoat *et al* 1995; Burke 2002; Graham *et al* 2004; Vereecken *et al* 2004; Mogensen & Mayer 2005; Poudel *et al* 2005; Sandås 2005). Many pupils from the schools I studied had been on school trips to farms or to some other food-related locations, gaining some hands-on experience and knowledge about the sources of their food. Pupils in Møre og Romsdal had visited a local organic garden, and the older pupils had picked and gathered food from the local area which they then prepared and ate in their Food and Health class. Some of the pupils in Rogaland had visited and helped on a nearby organic farm and store, and one of them said that she had worked

at this same farm as part of a work experience week[61] at the school. She shared this about her experience there:

> I worked, 'cause we had these three days of working outside the school, and then I decided to work at the organic food store, and umm that was very fun, and I think that I really learned something there (Grade 8 girl).

In Østfold, some of the pupils had been to a local organic flour mill. These school visits to organic farms and producers can be linked to Debio's organic guidelines; one of their goals for organic production methods is to "support communication between agriculture and society as a whole" [own translation] (Debio 2008c; Salomonsen 2008). By visiting places linked with agriculture, the pupils can begin to build a relationship with and understanding of the farming community. It was also quite common that the pupils helped to prepare or distribute the organic food at their schools. Many of the pupils helped with sorting and handing out the *Skolefrukt*. In both Rogaland and Østfold, pupils were active in preparing and cooking the meals for the canteens, where there is a focus on organic and local ingredients. These activities give pupils hands-on experience with organic and local food.

Place-based education aims to bring together schools with their local environments, both natural and social (Smith 2007). This connection between the school and the local region and community can be formed in a variety of ways. All four schools are in some way connected to local agriculture and food sources. Some pupils in Rogaland have visited a local organic farm. Pupils in Møre og Romsdal have helped at a local organic garden, have gathered food from their surrounding nature, and have taken part in their school's annual local-product market. In Oppland and Østfold, the school administrators who are pushing for organic food in their schools place a great importance on local sources of food. Local food is of course not synonymous with organic food, but at least at these schools, there is a connection between

[61] *Arbeidsuke*

them. At the schools in Oppland and Østfold for example, the principals who I spoke with pointed out that they hoped that having organic food at their schools would lead to an increase in local organic agriculture. Although the organic food programmes at these two schools are very new, this connection with local agriculture can potentially lead to more direct cooperation between the schools and local farms in the future as exists at the other two schools. Various environmental projects and programmes can also bring schools together with their local communities. One example of this is the Green Pledge[62] project that pupils in the school in Rogaland are working with, asking local residents to make a pledge to improve their environmental attitudes and behaviours. The more that people feel connected to their local environment and community, the more likely they are to feel a sense of stewardship for it (Smith 2007:192); this connection can be made in a variety of ways, including through food and agriculture education and environmental education.

Informed consumption

Adolescence is an important period for forming habits, both in terms of food choices and also with consumption choices in general. The literature on nutrition education specifies the importance of establishing healthy eating habits in childhood (Burke 2002; Roos 2002; Vereecken *et al* 2004). The idea from nutrition education of forming habits is closely related to informed decision-making and informed consumption in the context of environmental education. Informed consumption and forming habits are also relevant specifically in terms of organic food consumption (Bissonnette & Contento 2001). In order to make informed consumption decisions, people need to have knowledge about their different options (Vermeir & Verbeke 2006). Some pupils said, in the context of discussing *Skolefrukt*, that they wished to learn more about organic food at school:

[62] *Miljøsteget*

> I think we should have some more talk about it in school (…) there was not many who knew what it was, and I think maybe everybody should learn a little more about it (Grade 8 girl).

> I think we should have learned what it meant (Grade 9 boy).

Increasing exposure and awareness can potentially lead to increased interest in organic food, such as with this pupil:

> I have been more interested in organic food when we got it on our school (Grade 9 girl).

Teaching young people about organic and sustainable food sources is likely to influence them to buy such products when they start making more of their own food purchase decisions (Løes *et al* 2007:1). Through teaching about organic food and about environmental issues in general, many of the staff at my research schools aim to teach their pupils about informed consumption, and influence them to be informed consumers. In a Social Studies class in Møre og Romsdal, the teacher taught about making informed decisions and being informed consumers within a variety of contexts, such as when buying clothing, choosing environmentally friendly modes of transportation, and he also included organic food into this context. The Food and Health teacher at the same school hoped that her lessons about organic food would influence the pupils as they get older and make their own food purchase decisions. Making his pupils aware of organic food is also important to the school principal in Oppland. He feels that since organic food is not easily available in the local community, he wants to provide some exposure to such products within the school setting; he hopes that through this he will influence his pupils to choose organic in the future, thus leading to a higher demand for organic food in local grocery stores. Teaching the pupils about organic food was not the only goal; there were also aims to educate a wider community. In Rogaland, the school printed a pamphlet about organic food, which it distributed to parents informing them about the benefits of organic. The assistant principal in Østfold hopes that through having organic food at the school, they can begin to influence how not only the pupils, but also the community in general, think

about food and agriculture. At all four of the schools, staff members hope to influence their pupils to make their own informed decisions now and in the future, whether the focus is specifically on organic food, or on environmental issues on a broader scale.

* * *

Many themes from previous studies about environmental education and nutrition education are relevant in teaching about organic food and agriculture. These include the concepts of consistency, integration, learning by experience, and informed consumption. The results from my study were also quite consistent with results from previous consumer studies about organic food; taste and healthiness tend to come before other factors when people are making food choices.

6. Summary and Conclusions

Organic food can be introduced in a variety of ways in school settings. Organic food education is not the exclusive domain of alternative schools; it can also be effectively introduced in public schools where organic food has not historically been an area of focus. Integrating organic food and related topics into a wide range of elements in the school day helps to increase learning about and interest in the topic.

6.1 Introducing Organic Food in Norwegian Schools

There is not clear-cut or single answer to how organic food can be introduced in schools. What I found in my research were some different possible ways of doing this in Norway. *Skolefrukt* seems to be a good first step; the framework for this programme already exists in Norway's lower secondary schools and so organic food can be introduced within this context. One potential challenge with *Skolefrukt* is that there are not yet organic *Skolefrukt* suppliers in all areas of Norway. Another challenge related with *Skolefrukt* is that the school does not have as much control over the quality of the food as they do with their own programmes; these concerns were evident at the school in Østfold, which continues to have conventional *Skolefrukt*.

When schools sell organic food in their canteens, they have more control over the content and the quality of the food they serve. With these programmes, the schools can introduce pupil to a wider variety of organic foods than simply fruits and vegetables. Despite these benefits, schools running their own organic food programmes are faced with a different set of challenges than with organic *Skolefrukt*. The higher price of organic products is something that the schools have to deal with; they must find a balance between using the highest possible amount of organic ingredients, and

maintaining a price that the pupils and their parents are willing to pay for the school lunches. The availability of organic products is another challenge that they face; when schools decide to provide organic school lunches, they take on the responsibility of finding reliable sources of organic food. However, as the schools in my study have demonstrated, it is not necessary for the school food programme to include one hundred percent organic food in order for the organic food that they do have to be a useful teaching tool.

6.2 Pupils' Knowledge and Perceptions about Organic

The pupils in my study expressed perceptions and opinions about organic food and farming which were generally quite consistent with those from previous consumer studies on the topic. Taste is the dominant factor in food choices in people of all ages; with both conventional and organic food, consumers are likely to prioritize taste over other factors. Health is another factor which people very commonly take into consideration when deciding what foods to eat and buy. From my own study and in previous studies, it is evident that consumers tend to perceive organic food as being inherently healthier than conventional food. The pupils in my study often associated organic food with *Skolefrukt*, that is specifically with fruits and vegetables; in previous studies, consumers connected organic foods and healthiness on a more general level. Convenience and availability have arisen in a number of studies as influential factors in food choices and purchase behaviours. In my own research, the pupils noted convenience and availability in relation to *Skolefrukt*; they enjoyed *Skolefrukt* largely because it is conveniently available to them. In previous studies, consumers have been deterred from buying organic food because they perceive it to be unavailable or inconvenient to access in their daily lives. Another barrier to buying organic products is that of price; previous studies (with adult consumers) found that consumers often said that the higher prices of organic products prevented them from buying them.

Although some pupils did note that organic food is more expensive than conventional, price was not a major concern for them at this stage in their lives. The adults in my study were more concerned with organic food prices than were the pupils; the school staff strived to find organic *Skolefrukt* suppliers who could offer the same price as conventional suppliers, and also struggled to offer organic school lunches at a reasonable price. Although many organic food consumers (both in my study and in previous research) connect organic food with environmental issues, environmental concern does not generally lead them to choose organic products. The pupils in my study largely associated organic food with health, but the staff members who were initiating and running the organic food programmes at their schools drew a much stronger connection to environmental issues; their primary motivations for introducing organic food were based on environmental concerns.

Opinions and behaviours related to food often vary between genders; women and girls tend to be more concerned about the healthiness of food than men and boys. Females also tend to be more interested in organic food than males. Age is a another factor which influences food choice opinions and behaviours, both with organic and with conventional food. In my study, the pupils tended to believe that adults eat more organic food than children; this association was drawn primarily because of the pupils' perception of organic food as healthy, and their assumptions that adults are more health-conscious than children. In results from previous studies, older consumers tended to choose organic food for health reasons, while younger consumers were more influenced by environmental concern when choosing organic food. Lifestyles such as environmentalism and vegetarianism were seen to be associated with organic food consumption both in my own study and in previous studies of organic food consumers. The pupils in my study also perceived farmers as regular organic food consumers. Most of all, the pupils saw organic food consumers as leading a health-conscious lifestyle.

The major reason for skepticism towards organic food was that the consumers – both in my study and in previous research – were satisfied with the quality and taste of their current food choices, therefore seeing no reason to switch to organic. This skepticism or indifference towards organic food is also related to a lack of knowledge or education about the topic.

6.3 Integrating Education about Organic Food

Integration and consistency were important elements in both environmental education and nutrition education theories. These were also relevant in context of organic food education, based on the findings from my research in Norwegian lower secondary schools. In the schools where organic food was relatively highly integrated in the school day, pupils tended to be more informed and have more positive opinions about organic food than at the schools where this theme was less integrated. The school in Rogaland has worked to integrate organic food into their everyday school setting; this school also had the highest number of pupils who showed interest in organic food and farming. For several years, they have had organic *Skolefrukt* and have been selling organic food in the school canteen; they also have a number of teachers and pupils who work directly with the food while preparing lunches in the canteen. The school in Rogaland has had organic food for longer than the other schools in my study. This school has therefore had time to establish the programme and to make organic food a part of the regular school day. Introducing organic food to schools and educating pupils and staff about it does not occur overnight, but takes time and dedication. Schools which have recently begun introducing organic food can look to the school in Rogaland as a model which demonstrates the effectiveness of long-term dedication to organic food programmes.

Once organic food programmes are established in schools, there is a potential to use them in the teaching plan. The organic food at a school can, for example, be used in lessons and discussions about informed or sustainable consumption. The origins of the different organic foods that the school provides can also be discussed. For the school principal in Oppland, it was important that their *Skolefrukt* supplier would be able to tell them where the different fruits and vegetables were grown. This information about the origins can potentially be used in a variety of discussions, such as food transportation, local food sources, farming practices in different countries, and so on. The organic food which a school supplies for its pupils can be integrated into a variety of lessons and discussions.

Integration and consistency were also important in the effectiveness of environmental education at these schools. Sending consistent messages throughout the school day leads pupils to retain more of what they have learned about environmental topics; what pupils experience outside of class should therefore be consistent with classroom learning. Organic food and environmental topics can be incorporated into the school culture, making them regular elements in the school day.

6.4 Connecting Local and Organic

Examining issues surrounding local food was not initially part of my research plan; it proved, however, to be a theme which I could not overlook. Local and organic are concepts which are often brought together in the context of sustainable agriculture. Many pupils and school staff members drew strong links between local food and organic food; many pupils saw these concepts as virtually synonymous. Three of the schools in my study cooperated with and had pupils visit local organic farms, gardens or producers. The principals who were leading the organic food programmes at the schools in Oppland and

Østfold had a particular interest in increasing organic agriculture in their regions; they found that having organic food at their schools would be one step in creating more of a demand for local organic farming and food production. Due to Norway's strong political support for local agriculture, linking organic agriculture with the local can be effective in gaining support for organic.

6.5 Implications and Suggestions for Further Research

Organic school food is not yet a widespread phenomenon in Norway. This is due to a variety of factors, such as the low availability of organic food in Norway, and the fact that Norwegian pupils tend to bring their own lunches rather than buying or receiving meals at school. Organic food is starting to make its way into some public schools in Norway; this is occurring largely through the *Skolefrukt* initiative, but also through schools' own organic food programmes. The four schools in my study can be viewed as models or examples of different ways in which organic food can be introduced in the school setting. Every school is dependent on its own set of circumstances and can therefore not simply copy the organic food programmes at any of these schools; however, elements from the different initiatives in the four schools can be drawn from and made to suit a variety of situations. It is, for example, likely to be more challenging for schools in urban areas to organize farm visits than it is for schools in agricultural regions; these farm visits, though, can be substituted with visits to other locations such as urban organic gardens or organic food distributors.

At the schools where I performed my research, the organic food programmes have generally been initiated by one or two staff members; the programmes have depended on those individuals' enthusiasm for and interest in organic food. This was evident in the schools in Møre og Romsdal, Oppland and Østfold. While it is possible that this was also true when the

school in Rogaland started its organic food programme, it was not evident in the course of my research that this school's organic canteen or organic *Skolefrukt* were dependent specifically on one or two staff members. Further research about organic food in schools can be done to examine how to achieve wider involvement – of staff members, pupils, and the wider community - in such programmes. Schools such as that in Rogaland can be studied in order to examine the process of how a large number of staff members have become involved in the organic food programmes. If organic food and education about the topic are to be integrated into a variety of lessons and into the everyday school setting, a number of people from the school need to become involved. The same is true for education about environmental topics; it is likely that the more people at the school who are involved with environmental or organic food programmes, the more integrated these themes will be both in and out of the classroom.

A variety of further research can be done on the topic of organic food in schools. Despite the potential challenges of recruiting schools which do not offer organic food, it would be interesting to compare schools with organic food programmes and schools without such programmes. It would be especially interesting to perform such a comparative study between schools within the same region or municipality, which are influenced by roughly the same outside factors. In order to explore the opinions that Norwegian youth in general have about organic food, a large-scale consumer study could be performed; this could be done either only at schools which have organic food, or as a comparative study including schools with and schools without organic food. Pupils living in urban areas are likely to have different perceptions about agriculture than those living in rural areas; the schools in my study were generally in quite rural areas, and it would be interesting to perform a similar study in urban schools which have organic food programmes. Organic and sustainably grown food can be introduced in the school setting in a variety of ways; some of these ways were evident in my research, but more research can

be done in Norway and internationally to broaden the scope of examples of how organic food can potentially be introduced.

Food from organic and sustainable agriculture and production is becoming increasingly mainstream. It is no longer a associated exclusively with alternative lifestyles. Organic food is making its way into various public institutions, such as schools, daycares, seniors' homes, hospitals, and so on. While skepticism and misconceptions about organic food are still quite common, increased exposure to and education about this topic are beginning to break down these barriers. If school pupils get used to and learn about organic food at a young age, food grown and produced in a sustainable manner is likely to continue its path of becoming increasingly common and mainstream.

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Interviews

	Interviewee	**Date of interview**
Møre og Romsdal	Teacher (Grade 9, Food and Health) Teacher (Grade 8, Social Studies) Secretary	April 18, 2008 January 18, 2008 January 17, 2008
Oppland	Principal Teacher (Grade 9)	February 20, 2008 December 13, 2007
Rogaland	Teacher (Special needs; *Skolefrukt* contact) Assistant principal	April 4, 2008 February 1, 2008 April 4, 2008
Østfold	Assistant principal	December 7, 2008 March 10, 2008

Appendix A: Debio organic guidelines (Original Text)

"Økologisk landbruk bygger på et helhetssyn som omfatter de økologiske, økonomiske og sosiale sidene ved landbruksproduksjonen, både i lokalt og globalt perspektiv. I det økologiske landbruket betraktes naturen som en helhet. Mennesket har et moralsk ansvar for å drive landbruket slik at kulturlandskapet utgjør en positiv del av naturen.

Viktige målsetninger for økologisk landbruk er å:

- produsere matvarer med høy kvalitet, i tilstrekkelige mengder og rettferdig fordelt.
- forvalte naturressursene slik at skadelige virkninger på miljøet unngås, og dermed sikre jordens fruktbarhet på lang sikt.
- sikre genetisk mangfold og artsrikdom.
- skape et miljø som tilgodeser husdyrenes naturlige atferd og behov.
- sikre mest mulig resirkulering av næringsstoffer.
- understøtte god kontakt mellom landbruket og samfunnet ellers.
- arbeide for at økologisk landbruk skal gi grunnlag for en trygg økonomi for utøverne" (Salomonsen 2008).

Appendix B: Survey Questionnaire for Pupils

Food in Norwegian *ungdomsskoler* - Survey

Age:
Grade (*trinn*):
Gender (*kjønn*):

Please answer these questions as well as you can. You may answer in English or Norwegian.

1. a) Do you like getting *skolefrukt* every day?

   b) Why/Why not?

2. a) Have you seen this label before?

   b) If yes, where have you seen it?

   c) What does this label mean?

3. Is the *skolefrukt* that you get at your school *økologisk*?

   Yes No I don't know

4. What are the first words that you think of when you see the word "organic" (or *økologisk*)?

5. a) Have you learned or talked about organic food and agriculture (*økologisk mat og landbruk*) at school?

   b) If yes, during what lessons, classes, projects or school trips?

6. a) Have you ever learned or talked about organic food anywhere else? (For example, at home? with friends? on TV? on the internet?...)

   b) If yes, where? With whom?

7. Are you interested in organic food? Explain briefly.

8. a) Have you ever bought organic food?

   Yes No I don't know

   b) If yes, what was it? When was it?

9. Who do you think eats most organic food? Why?

10. a) Have you recently learned or talked about the environment (*miljø*) at school?

    b) What lessons or classes was this in?

    c) What environmental topics did you learn about?

11. Do you think learning about the environment is important? Why/Why not?

12. Do you have any other comments about any of the topics from this survey?

Appendix C: Interview Guide – School Staff (Møre og Romsdal, Oppland and Rogaland)

I used the following questions as a guide when interviewing staff members at the schools in Møre og Romsdal, Oppland and Rogaland (the three schools with organic *Skolefrukt*). I did not strictly follow the order of the questions, but instead used them to guide the conversations. I did not ask all of the questions in all interviews; the choice of questions depended on the interviewee's position in the school (teacher, administrator, etc.) and their role with the school's organic food programme.

- How many pupils are there at your school?
- What is your position in the school?
    - How long have you been working at this school?
- What subjects do you teach?
- What grade(s) do you teach?
- How long have you been teaching?
    - Where?
    - What grades?
    - What subjects?
- Did you school participate in the *Skolefrukt* programme in previous years?
- What do you think about *Skolefrukt* in general?
    - Do the pupils enjoy it?
    - Do the parents think it's a good idea?
    - What do the teachers think?
- Are you satisfied with how the *Skolefrukt* programme is running so far?
    - Do you think the students/parents/school staff are satisfied?
- What company/supplier do you order your organic *Skolefrukt* through?
    - Are you satisfied with the company?
    - Why/Why not?
    - Are you satisfied with the quality of the fruits and vegetables that your students get? Why/Why not?
- Is the price the same for organic as it is for conventional fruits and vegetables?
- Who was involved in the decision-making process to have organic *Skolefrukt* at your school?/Who decided what company to order the *Skolefrukt* through?
    - Who were the main actors in the decision?
    - Were you involved in this decision?
        - How were you involved? Why did you become involved?
    - How did the decision come about?
    - Were any parents or pupils involved in making this decision?
    - Can you suggest who else I can talk to about this?
        - Why are they important to talk to?
- Did you support the decision to provide organic *Skolefrukt* in your school?
    - How come?

- What were your main motivations for having organic?
    - Are these being satisfied/fulfilled?
- What challenges/difficulties have you encountered with getting organic food into your school?
    - Has anyone in the school community been against this decision? (Do you know of anyone who has been unhappy with having organic *Skolefrukt* (parents, teachers, students…)?
    - Has the company been able to consistently deliver organic?
- Is any of the other food in your school organic?
    - *Skolemelk*?
- Do you use organic *Skolefrukt* or the other organic food in your school in your teaching plan in any way?
    - In what subject areas?
    - Was this your own decision or was it assigned to you?
    - What challenges/difficulties do you find in teaching about organic food?
    - Do you enjoy teaching about organic food? Why/Why not?
    - Do your students enjoy learning about organic food?
    - Do you know if any other teachers/classes use organic foods in their teaching?
- Where do you get your teaching materials for organic food/agriculture?
    - How difficult or easy are these teaching materials to find?
- Do you teach about any environmental (*miljø*)topics in your classes?
    - What has motivated you to teach about environmental topics?
    - What challenges/difficulties do you find in teaching about environmental topics?
    - Do you enjoy teaching about environmental topics? Why/Why not?
    - Do your students enjoy learning about environmental topics?
- Where do you get your teaching materials for environmental topics?
    - How difficult or easy are these teaching materials to find?
- Have you had any projects or activities at your school related to environmental education?
    - Can you describe it/them to me?
- Do you yourself participate in any environmental activities or organizations outside of work/school?
    - Have you in the past?
    - What activities/organizations?
- What are your own thoughts about organic food and agriculture?
    - Do you ever buy organic food? Why?
    - How easy is it to get organic food in your community?
- Do you have any other comments to add?

Interview Guide: School Staff (Østfold)

I had a separate set of interview questions for the school in Østfold, since they do not have organic *Skolefrukt*.

- How many pupils are there at your school?
- What is your position in the school?
    - How long have you been working at this school?
- Did your school participate in the *Skolefrukt* programme in previous years?
- What company/supplier do you order your *Skolefrukt* through?
    - Who decided what company would supply your *Skolefrukt*?
    - Are you satisfied with the choice of company?
        - Why? Why not?
    - Are you satisfied with the quality of fruit and vegetables that your pupils get?
        - Why? Why not?
- Did you have the option of having organic *Skolefrukt*?
- Tell me about the organic food project that you have at your school.
    - What is it called?
    - When did it start?
    - Who intiated/started it?
    - Who are the people running it?
    - Has anyone been opposed to the project?
    - What are the main motivations behind the project?
    - Are you satisfied with how it is running so far?
    - What would you like to change about the project?
    - Are the pupils involved in this project?
        - How?
    - Is it being used in the curriculum/teaching plan?
        - How?
        - What classes?
        - What activities?
    - Are any parents involved in this project?
        - How?
    - Who else from the community is taking part?
        - In what ways?
    - What are the goals of the project?
    - What challenges or difficulties have you had with the project?
    - Who else should I talk to about this project, both at the school and in the community?
        - Why are they important to talk to?
- Has your school had any other projects or activities related to environmental education?
    - Can you describe it/them to me?

    - Do you yourself participate in any environmental activities or organizations outside of work/school?
    - Have you in the past?
    - What activities/organizations?
- What are your own thoughts about organic food and agriculture?
    - Do you ever buy organic food? Why?
- Do you have any other questions or comments to add?

Appendix D: Focus Group Interview Guide

The following questions were a guide for my focus group interviews. The order in which I asked the questions changed depending on the flow of the interview. I did not ask all of the sub-questions, but used those as probing questions when I wanted the pupils to expand on the answers they had given to the main questions. I sorted the questions by theme in order to help me with the flow and organisation while conducting the focus group interviews.

Thoughts and opinions about *økologisk* food

- Define *økologisk* [organic].
    - What are the first words that you think of when you see/hear the word *økologisk* [organic]? Explain
    - OR, what does *økologisk* [organic] mean to you? Explain.
- What is different between conventional and *økologisk* [organic] farming/agriculture/production?
    - What is the same in both conventional and *økologisk* [organic] agriculture?
    - Where have you learned about this?
- When you think about (or eat) the foods themselves, are there any differences between conventional and *økologisk* foods?
    - What is good about *økologisk* food?
    - What is bad about *økologisk* food?
    - What is good about conventional food?
    - What is bad about conventional food?
    - Is there any difference in taste?
    - Is one type more or less healthy than the other? Or the same? Why?

Education about *økologisk* [organic] food in school

- Have you learned anything about *økologisk* food or farming at school?
    - Have you learned about food in general at school?
    - In what classes/lessons?
    - Have you learned about how the *skolefrukt* that you get is *økologisk*?
- Have you had any trips or activities with the school related to food or farming?
    - Have you met any organic farmers?
    - Have you visited any farms?
    - Have you visited any other places related to food growing or production?
    - Has anyone visited your school and talked about food or farming?
    - Have you had any projects about food or farming?
- Do you think there is any connection between learning about food/farming and learning about the environment?

    - What connections?
    - Relations between *økologisk* and environment?

Role of fruit in school

- What do you think about *skolefrukt*?
    - Why?
    - Why do you think you get it? (why is this something the school/ government is providing?)
    - Healthy?
    - Energy?
- Does it make a difference to you if the fruit/food at your school is *økologisk*?
    - Why? Why not?
    - Do you think one is better than the other? Better/worse in what way?

Interest in *økologisk* food

- Are you interested in *økologisk* food and/or farming?
    - In what way?
    - Why?
    - Where have you learned or talked about it?
    - Have you gotten more interested since learning about it at school?
- Have you eaten any *økologisk* food outside of school?
    - Have you ever bought *økologisk* food? When was that? What was it? Where?
    - Where? At home?
    - Who buys the food for your family?
    - Who decides what food your family eats/buys?
    - Do you help with the food shopping or cooking?
- Have you learned or talked about *økologisk* food or farming outside of school?
    - With whom? Where? When?
    - Have you seen anything about it on TV? In the newspaper? In books?
    - Have you talked about it with anyone? Your parents? Family? Friends?
- Do you think people should eat more or less *økologisk* food?
    - Why?
    - Do you think you and/or your family should eat more or less *økologisk* food?
    - Do you think you will eat more or less *økologisk* food in the future?
    - What would make you decide to eat more *økologisk* food?
    - What would make you decide to eat less *økologisk* food?
    - If they cost the same, would your answer be different?

Organic consumers/purchasers

- Who do you think eats the most *økologisk* food?
    - Why?
    - What types of people?
    - What group of people?
    - Who would never eat *økologisk* food?

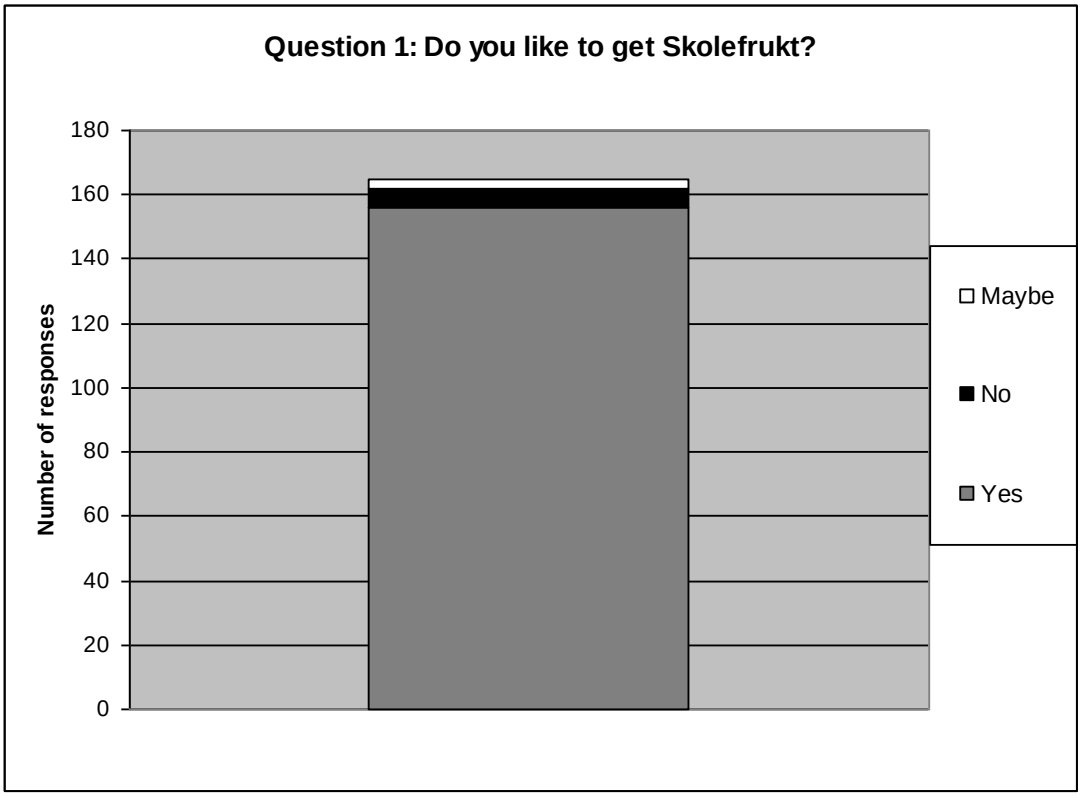
Environmental education

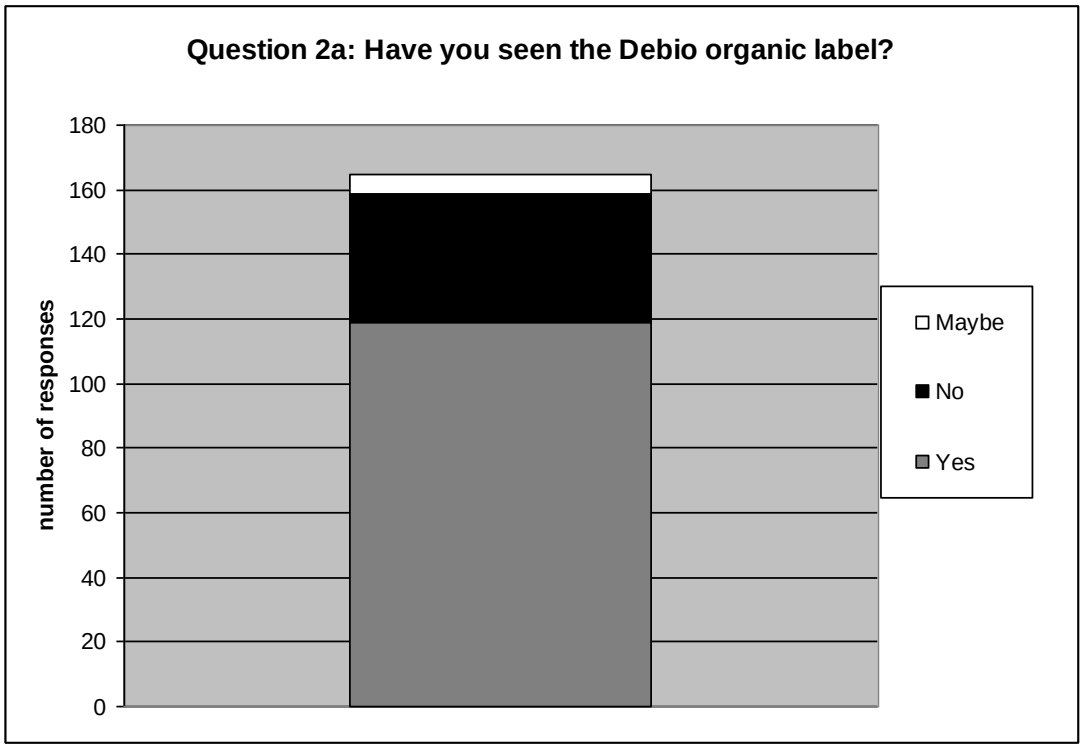
- Do you think there is any connection between learning about food/farming and learning about the environment? OR: Have you at school learned about how food and farming is related to the environment?
    - What connections?
    - Relations between *økologisk* and environment?
- What (other) environmental topics have you learned about?
    - In what classes/lessons? With who?
    - global warming/climate change, pollution, garbage/recycling
    - Do you think it is important to learn about these topics? Why?

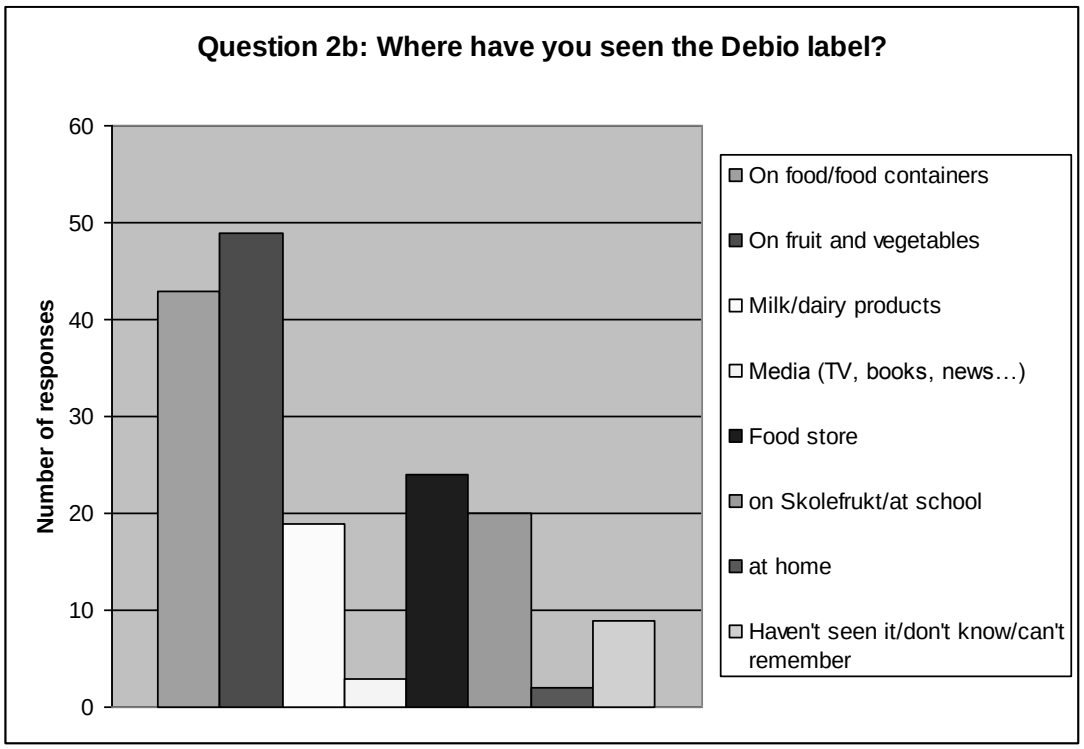
Appendix E: Survey results (all schools)

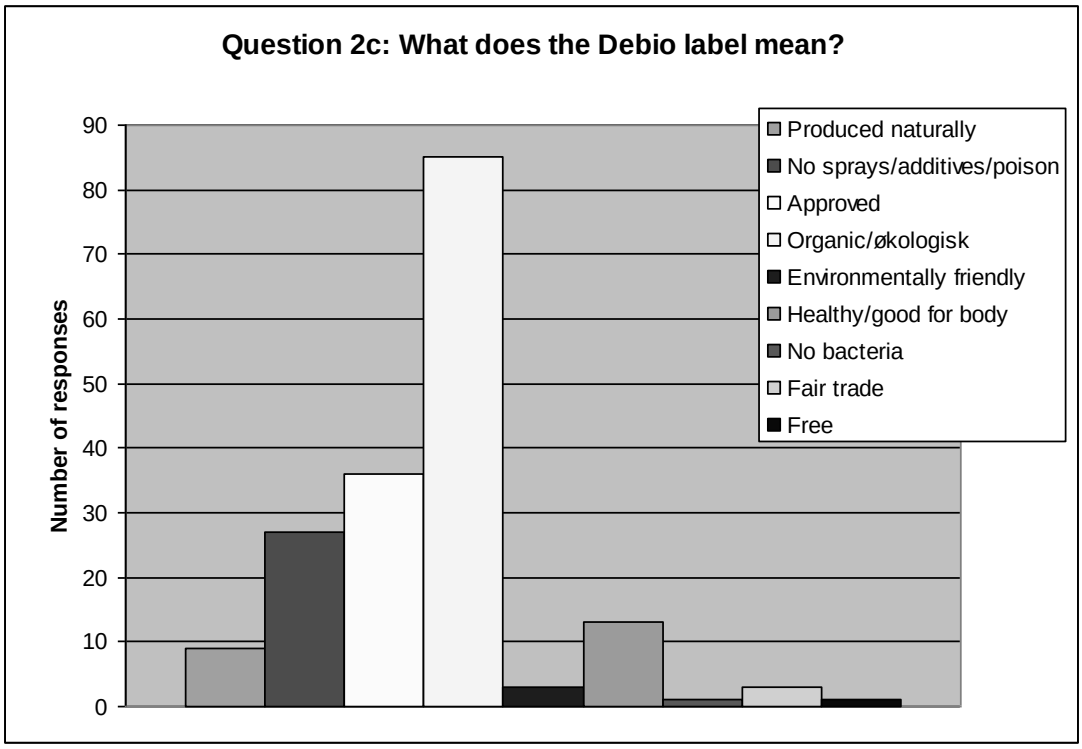
In this appendix, I provide charts which summarize the combined survey results from all four of the schools where I performed my research. Including all of the charts for the four different schools would have been impractical due to the large number of pages which that would have added to this paper.

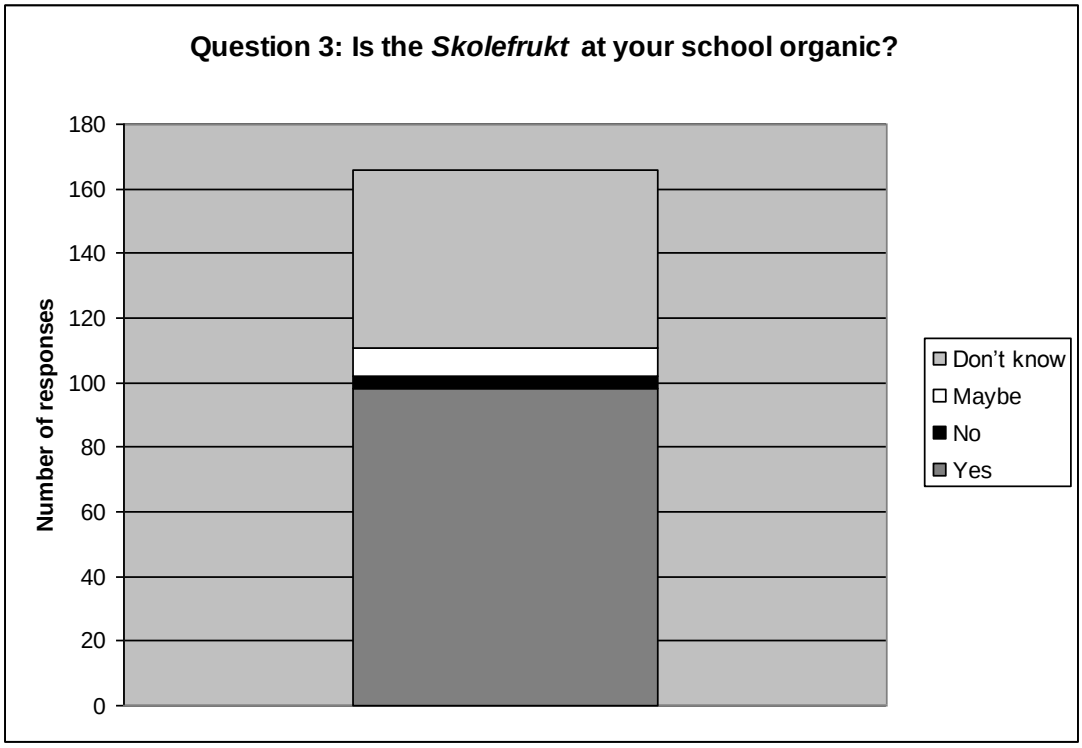
When filling out the surveys, the pupils were able to give more than one answer per question, or leave blank questions which they did not want to answer. Because of this, the number of responses in the charts do not always add up to the total number of survey respondents (167) in my study.

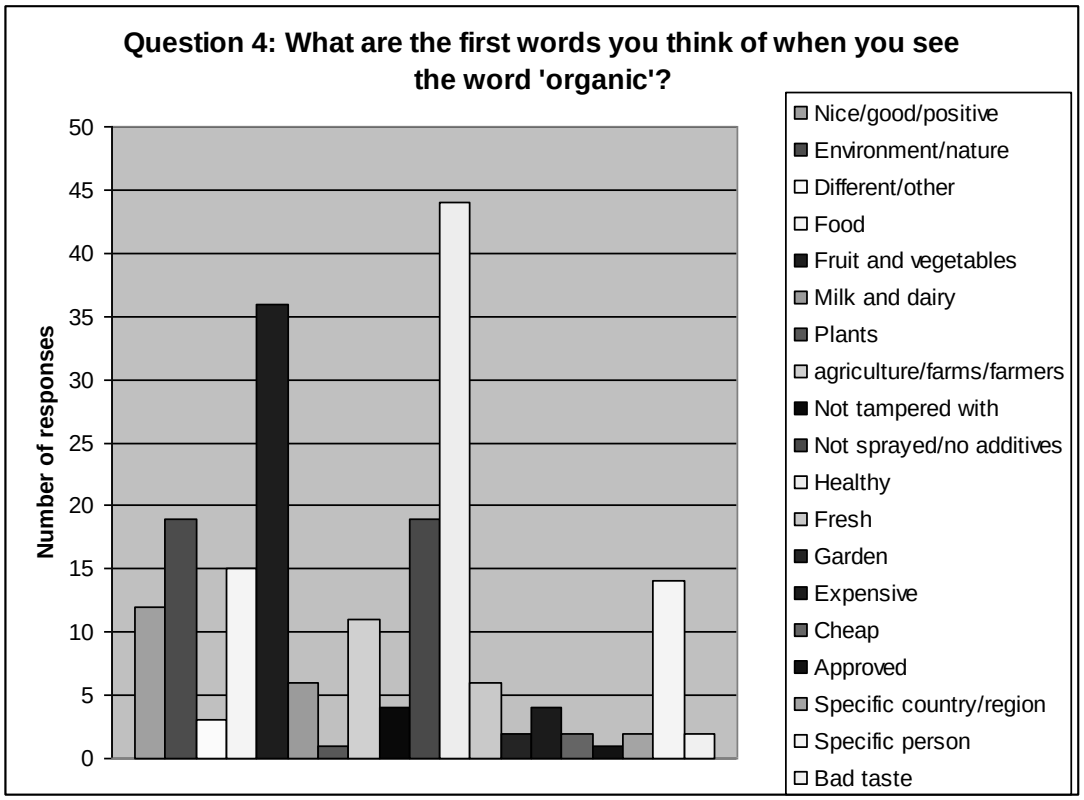


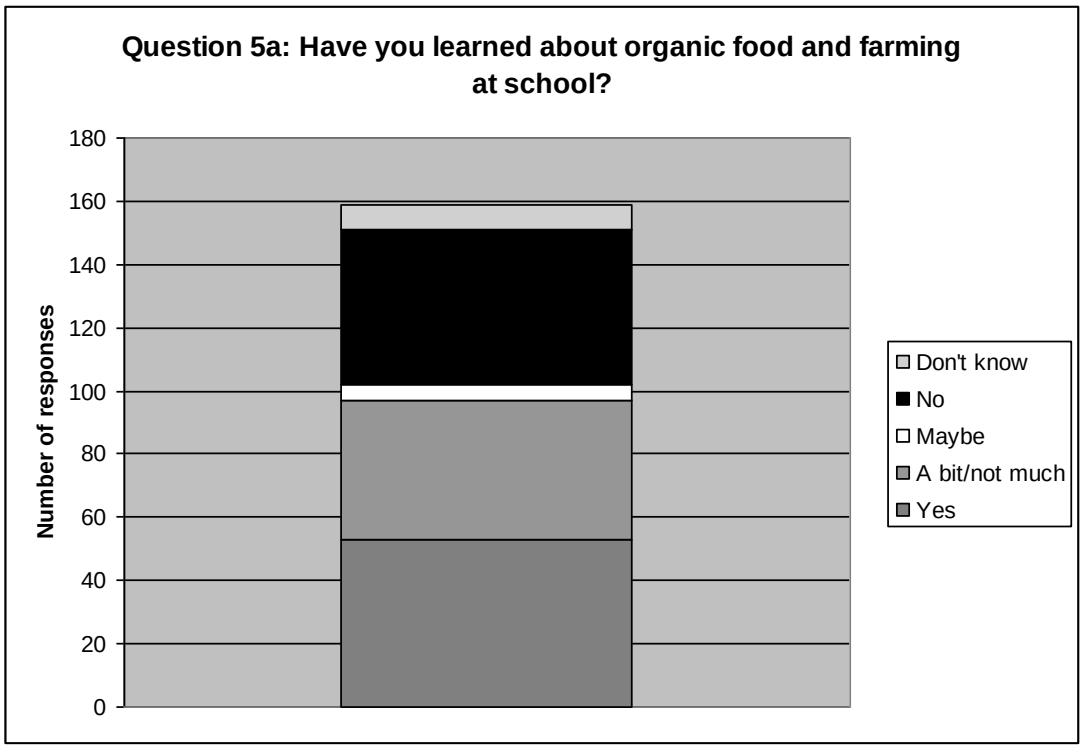

Question 2a: Have you seen the Debio organic label?
number of responses
180
160
140
120
100
80
60
40
20
0
Maybe
No
Yes

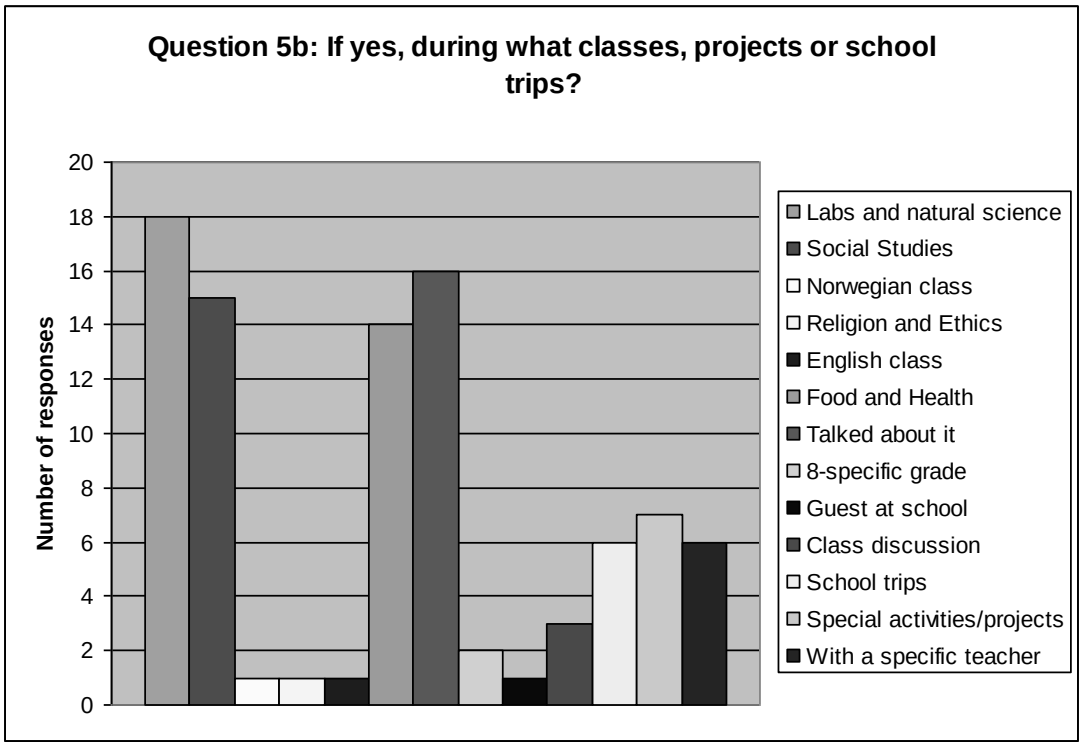

Question 2b: Where have you seen the Debio label?
Number of responses
60
50
40
30
20
10
0
On food/food containers
On fruit and vegetables
Milk/dairy products
Media (TV, books, news…)
Food store
on Skolefrukt/at school
at home
Haven't seen it/don't know/can't remember

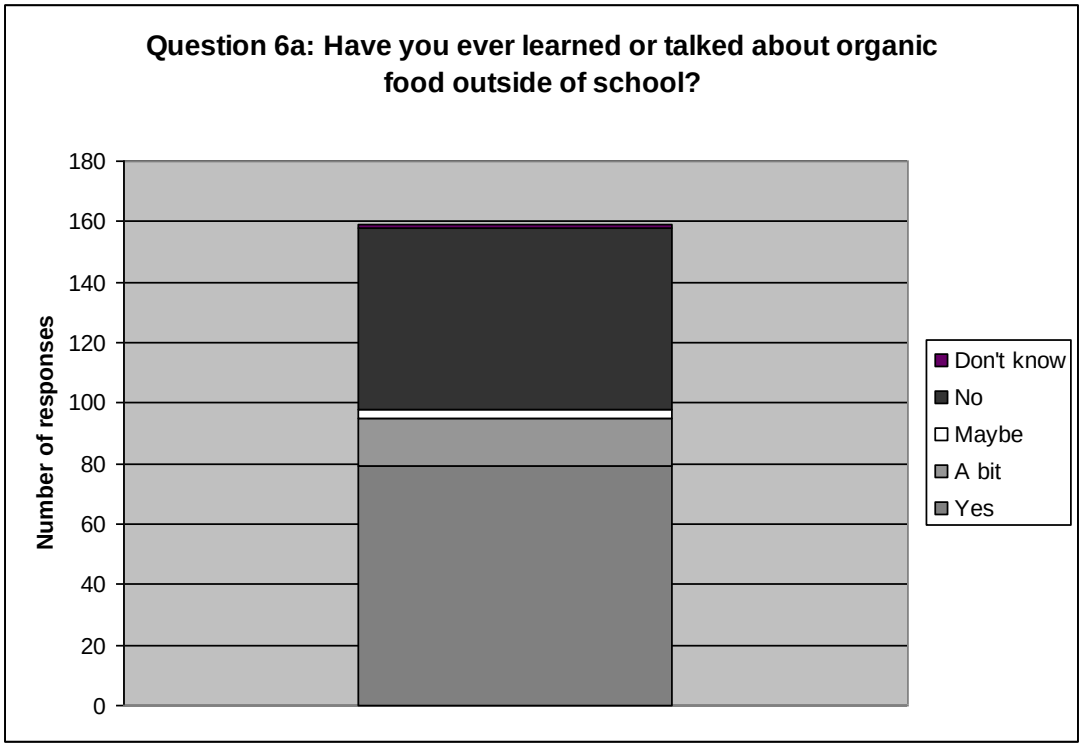

Question 2c: What does the Debio label mean?
Number of responses
0
10
20
30
40
50
60
70
80
90
Produced naturally
No sprays/additives/poison
Approved
Organic/økologisk
Environmentally friendly
Healthy/good for body
No bacteria
Fair trade
Free

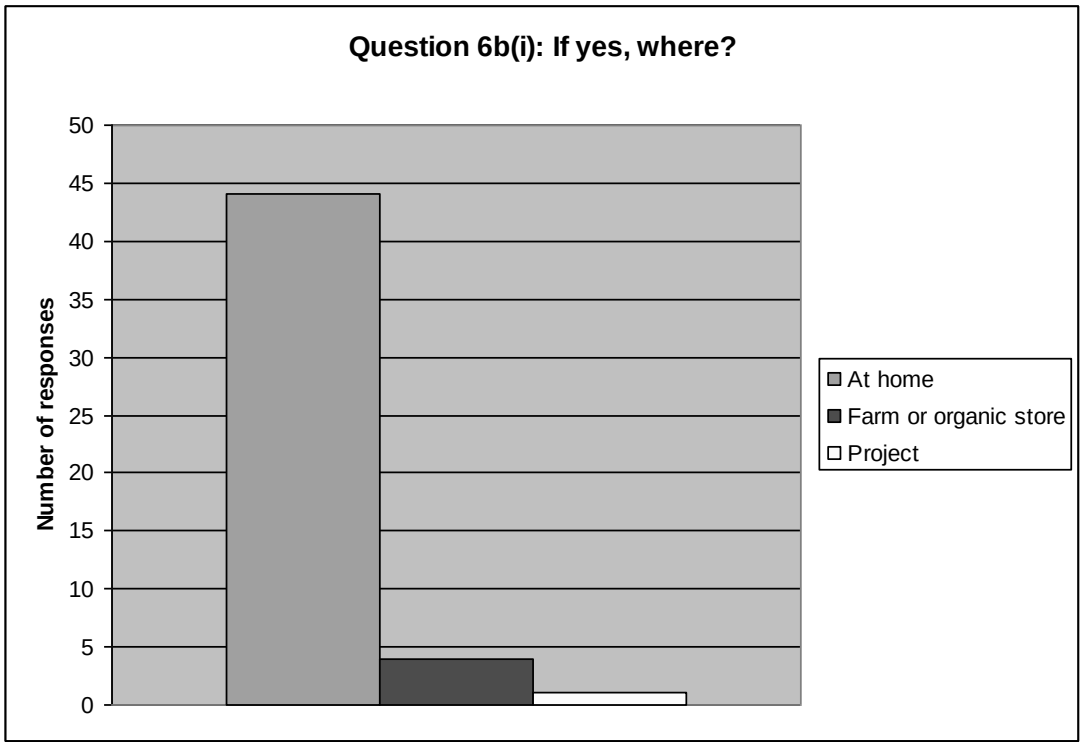

Question 3: Is the *Skolefrukt* at your school organic?
Number of responses
0
20
40
60
80
100
120
140
160
180
Don't know
Maybe
No
Yes

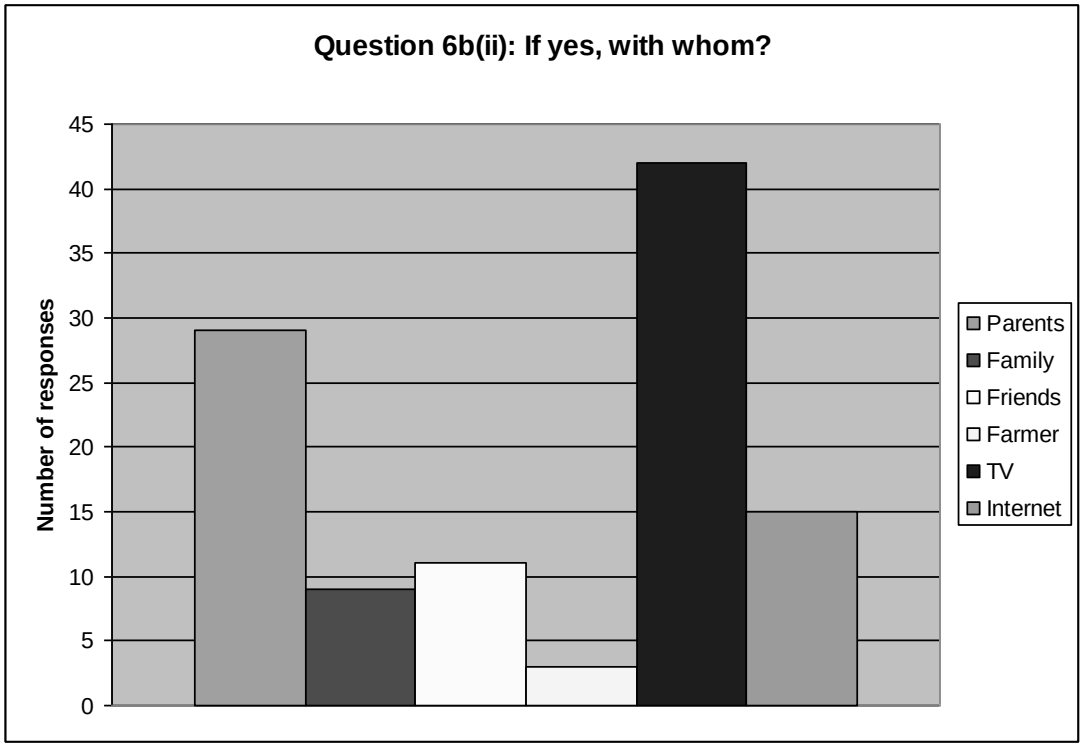

Question 4: What are the first words you think of when you see the word 'organic'?
Number of responses
0
5
10
15
20
25
30
35
40
45
50
Nice/good/positive
Environment/nature
Different/other
Food
Fruit and vegetables
Milk and dairy
Plants
agriculture/farms/farmers
Not tampered with
Not sprayed/no additives
Healthy
Fresh
Garden
Expensive
Cheap
Approved
Specific country/region
Specific person
Bad taste

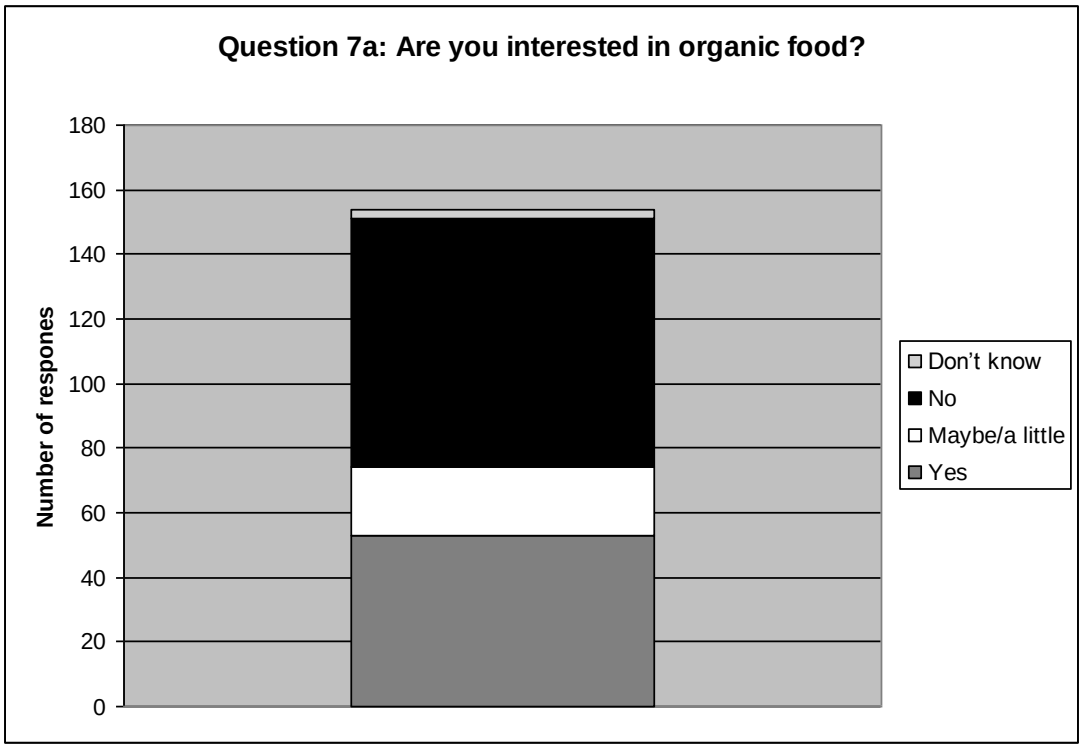

Question 5a: Have you learned about organic food and farming at school?
Number of responses
0
20
40
60
80
100
120
140
160
180
Don't know
No
Maybe
A bit/not much
Yes

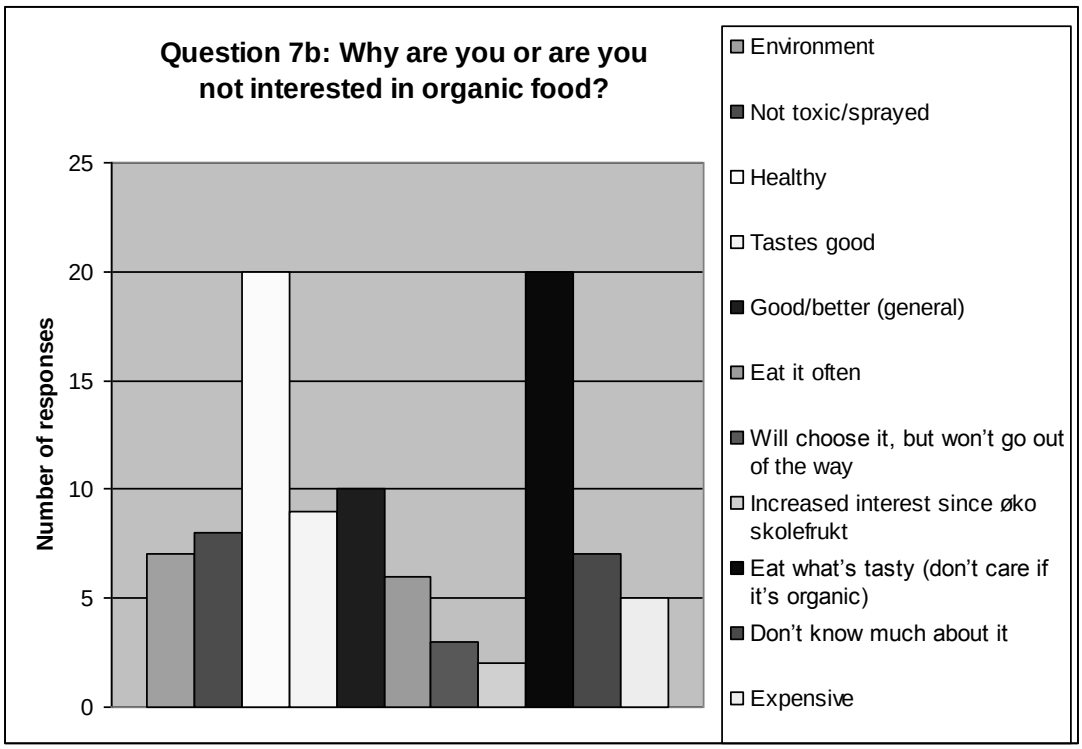

Question 5b: If yes, during what classes, projects or school trips?
Number of responses
20
18
16
14
12
10
8
6
4
2
0
Labs and natural science
Social Studies
Norwegian class
Religion and Ethics
English class
Food and Health
Talked about it
8-specific grade
Guest at school
Class discussion
School trips
Special activities/projects
With a specific teacher

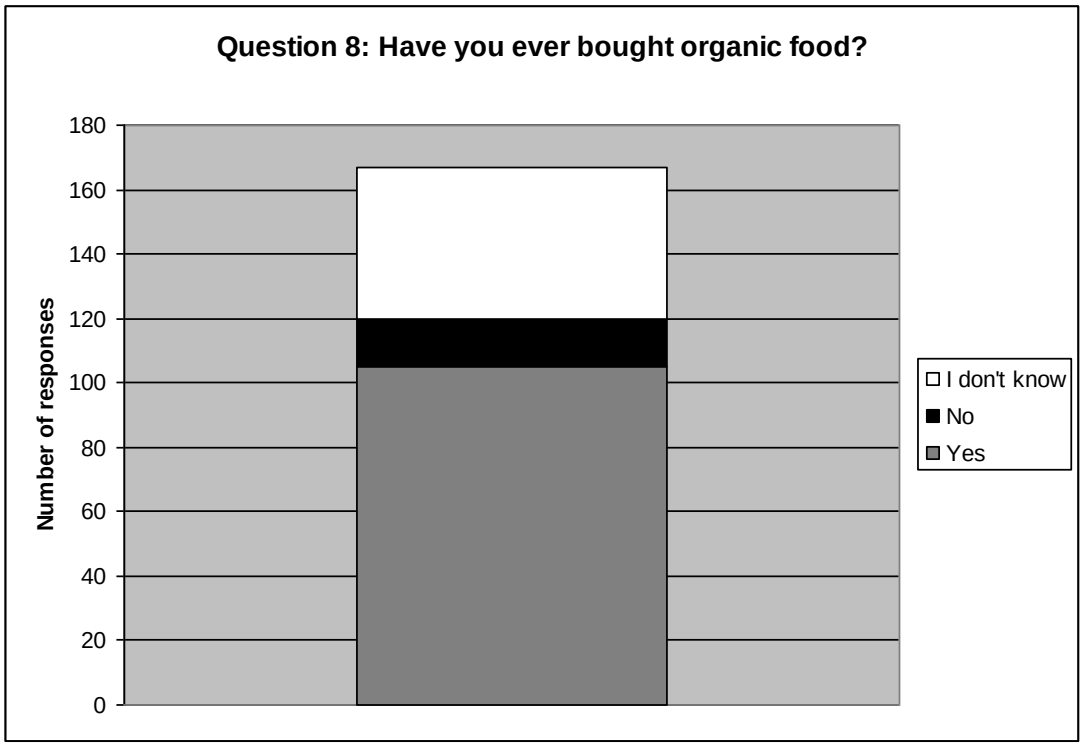

Question 6a: Have you ever learned or talked about organic food outside of school?
Number of responses
180
160
140
120
100
80
60
40
20
0
Don't know
No
Maybe
A bit
Yes

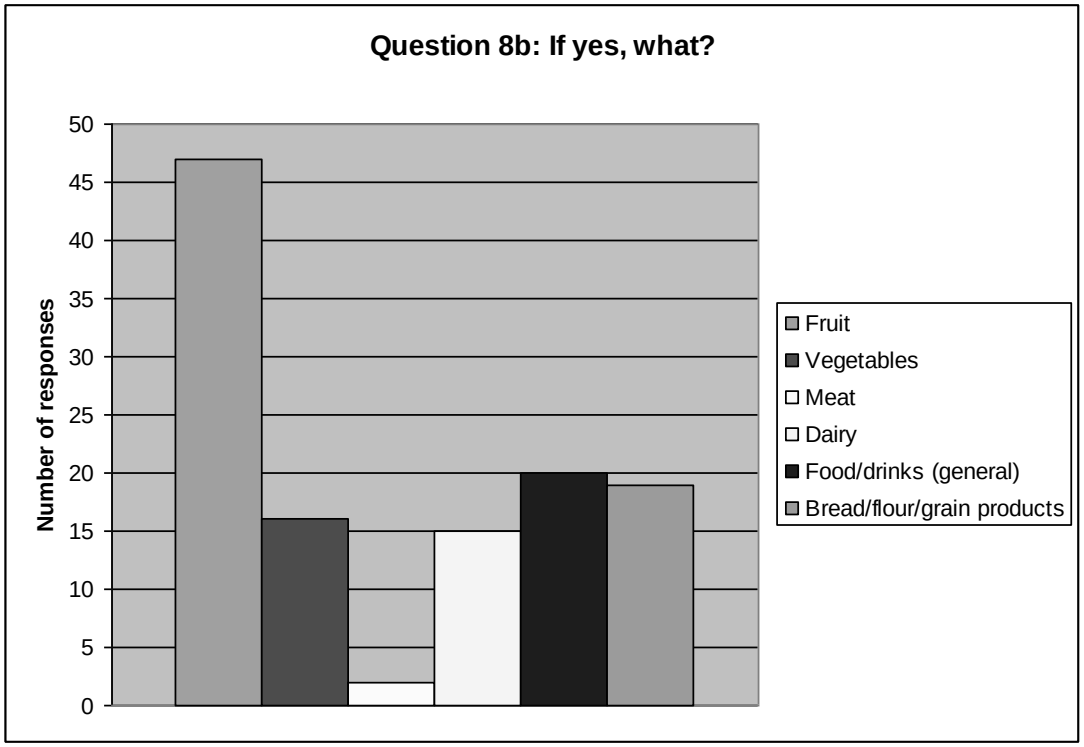

Question 6b(i): If yes, where?
Number of responses
50
45
40
35
30
25
20
15
10
5
0
At home
Farm or organic store
Project

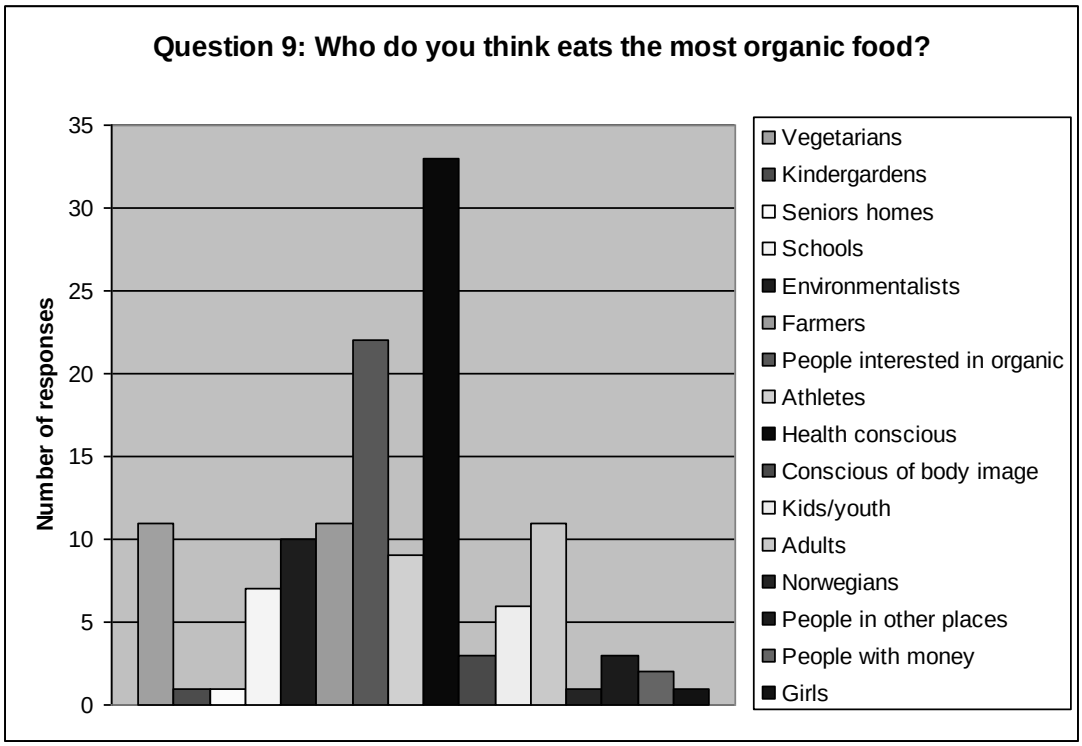

Question 6b(ii): If yes, with whom?
Number of responses
45
40
35
30
25
20
15
10
5
0
Parents
Family
Friends
Farmer
TV
Internet

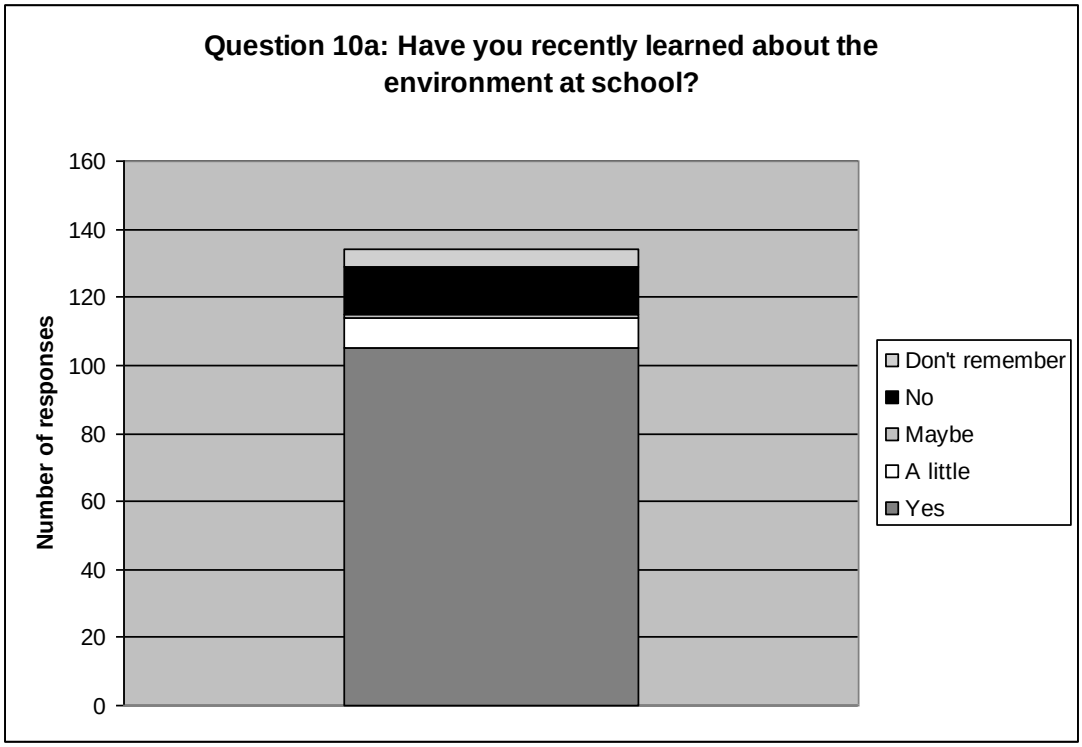

Question 7a: Are you interested in organic food?
Number of respones
180
160
140
120
100
80
60
40
20
0
Don't know
No
Maybe/a little
Yes

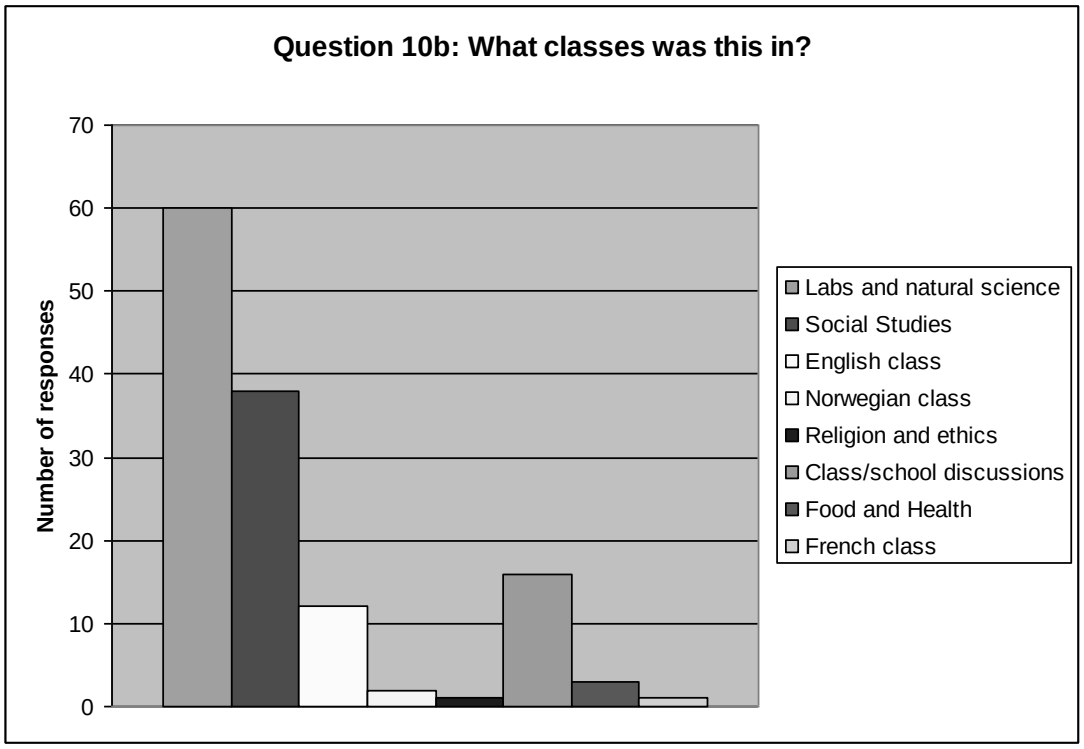

Question 7b: Why are you or are you not interested in organic food?
Number of responses
25
20
15
10
5
0
Environment
Not toxic/sprayed
Healthy
Tastes good
Good/better (general)
Eat it often
Will choose it, but won't go out of the way
Increased interest since øko skolefrukt
Eat what's tasty (don't care if it's organic)
Don't know much about it
Expensive

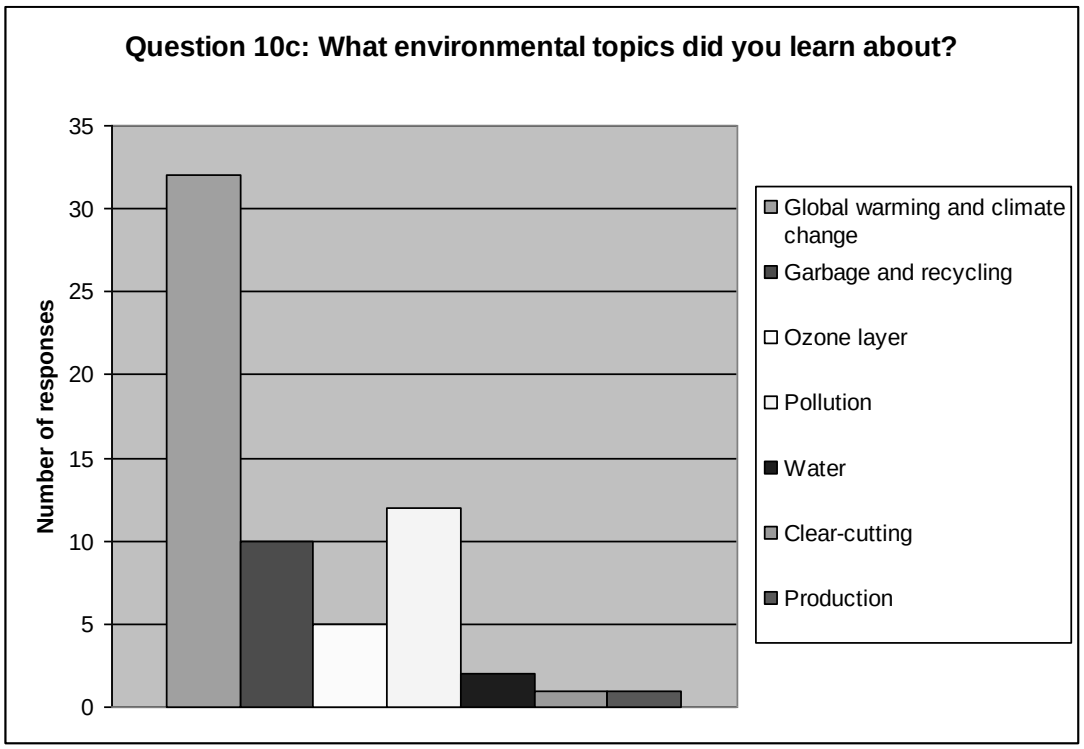

Question 8: Have you ever bought organic food?
Number of responses
180
160
140
120
100
80
60
40
20
0
I don't know
No
Yes

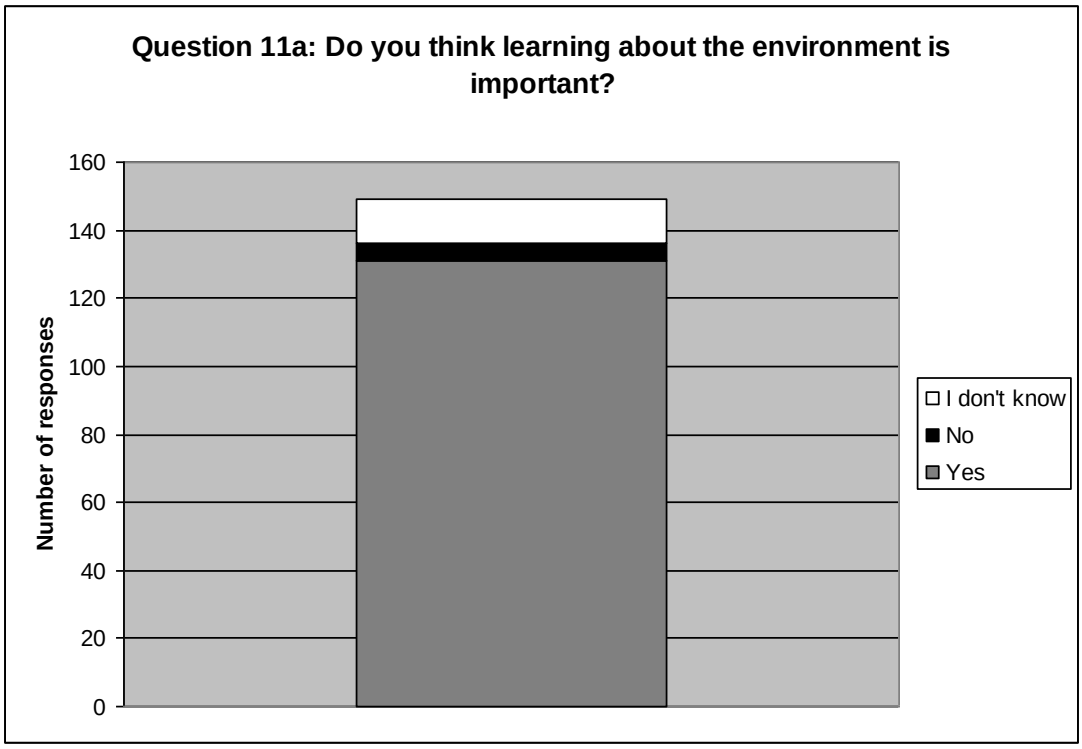

Question 8b: If yes, what?
Number of responses
50
45
40
35
30
25
20
15
10
5
0
Fruit
Vegetables
Meat
Dairy
Food/drinks (general)
Bread/flour/grain products

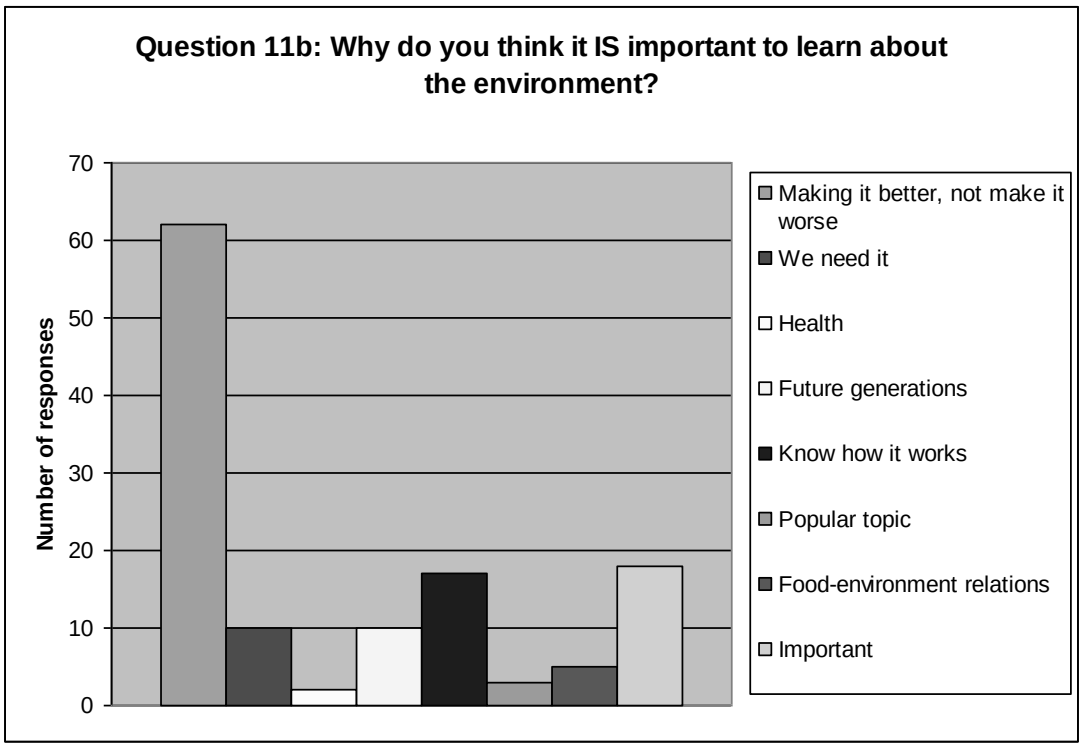

Question 9: Who do you think eats the most organic food?
Number of responses
35
30
25
20
15
10
5
0
Vegetarians
Kindergardens
Seniors homes
Schools
Environmentalists
Farmers
People interested in organic
Athletes
Health conscious
Conscious of body image
Kids/youth
Adults
Norwegians
People in other places
People with money
Girls


Question 10a: Have you recently learned about the environment at school?
Number of responses
160
140
120
100
80
60
40
20
0
Don't remember
No
Maybe
A little
Yes


Question 10b: What classes was this in?
Number of responses
70
60
50
40
30
20
10
0
Labs and natural science
Social Studies
English class
Norwegian class
Religion and ethics
Class/school discussions
Food and Health
French class


Question 10c: What environmental topics did you learn about?
Number of responses
35
30
25
20
15
10
5
0
Global warming and climate change
Garbage and recycling
Ozone layer
Pollution
Water
Clear-cutting
Production


Question 11a: Do you think learning about the environment is important?
Number of responses
160
140
120
100
80
60
40
20
0
I don't know
No
Yes


Question 11b: Why do you think it IS important to learn about the environment?
Number of responses
70
60
50
40
30
20
10
0
Making it better, not make it worse
We need it
Health
Future generations
Know how it works
Popular topic
Food-environment relations
Important