

Farm education in the Netherlands

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Abstract: Farm education is a growing phenomenon in the Netherlands. Agricultural farms open their doors for educational activities so that children may learn something about food production, farm animal husbandry, and the life of the farmer and his/ her family. Visiting classes are mostly (but not only) from elementary schools. If one thinks of the number of such schools in the Netherlands (approx. 7.000 and another 350 elementary schools for mentally and/ or physically handicapped children), the possible market value of farm education becomes evident. Our scientific team has conducted a first study to compare the individual goals and effects of three types of farm education programmes in the Netherlands, varying in length and purpose. Results were gathered from the children themselves, their teachers and their parents. It can be concluded that (1) all farm education programmes followed individual goals, from mainly theoretical knowledge transfer of day trips to attitude and skill developments of longer lasting programmes, and that (2) all programmes reached their goals.

Keywords: farm education; the Netherlands; children; goals; effects; development of knowledge, attitude and skills.

Introduction

“Contact of children and adolescents with nature, countryside, plants and animals”... “transfer of knowledge about nutrition, animal husbandry, and food production”... “enhancement of motor skills, general knowledge, and an interest in life and living beings”... “higher self-esteem and less social and behavioural abnormalities” ...

These and others are possible goals that farm education programmes try to achieve, if we believe scientists like Jolly and Krogh (2007), or Powers and Powers (2006). As they may appear highly reached, and no scientific studies to (dis)prove them were at hand, our scientific team organised a study to evaluate the true goals different kinds of farm education can achieve. All results are published in the report by Hassink et al. (2009) written for Wageningen UR, Plant Research International, the Netherlands. This paper offers an English summary of the most striking findings. But before we go into detail regarding this research project, we want to provide an overview of what farm education actually is, and of several of its programmes offered across the Netherlands.

Farm education in the Netherlands

In the Netherlands there are approximately 7.000 elementary schools and 350 elementary schools for children with mental and physical handicaps. These schools offer room for more than 1.5 million children between four and 12 years. Additionally, there are approximately 7.000 high schools for around 900.000

adolescents. These ciphers show that schools provide a large market for possible educational activities on farms (Haubenhofer et al., 2008).

And so it is that farm education is indeed a rapidly growing phenomenon. Only to name a few facts and figures: approximately 8.000 farmers open their doors incidentally to school classes and groups of children/ adolescents, to show them their farm and production systems, or to let them experience the daily farm activities more deeply. Most of these programmes are designed for groups of children/ adolescents who visit the farm only once as a sort of day trip. Normally, the kids are shown around on the farm, can interact with the farmer, his/ her family and the farm animals, and gain knowledge about food production and/ or animal husbandry. More than 200 farms offer these and comparable services regularly each year, and several dozen farms have already specialised in farm education which then creates an essential part of their income.

Programmes exist in a broad range of types, depending on a variety of factors. Factors which are most critical are shown in Fig. 1. What most farm education programmes have in common is their goal to provide theoretical knowledge and/ or practical experiences for children/ adolescents about things that happen in connection with their farm.

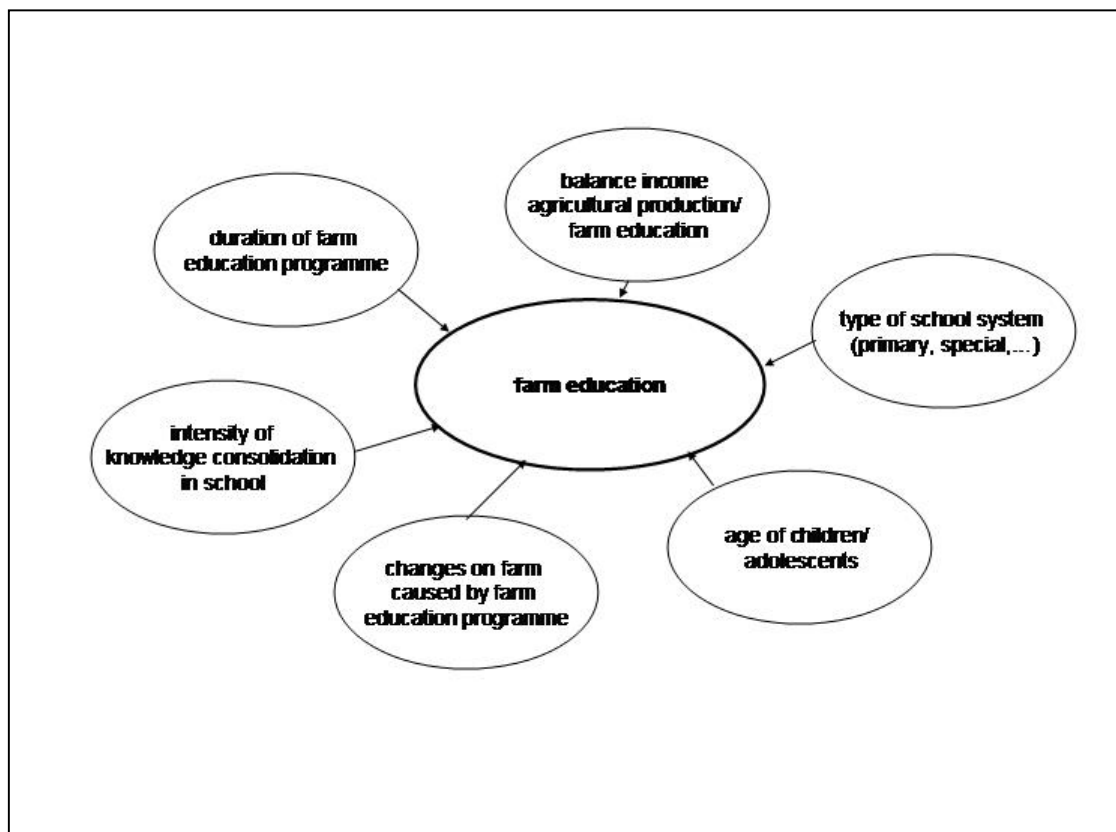


Figure 1. Six most critical factors influencing the type of farm education programmes (translated from Hassink et al., 2009).

The growing economical significance of farm education is also shown by the fact that the Netherlands harbour their own national platform for farm education offering quality standards for farmers, a farm education network, and information for schools, parents, and other stakeholders. It is interesting, though, to note that there exist almost no scientific studies to investigate the actual goals and effects that are met by different types of farm education programmes. This lack was changed last year, when such a study was done by a scientific team around the University of Wageningen.

Goals and effects of different types of farm education programmes – a comparative study

A set of assessments was developed to gather results from children, their teachers, and parents.

Participants

Six school classes, their teachers, and several parents participated in this study.

A. Day trip: Two classes of 6th grade elementary school (19 and 21 children) visited one dairy farm each. In Dutch 6th grade children are between nine and 10 years old. The trips lasted 1.5 hours each. The groups were shown around on the farm by the farmers, and were given information about the farm, the happenings on the farm, and its milk production. Also, the children could ask questions and could interact with the cows and calves. The dairy farms were “normal agricultural production farms” not specialised in farm education, although the farmers had experience in offering farm education programmes, and one of them had even followed a training course.

B. Week trip: Two other groups (10 and 16 children) visited the same farm specialised in week trips. Both classes were from elementary school (one from Dutch 8th grade, age 11 to 12; one from Dutch 5th/6th grade, age eight to 10). The farmer was specialised in farm education, and gained his main income from this activity. His was an organic farm including large and small life stock of several species, small acres and gardens. The whole farm had been rebuilt to accommodate groups of children including dormitories, a kitchen, and sanitary facilities. There was no true agricultural production on this farm. The groups had to arrange for their own self-supply. During the day, they spent their time with the farmer and helped him run the farm as “co-farmers”; he supplied them with all necessary equipment to fulfil their tasks, like working clothes and boots, food for the animals, etc. The children normally worked in small groups of changing setup, under guidance of the farmer himself, his co-workers, or the teachers (depending on the difficulty of the tasks). But they also had to clean their own rooms, cook their own meals, and wash their own dishes. In their leisure time, the children could play with the animals or with each other.

C. Farm school: The last two classes (26 and 29 children) were part of a school-intern programme called “farm school” (“boerderijschool”): In 2006, an elementary school started a project in which its 6th grade class was all about farming (age of children approx. between nine and 10). The class visited a farm once a week throughout the whole school year (this resulted in 20 half days spent on the farm). The farm was a mixed production farm including livestock and plant production. The farm’s main income came from agricultural production, and the children helped as co-farmers to take care of the day’s necessities including work with animals, plants, and food production. Again, all tasks were done in small groups under the guidance of the farmers, co-workers or teachers. Throughout the whole school year, all experiences obtained on the farm were worked up at school. Teachers and farmers maintained regular contact to assure that the experiences the children had made on the farm matched the educational objectives of the school, and that the children optimally reappraised their experiences and gained knowledge. Also, logbooks were kept and reflective discussions were held to maximise the effects. By now, more schools participate in this project, number growing.

Methods

Several questionnaires were designed for tailor made measurements. As no comparable study had been done before, we could not fall back on existing instruments. All assessments were filled in by the participants before and after their time on the farm in case of the day and week trips, and before the start of the school year and around the term break in case of the farm school. The scientific goal was to

detect any differences or developments that could be measured as an “effect” of farm education. The questionnaires were designed to collect information about:

- the participating schools and farms
- the structure and design of each farm education programme
- the goals of each farm education programme, and
- if these goals could be reached.

A. Self-assessment for the children about their theoretical knowledge: This instrument included 18 questions to analyse the children’s theoretical knowledge about the farms and farming. The children had to fill in this questionnaire alone during a school lesson. The questions matched the educational objectives of the Dutch school system for children of these grades.

B. Self-assessment for the children about their attitude: This instrument should detect changes in the children’s attitude about farms and farming. The assessment included 23 questions. Fifteen were linked to the countryside, life and happenings on a farm, food production, a farmer’s job description, farm animals, safety issues, and guidelines of hygiene. The other eight questions included topics of being outside, being physically active, teamwork, nutritional habits, and self-confidence (Hassink et al., 2009). The questionnaire was filled in together with the offer self-assessment for the children, alone, and during a school lesson.

C. Assessment for the teachers about the children’s theoretical knowledge: This instrument included 51 questions that matched the educational objectives of the Dutch school system for children of these grades in the subjects of (1) mathematics and language, (2) flora, fauna, mildew, and bacteria, (3), natural processes, (4) nutrition, health, reproduction, and life style, (5), senses, communication(techniques), and self-reflection, (6) geographical cultural heritage, and (7) man in relation to nature and environment(al processes).

D. Assessment for the teachers about the children’s attitude and skills: This instrument included 25 questions which measured whether or not the teachers recognised any changes in attitude or skills of their pupils. Ten questions dealt with changing attitude of children regarding teamwork, nutrition, the farm itself and farm life, physical work, nature, sense of responsibility, respect, care for animals and plants, and the drive to explore. Another eight questions asked about the children’s skills regarding use of instruments, their own senses, physical exercise, cognition, teamwork, drive to learn, and insight. The last seven questions regarded the children’s developmental changes caused by the farm visits, in the dimensions of self-confidence, independence, assertiveness, self-reflection, respect, unsolicited cooperation, and leadership.

E. Phone interviews with parents: Several parents were contacted via telephone after their children had been to the farms. These were open conversations about what the children had told their parents about the time on the farm, and if the parents detected any changes in their children’s knowledge, skills, or attitude.

Additionally, all farm visits were journalised by a member of the research team. The whole dataset was then analysed by the scientific team using quantitative and qualitative methods.

Results

Goals of the different types of farm education programmes (Table 1)

Table 1. Characterising aspects of different types of farm education evaluated in this study (translated and adapted from Hassink et al., 2009).

Aspects	Day trip	Week trip	Farm school
Intensity	Low	Middle	High
Goals	To see farm; knowledge about nutrition	To see farm; gain group feeling, learn in real life	Learn in and about real life; gain important experience
Vision of school regarding programme	Excursion; learning	Learning; fun; gain group feeling; learn in real life	Farm as authentic learning surrounding; concrete working activities as base; experience; start relationships, contemplation; reflection; evaluation
Adjustments on farm	Offer information/ learning material	Offer information/ learning material; structure and daily activities on farm adapted; new source of income	Education programme is part of normal daily activities
Role of farmer	Source of knowledge	Source of knowledge; authority	Authority; coach
Working methods	Excursion; lesson	Active contribution; group programme	Active contribution; reflection; evaluation
Embedding at school	Low	Middle (link to world orientation and biology)	As high as possible and still growing
Role parents	Low	Middle	High

A. Day trip: To see a dairy farm and learn something about milk production.

B. Week trip: To learn about and experience the farm and nature, and to spend some time together as a group; to better get to know each other, and to enhance the group-feeling.

C. Farm school: Realisation of “living learning” – to learn in and about real life – in an agricultural surrounding; to learn about reality by experiencing it; to experience and reflect about it.

Effects of different types of farm education programmes

After the goals of each farm education programme had been detected, it was important to investigate whether or not these goals had been met. Here, it was interesting to notice that the impact on the children became more divers and grew with the duration of the programme. The most striking results are combined in Table 2 and 3.

A. Results from the assessment for the teachers about the children’s theoretical knowledge: Teachers thought that as result of the day trip, children gained theoretical knowledge about animals and plants, how to care for animals, the seasons, nutrition, and man and his environment. The amount and intensity of this knowledge depended on the type of farm and the information that was given during the visit. As result of the week trip, teachers noted that the children gained additional knowledge about reproduction, safety, hygiene, landscape and nature. Teacher from the farm school also detected developments in the areas of language, mathematics, and knowledge about natural cycles, mildew, bacteria, and sustainability.

B. Results from the assessment for the teachers about the children’s attitude and skills: According to the teachers who did the day trip, children’s attitude changed regarding the appreciation of the farm, its animals, and the amount of physical work done on the farm. As a result of the week trip and the farm school, teachers noted that the time on the farm positively influenced the children’s levels of physical exercise and appreciation for nature. Furthermore, both programmes affected the relationships among the children, their sense of responsibility, their self-reflection, and self-confidence.

C. Results from phone interviews with several parents: All parents noted that their children were enthusiastic about the time spent on the farm. But only parents of children participating in the farm school programme noticed real developmental differences in their children. These parents pointed out that their children started to participate more in household activities, chose a more healthy diet and also influenced their parents’ buying behaviour in supermarkets; also, that they developed new learning techniques, interests and future employment wishes, and that they were more enthusiastic about school in general.

D. Results from the self-assessment for the children about their theoretical knowledge and attitude: Above all, children themselves appreciated the merry atmosphere, the open space, to work together but also autonomously, to be physically active, to be outside, and to care for the farm animals. Furthermore, the children showed much respect for the farmers. It was interesting to note that children who had done the day trip were least enthusiastic about collaborating on the farm and nutritional aspects. These results become obvious when we remember that these day trips did not include many practical experiences for the children. The children were shown around offered theoretical information, and could interact with the animals. But they normally did not participate in the daily working routine of the farm. Apparently, children need to experience physical activity to be able to appreciate it.

Table 2. Views of teachers (on average) regarding changes in attitude and skills of children (translated and adapted from Hassink et al., 2009).

	Day trip	Week trip	Farm school
Appreciation farm	+	+	+
Care for animals	+	+	+
Appreciation physical work	+	+	+
Appreciation nature		+	+
Level of physical activity		+	+
Relationships among kids		+	+
Sense of responsibility		+	+
Self-reflection		+	+
Self-confidence		+	+

Table 3. Educational objectives met by different types of farm education programmes that also match the Dutch school system for children of these grades (translated and adapted from Hassink et al., 2009).

Educational objectives	Day trip	Week trip	Farm school
Language			+
Mathematics			+
Plants and animals	+	+	+
Mildew and bacteria			+
Insects			+
Seasonal characteristics	+	+	+
Natural cycles			+
Reproduction		+	+
Nutrition	+	+	+
Animal husbandry techniques	+	+	+
Safety guidelines		+	+
Guidelines of hygiene		+	+
Function of machines		+	+
Landscape elements		+	+
Nature conservation		+	
Man and environment	+	+	+
Sustainability			+
Total	5	11	16

Conclusions

It is interesting that different types of farm education have been developed simultaneously in the Netherlands. All of them follow different goals and have different effects. Therefore, depending on the goals to be achieved, schools should think about the type of programme they choose. If it is mainly gain of theoretical knowledge they seek, then a day trip to a farm will do the trick. If it is rather the physical experience and group feeling they want to let their children to participate in, then longer programmes like week trips of even a farm school type could be an option. Surely, longer programmes go hand in hand with greater expenses of time and money, longer preparation times, and an overall more intensive involvement. A day trip is rather easily done; you go there, take what you get and that's it. To achieve effects in attitude and skills, as mainly seen in week trips and farm schools, you need to work harder for it before, during, and after the time spent on the farm. Furthermore, more intensive cooperation is needed between farmers, teachers, schools, and parents in the longer programmes. This also costs time, money, and energy.

It can be concluded that it is important to know beforehand which goals want to be achieved and how they can be realised. Still, impacts can be various as children experience the same situation differently depending on their individual preferences. Moreover, this study was rather small as it only included six school classes. Therefore, talking about general effects of farm education based on this study surely is a delicate matter. It would be extremely interesting and important to repeat this study with other schools and children.

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