PETTER ÅKERBLOM

FOOTPRINTS OF SCHOOL GARDENS IN SWEDEN

The tradition of school gardening in Sweden dates back to the establishment of elementary schools in the early nineteenth century. From the very first national regulations of 1842, the school garden is acknowledged as a place for teaching. While the concept of school gardens have now largely been forgotten, it is still possible to discern the school gardens of the past. Frameworks of overgrown paths, hedges of boxwood and ornamental trees still remain as visible memories of the 'good old days'. What do these footprints tell us about school gardening in the past?

Skå Elementary School in Ekerö, outside Stockholm, is a characteristic example from the beginning of the twentieth century where grasses and mosses have got the upper hand of the curvy, winding garden paths, but where one can still glimpse the kitchen garden, even though it has not been cultivated for decades (Figures 1–3). Elementary school inspector Fredrik Laurell drew up the plan for the school garden in 1901, and today it is still intact from the time when it was first planted, even if the curved paths are overgrown. The position of the trees reveals that the original designs were followed in detail, as well as the further planting proposals that accompanied them.

The visible memories of this old school garden raise questions not only about the importance of protection of heritage, but also about why school gardening was established in elementary schools and further up in Swedish teacher education. To understand more about the design principles, historical use and management of these old school gardens, it is necessary to use additional sources to gather evidence on the site.

As a contribution to the understanding of the development of school gardens in Sweden, beginning in the early nineteenth century, this paper will focus on two main perspectives: educational and landscape architectural. The main sources for the educational perspective are dominated by the Swedish national curricula from 1842 to 1994,[1] and on a few dissertations focusing on a historical understanding of educational development. Ulla Johansson describes how school gardening was established as a particular subject in the school curriculum and discusses the political background to introducing school gardens in elementary schools.[2] Gerd Arfwedson focuses on the international educational reform movement during the late 1800s and early 1900s, where concrete, manual and experimentally investigative activities were seen as the basis for theoretical reflection.[3]

The landscape architectural perspective is dominated by national regulations on the planning and construction of elementary schools from 1865 to 1995.[4] These regulations are the focus of 'The Schoolyard – adults' pictures, the child's environment', by Gunilla

Department of Landscape Planning Ultuna, Swedish University of Agricultural Sciences (SLU), Box 7012, SE-750 07 Uppsala, Sweden

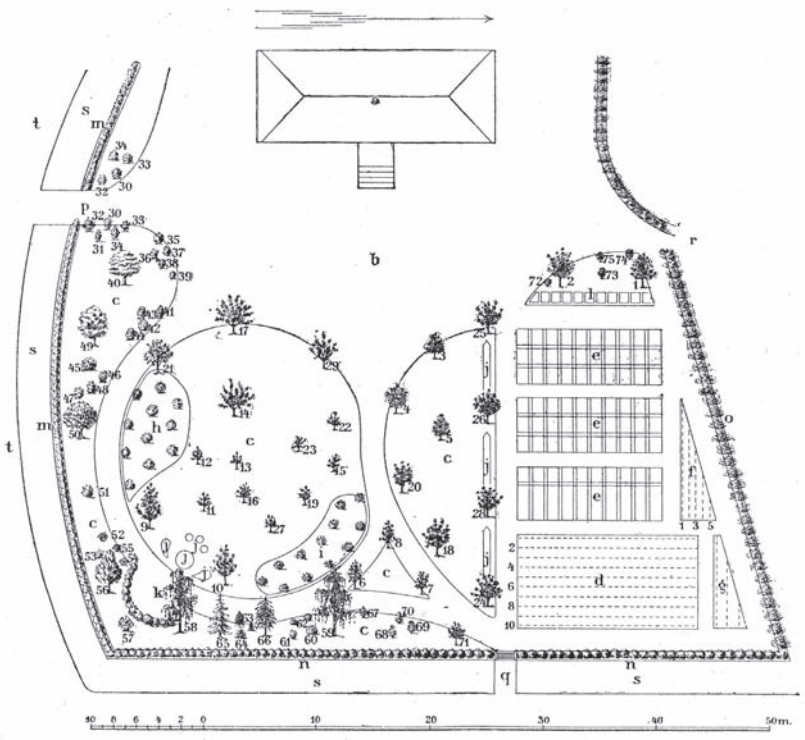

Figure 1. Fredrik Laurell's scale plan from 1901 for the school garden at Skå Elementary School. North is to the right; from Johan August Strandberg, *Handbok i skolträdgårdsskötsel* [Handbook in School Gardening] (Stockholm: Norstedts, 1902)

Lindholm, which is the only Swedish doctoral thesis to discuss school grounds, relevant parts of which have been used to illustrate garden design for school settings from the late nineteenth and early twentieth centuries.[5] Lindholm focuses on both the history of education and on school gardens (and grounds) as parts of the Swedish landscape planning culture.

THE FIRST IDEAS

Ideas about state education for all Swedish children began to take form in the early nineteenth century. In 1840/41, a parliamentary motion was submitted on the need for a garden to be connected with the teacher's place of residence, where the children would be taught gardening.[6] The motion was prepared by a parliamentary committee responsible for teachers' salaries. The committee immediately understood the hidden motive behind the motion: gardening not only was to be used as a resource for teaching, but also was as a good way to supplement teachers' income. The motion, which was passed, was expressed in the first elementary school regulation from 1842 as follows:

> Furthermore should, if possible, a suitable piece of land be given to the schoolteacher, partly for cultivation of root vegetables for private use, partly to be an opportunity for teaching tree planting and gardening.[7]

Figure 2. Skå Elementary School and its surroundings in the early 1900s shown on a contemporary postcard. The kitchen garden and nursery are in the foreground; young, newly planted trees are in the background (cf. Figure 3)

Figure 3. Skå Elementary School today (cf. Figure 2). Photo: author

It has been suggested that this is chiefly an expression for the school garden as a perk, even if it is also possible to interpret it as an educational aid.[8] In 1842, it was generally assumed that teachers were already knowledgeable of gardening as gardening was not included in the curriculum for teachers' training at the time.

THE ENTHUSIAST OLOF ENEROTH

One famous Swedish supporter of school gardening was Olof Eneroth (1825–81), a horticulturist, systematist, pomologist and skilful illustrator.[9] Eneroth's opinion was that school gardening had two general aims: to provide experiences about and knowledge of gardening and to develop the child's sense of beauty and aesthetics.

The early elementary school came into being through central initiatives, but it was administrated locally. The church was not formally involved in school administration, but it was a strong player with its own convictions regarding the most preferable teaching methods and curriculum. Eneroth personified the forces in the mid-nineteenth century that criticized an unbalanced use of church-orientated teaching methods. This is very clear in his expressive writing style:

> At last public opinion has condemned recitation by heart. It has unambiguously proclaimed that it is not only the child's memory but also its ability to perceive and *understand* that should be promoted. It has condemned that merciless old school method, in which nothing is asked of the child's harmoniously or equally distributed, and according to each child so well suited, practise and learning. It has unambiguously proclaimed that no longer may schools turn children into physical and moral cripples by stuffing them by the hundreds into small unsanitary hovels where learning by heart is inflicted upon them at the expense of *all* other powers. It has proclaimed all this. … But there is endlessly more to be done. The school should be the brightest, most pleasant building in the entire community. To put it boldly, it should be a *temple*, worthy of the vastly important mission assigned to it.[10]

Eneroth maintains that the school must pay heed to children's curiosity and energy and build its education on these features. Children have a basic need to work with soil, plants and animals, he claimed, and that drive is 'too important not to be heeded, to be ruined by having to learn by rote from morning till eve, year after year'.[11]

It would seem that those who read Eneroth's arguments were influenced by them, as is reflected in the first national regulations on elementary school buildings published three years later, in 1865, and especially in the funding for the establishment of school gardens at some of the largest elementary teacher training centres that was granted to 1865/66.[12]

Advocating teaching methods focused on practical work, outdoor education and children's initiatives, in the 1860s Eneroth was a pioneer well ahead of the educational reform movement that began to sweep around the world some two decades years later and accompanied by such concepts as action learning and pragmatism.[13]

PLACES FOR LEARNING

The first government guideline was *Type Drawings for Elementary School Buildings* (1865). The reason for its publication was a political need to confirm the importance and impact of elementary schools by making them visible to every citizen. The school building and its surroundings would express the dignity and influence of the school in

Figure 4. Garden work in a Swedish elementary school *c.*1900. Food supply was the most important reason for school gardening, but even in the 1800s, creating a place that was a pleasure for both the eye and the soul was also taken into consideration; from Johan August Strandberg, *Handbok i skolträdgårdsskötsel* (Stockholm: Norstedts, 1902)

the local municipality.[14] A revised edition of the guideline was published in 1878 as a result of new demands for suitable physical solutions to meet new demands for education methods.[15] This was also expressed in the first *National Curriculum for Elementary Schools* published the same year.

In the revised guideline, the school garden was given a stronger position than before. Instead of giving the teacher a piece of cultivated land, 'if possible', it was now decreed that a garden area 'shall be arranged in the immediate surroundings of the school building, preferably facing the south'.[16] The impact of gardening as a supplement to household food supplies was a strong and common argument used to convince non-gardening schools. Nonetheless, although school gardening was a school subject, there were no instructions on how to teach the subject in either the national curriculum of 1878 or the following one in 1889 (Figure 4).

COMPETITION FOR SCHOOL GARDEN DESIGN

The Stiftelsen Lars Hiertas Minne (Lars Hierta Memorial Foundation), Stockholm, arranged a national competition for school garden design and its components in 1887 with a view to raise the status of garden culture in the countryside. Convinced that school gardening was a neglected subject, the foundation published *Type Drawings for Elementary School Gardens and Descriptions and Brief Instructions about School Gardening as a School Subject in the Elementary School* (1890).[17] The aim was to focus on the importance of the outdoor environment on a level with the focus on school buildings in earlier regulations.

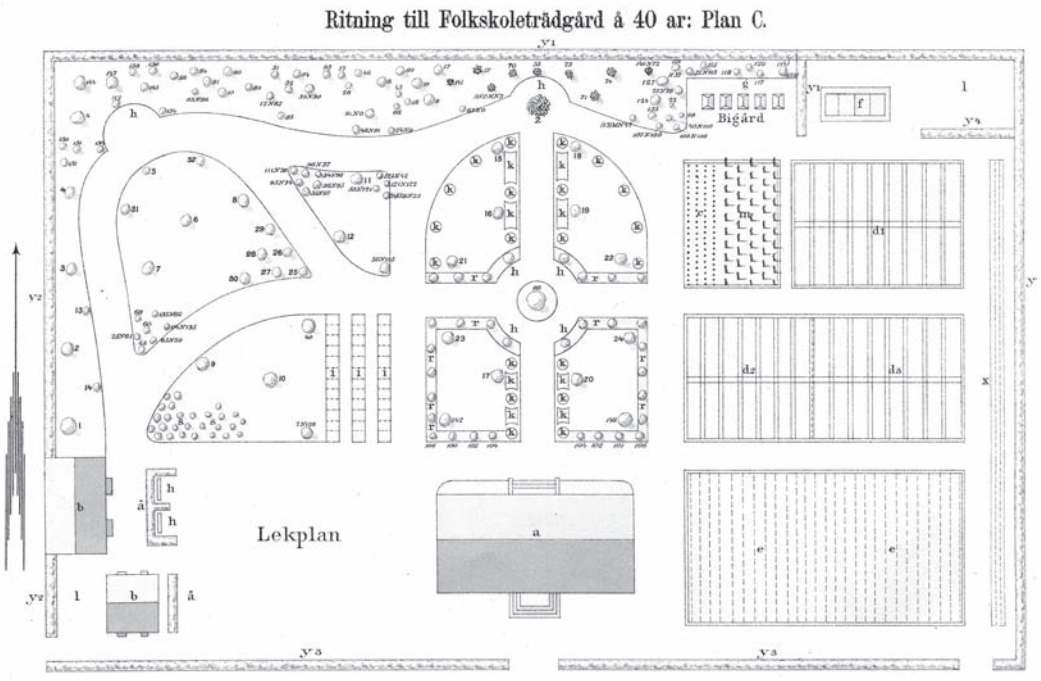

Figure 5. Proposal for a 1-acre elementary school garden in the competition guideline from 1890; from Lars Hiertas Minne, *Normalritningar för folkskole-trädgårdar* (Stockholm, 1890)

The purpose was to spread good examples that would inspire the planning and construction of more and larger school gardens throughout the country.[18] The publication might well have contributed to architects adopting historic garden styles when designing school gardens.[19] Skå Elementary School mentioned above is an example of the use of the English garden as a model.[20]

Constructions of plots and paths were given prominent space in an increasing number of handbooks on gardening published at this time, which were probably influenced by the competition and the published type drawings, i.e. patterns.[21]

The competition guideline included a detailed outline on how to use the garden when teaching. But it had no formal connection to the national curriculum from 1889 as such. School gardening remained a school subject without a curriculum until 1900 when the next national curriculum was published.

The guideline of 1890 contributed to the establishment of an increasing number of school gardens throughout the country up until the late 1890s, when the peak of gardens at sixty-five per cent of the country's approximately two thousand elementary schools was reached.[22] Their standard varied greatly. In 1901, the same year he designed the garden of Skå Elementary School, elementary school inspector Fredrik Laurell visited fifty-four schools in different parts of southern Sweden. His commission was to investigate the standard of those gardens and it is obvious he was shocked by what he saw. In spite of the fact that it was recommended that he visit these schools because they were cited as being good examples, Laurell found that just nine of them were designed, managed and used in an acceptable manner.[23] Laurell drew the conclusion that the government had to produce

type designs for school gardens to guarantee their quality, which he maintained was 'far and away the most neglected of all missions of the Swedish elementary school'.[24]

THE VIEW OF NATURE CHANGED THROUGH INDUSTRIALISATION

During the period of urbanization in the late nineteenth century, people's view of nature changed; to live in cities meant to live apart from nature and the immediate sensuous experience of nature provided by working outdoors vanished. Humans disassociated themselves from nature as a subject and turned it into an object: knowledge about nature and the wilderness was turned more into a result of learning than an experience to be obtained at first hand.[25] The new view of nature was created through theoretical education and literary knowledge, and 'nature began to be experienced as a beautiful painting'.[26]

Changes in society also led to new goals for school gardens. Traditionally, the purpose was to introduce children to gardening as a means of survival at the same time as bringing them up to be hardworking, orderly and watchful. But in the early 1900s, the school garden was increasingly looked upon as an important element of nature, or at least as a model of nature. The aim was to open the child's heart to nature, its beauty and its purposefulness through gardening.

When nationalism swept over Sweden and other countries in the early 1900s, patriotism also was emphasized in activities to do with cultivation. Those who learnt to plant in the school garden would develop an interest in life and living things. Continuing maintenance and care would develop a trust and love for plants and for the place where they grew. This place symbolized the child's home, which also implied the mutual home: one's native country.[27]

THE REFORMISTS' VIEWS

During the late 1800s and the beginning of the 1900s, traditional teaching methods were called into question in both Sweden and abroad that were inspired by the educational reform movement in Germany and the United States of America. This movement was 'the educational answer' to demands for reforming the school system to fit its purposes better in the emerging industrial society. Child-centred learning and respect for childhood were starting points in this development and were chiefly inspired by works of Jean-Jacques Rousseau, Johann Heinrich Pestalozzi and Friedrich Fröbel.[28]

John Dewey (1859–1952), a well-known American educationalist and philosopher, developed a pragmatic view of education. He is the father of the expression 'learning by doing', which he used, in much the same way as Eneroth, to criticize the traditional school.[29] Dewey's ideals contributed to a development where the influence of society and everyday domestic duties and objects were considered basic to genuine and effective learning. According to Dewey, tables, chairs, trees and plants in the garden, as well as stones in the wall, all have a social meaning because they are used mutually by everyone and they influence people's actions. His view was that school needs to be a place where these objects can be used socially, which is a necessary prerequisite for children's intellectual and moral growth.[30]

For this reason, the school garden was important to Dewey. He saw the school as a system that could be disconnected from outside society. The school must be looked upon as a mediating link between home, working life, the academic world and the physical landscape of which the school formed a part. Dewey's ideal was a school building located

in natural surroundings and placed in a garden from which the children would be brought to the surrounding fields and then further to the countryside with all its information and resources.[31]

Outdoor education, focused as it was on children taking their own initiative, did not fit in with old-fashioned teaching methods, but according to the educational reformists, the outdoor environment was an important resource for local school development. This thinking, which was based on pragmatism and action learning, is reflected in the Swedish *National Curriculum for the Elementary School* (1919). This was also the year the government took over formal responsibility for the elementary schools, resulting in a radical change in teaching methods and learning content.

In the curriculum of 1919, instructions for school gardening were much more detailed than in earlier regulations. It was the next year that *Type Drawings for School Establishments* (Stockholm, 1920) was published. The title reflects the change in attitude towards the school as something more than just a building. These two public documents confirmed the need for school gardening to be a school subject at the same time as its design and content were clarified in type drawings.

A group of experts was contracted to design ideas for useful, suitable school settings (buildings) and school grounds/gardens. Among them was Gottfrid Sjöholm, a specialist in the construction of gardens and plantings. Sjöholm was an expert in all these aspects, a teacher at the teacher training centre in Gothenburg from 1910 to 1938, and a true school garden enthusiast.

In his *School Gardening: A Neglected Resource for Upbringing* (1923),[32] Sjöholm discusses various ways the school garden could be used as a starting point for nearly all school subjects. His work contributed to a realization of the intentions of the national curriculum. It emphasized how real life should be included in all educational work and also maintained that a homelike, cosy school – with its school garden – would make life easier and help transform knowledge into a 'less bitter pill' for the children.

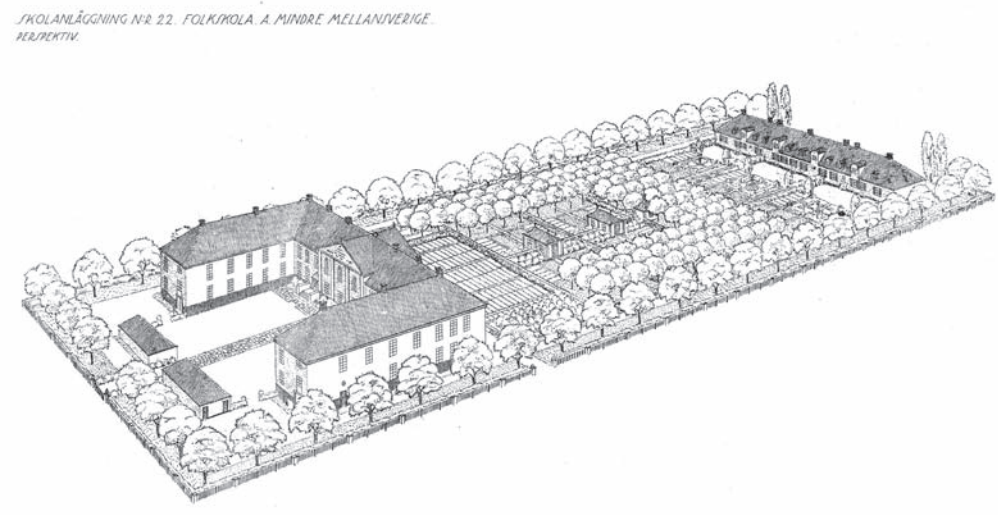

Figure 6. Perspective view for an elementary school setting in Central Sweden by the architects Höög & Mossing, Stockholm (cf. Figure 6); from *Normalritningar till skolanläggningar för folkskolan* (Stockholm, 1920), type drawing number 22

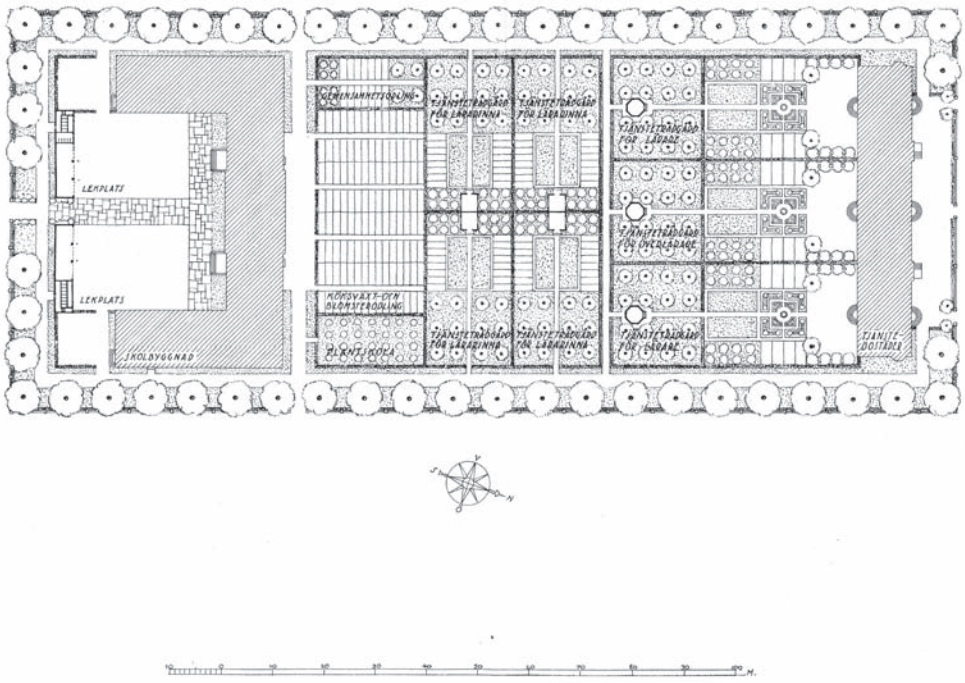

Figure 7. Scaled plan for the elementary school setting in Central Sweden by the architects Höög & Mossing, Stockholm, shown in Figure 5. The teachers' gardens (*tjänsteträdgård*) to the right are strictly separated from the children's plots to the left; from *Normalritningar till skolanläggningar för folkskolan* (Stockholm, 1920), type drawing number 22

SCHOOL SURROUNDINGS MORE THAN GARDENING

After the peak of school gardens in the 1890s, the numbers of schools with gardens decreased to forty per cent in 1901 and to twenty-five per cent in 1919. They functioned as a political manifestation of the elementary school as a vital part of society.[33] Each proposal consisted of plans, perspectives and detailed designs for school buildings, teachers' residences and outhouses based on local/regional styles of architecture, design and the materials used for the construction of houses, parks and gardens. The outdoor areas are also described in detail. Normally they consist of plots for kitchen and flower gardening and the cultivation of common fruits and berries, along with a nursery, a school park and a playground. The distinction between the school teachers' gardens (*tjänsteträdgård*) and the pupils' gardens (*skolbarnsträdgård*) is very clear in each proposal, and was probably inspired by the demands mentioned in Laurell's report.[34] The framework of the school setting is carefully designed in nearly all the proposals and normally consisted of hedges, fences or lines of big trees with welcoming and well-designed entrances (Figures 6–9).

THE BEGINNING OF THE END

After the peak of school gardens in the 1890s, the numbers of schools with gardens decreased to forty per cent in 1901 and twenty-five per cent in 1919.[35] Two-thirds of the Swedish school gardens were in country areas, but they were phased out there more consistently than in the cities. This decrease does not mean that fewer children were

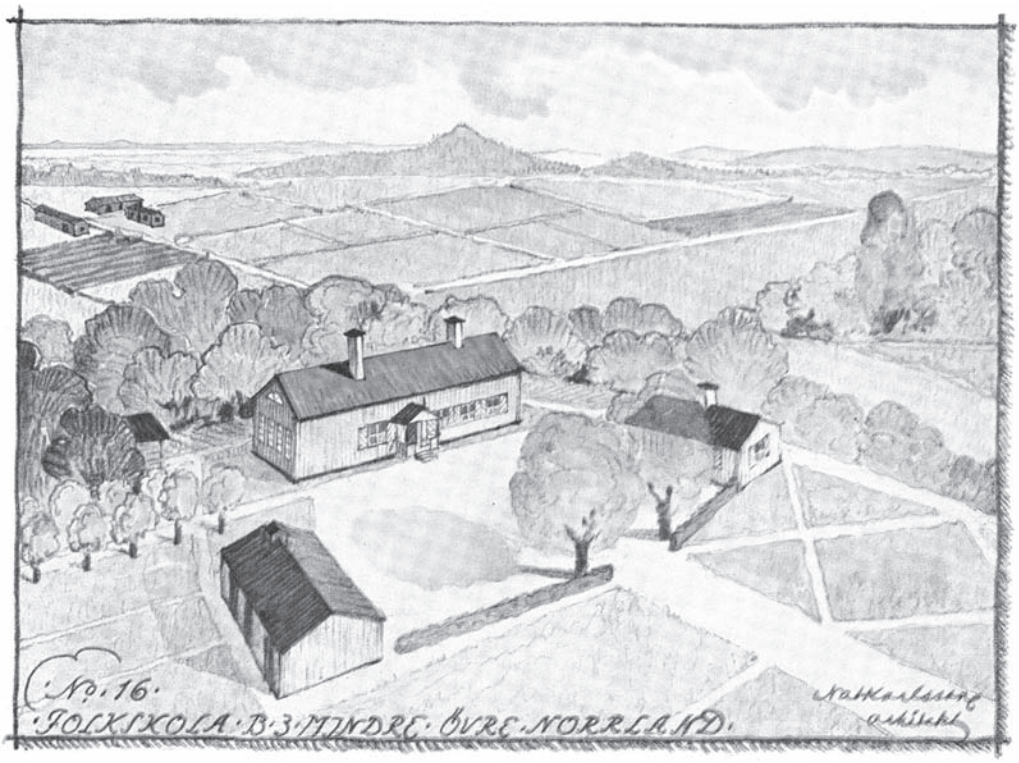

Figure 8. Proposal for a small elementary school in the upper north of Sweden by architect Nat. Karlsson, Stockholm. The regional architecture is emphasized by idealized landscape scenery; from *Normalritningar till skolanläggningar för folkskolan* (Stockholm, 1920), type drawing number 16

educated in school gardening. In some parts of Sweden it was the opposite: official statistics show that the number of pupils participating in school gardening from 1894 to 1906 increased from ten to nearly twelve per cent. But by 1918–19, these numbers begin to fall.[36]

During the Second World War, a new kind of official guideline was published that was a series of modules with fixed measurements for classrooms and other rooms used at school. Nothing was said about the location of the schools or any kind of architectural expression, and school gardens were not referred to at all. Earlier declarations about the impact of a well-managed outdoor environment on children's upbringing and behaviour had disappeared. Perhaps more interesting is the fact that there was no mention of the regulations from 1920 because the architecture shown in the proposals had gone out of fashion after the rise of functionalism.[37]

The ongoing urbanization in the 1900s reduced the need for common people to produce their own food. The impact of new transport systems, technical inventions and the growth of more industry-orientated food production were important to the development of society at that time. By the 1930s, it was no longer necessary to cultivate agricultural produce close to cities. This resulted in fewer people being employed in the horticulture and agricultural sectors.[38] After the Second World War, Sweden for the first time produced more food than it needed for its own domestic consumption. Lower prices

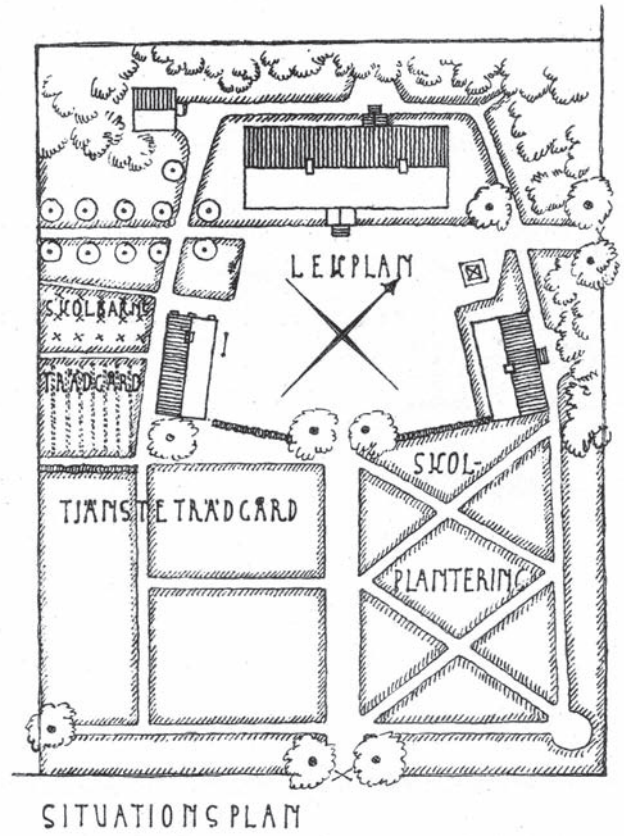

Figure 9. Proposal for a small elementary school in the far north of Sweden by architect Nat. Karlsson, Stockholm, as shown in Figure 8. Note the shelter plantation to protect the site from cold northerly winds. Also, that the teachers' garden (*Tjänsteträdgård*) is more than three times as large as the schoolchildren's garden (*Skolbarnsträdgård*); from *Normalritningar till skolanläggningar för folkskolan* (Stockholm, 1920) to the left; from Notmalritningar, type drawing number 16

and better economic conditions for the increasing numbers of people also contributed to the view that gardening for household use was a phenomenon of the past.

PLANNING CONDITIONS IN THE 1950S

Towards the end of the 1950s, many Swedish municipalities were consolidated into bigger ones and many elementary schools were centralized. In 1955 Sweden received a new national curriculum for elementary schools where school gardens were mentioned. Due to a national experiment the same year that established a nine-year comprehensive school education for children of seven to sixteen years of age, separate instructions for this type of school were also published. School gardening was mentioned, but it was hidden under the heading of 'practical subjects'.[39]

Revised regulations for school establishments entitled *Instructions and Regulations Concerning Building Projects in the Educational System* (1955) were also published. The overriding aim was to adapt the regulations to fit in with the nine years of compulsory schooling, which, it was assumed, would replace elementary schools.

FOCUSING ON MANAGEMENT

School gardening remained a school subject in the national curriculum of 1955 for elementary schools. New to the curriculum was clear mention of the maintenance of

school gardens. Under the supervision of the teacher, children were to maintain the garden even during the summer holidays. However, the curriculum was prepared for alternatives:

> The board of education shall see to it that necessary maintenance of the school garden during the summer is not neglected in cases where the school children cannot perform it themselves.[40]

There are several reasons why maintenance is mentioned. First, a poor standard of school gardens was not uncommon. As long as the garden was a perk for the schoolteacher, the most probable outcome was that he or she would have a vested interest in a well-kept garden. However, by the end of the 1950s, the need to cultivate one's own food belonged to a past era. Thus, it became important to clarify who was responsible for the standard of the flowerbeds and kitchen plants that were still cultivated.

Another reason is the great changes in municipal administration that occurred in the 1960s and 1970s. During this period, the public sector expanded and the functions of the local authorities were organized increasingly separately. School grounds and playgrounds were also placed in their own pigeonhole, and the different functions of the outdoor environments were clearly separated from each other. Many a magnificent flowerbed and well-maintained garden path were sacrificed to be replaced by lawns, asphalt, and evergreen trees and bushes. No exceptions were made for school grounds, where rationally maintained and functionally separated spaces pervaded both planning and management. The term 'school garden' (*skolträdgård*), previously used to denote the whole site, was now replaced by 'school ground' (*skolgård*).

When the responsibility for the design, management and use of public outdoor areas was divided among different local administrations, the management of the school's physical environment became separated from education. Even if many schools kept their own caretaker, formal responsibility for the outdoor areas was moved to other local administrations, for example the municipal parks department. The school grounds were no longer solely the business of the school.

THE DISAPPEARANCE

In 1962, the elementary school was formally replaced by the nine-year school, which received its first national curriculum that year.[41] The school garden was still mentioned as a resource, but mainly as a means of demonstrating what plants looked like and how they grew.

In the next curriculum of 1969, the term 'environment' was used for the first time, and environmental protection was regarded as more relevant than nature conservation. Laboratory experiments and field trips were mentioned as important educational aids. This was a way of adapting to the public view of education at the time, which was very clearly moving towards child-centred learning.

Yet, school gardens were not mentioned as a resource for this new interest in the environment. Perhaps this was the death knell for the few surviving school gardens, as nothing would stop them from disappearing in the 1960s. In Sweden, no school gardens with educational activities appear to have survived as late as 1970.

A BOOM FOR ENVIRONMENTAL EDUCATION

When environmental problems became obvious in the 1960s and the following decades saw increased environmental awareness, there arose a new interest in both environmental education and children's physical environments. Poorly kept school grounds did not bring out the creative challenges demanded by the environmental movement. These demands to make school grounds greener and to provide greater biological diversity were partly a reaction against the environmental debate of the day that was mainly focused on pollution, which was not seen as the best starting point for the environmental education for children.[42]

Environmental involvement contributed to changes in the school system. Politically the school was an important part of the Swedish welfare society, and for that reason the environment as an asset was gradually integrated into school work.[43] School development in the 1980s and 1990s was also strongly influenced by radical organizational changes in municipal state school management. Local, municipal regulations and a main local responsibility for municipal state schools replaced the earlier centralized system with detailed national regulations and restrictions. This brought about a great change in school planning as against the past, and the extent of this development must be seen as dramatic from a historical point of view.[44]

During the 1980 and 1990s, school grounds slowly began to be used for hands-on, manual environmental work – including planting. Public opinion in favour of the greening of children's outdoor environments was growing, with arguments such as that green school grounds could contribute to a genuine interest in nature conservation and environmental protection. The impact of relevant environmental education for children and adults was emphasized as the most important way to turn society towards sustainability.

Thus, with just a year between them, a new guideline on school establishments and a new national curriculum were published in 1979 and 1980, respectively. They did not refer to each other, but they both had the same ideological cornerstones. They were both the result of a changed and more relaxed view of teaching and learning, and terms were used such as 'investigative education' and 'child active learning'. Play also began to be looked upon as a way of learning.

The 'outdoor environment', which is used as a term in the national regulations for the first time, is considered an important concern for the school. Thematic, interdisciplinary blocks now replace traditional school subjects, and outdoor surroundings are mentioned as an educational resource. At all ages the pupils should undertake practical work in 'their own surroundings, take responsibility and good care of the environment and realise the consequences of their actions', and places for this kind of work could be 'spaces for home economics, other places in the school or in the nearest surroundings'.[45]

The term 'school garden' is not used, but cultivation as an activity appears in the curriculum, for example 'experiments on growing plants and care of animals in schools or in the neighbourhood'.[46]

The school site figures prominently in the guideline of 1979, and is discussed on eleven pages compared with only two in the regulations of 1955. But there are no detailed instructions on the design of school grounds or their gardens. Instead, the focus is on the desirable activities children should perform and the physical conditions needed to realise them. There is also a focus on children's curiosity. Children's needs should shape the school and not vice versa.[47]

PROMOTE LEARNING

During the 1980s, research reports, government commissions and various non governmental organizations contributed to raising the awareness of environmental education among decision-makers on all levels. Handbooks and inspiration material were published and disseminated, further education was arranged and campaigns were launched. For example, the International Playground Association declared 1979 as the Year for School Grounds.

Throughout the 1980s, school grounds and playgrounds were rebuilt. But there was little educational strength in this development, i.e. educational development was not a particularly strong force behind the changes. Naturally there were exceptions. In the early 1980s, some schools planted school gardens again, even in the northern parts of Sweden. It is true that maintaining a garden was seen as a new opportunity for the teaching of subjects. But more important is that gardening was seen as a way of transforming the pessimistic view of the environment into a positive approach about what nature was about through practical work where the children would have both fun and learn to understand the theories of, for example, environmental protection and sustainable development.[48]

As mentioned above, the governmental exercise of power in the school sector decreased in the last decades of the twentieth century in favour of decision-making at the local municipal and school levels. The national curriculum of 1994 was an educational answer to major changes in municipal school administration, and compared with earlier

Figure 10. Krusboda School garden, Tyresö, outside Stockholm, is a typical school garden of the early twenty-first century. It is the result of years of voluntary work by both teachers and parents. This garden is regarded as a model of nature and cultural landscape and is used as a pragmatic base for addressing environmental issues and shaping public opinion. The aesthetic aspects of outdoor activities are also emphasized (cf. Figure 11). Photo: Solveig Dahl

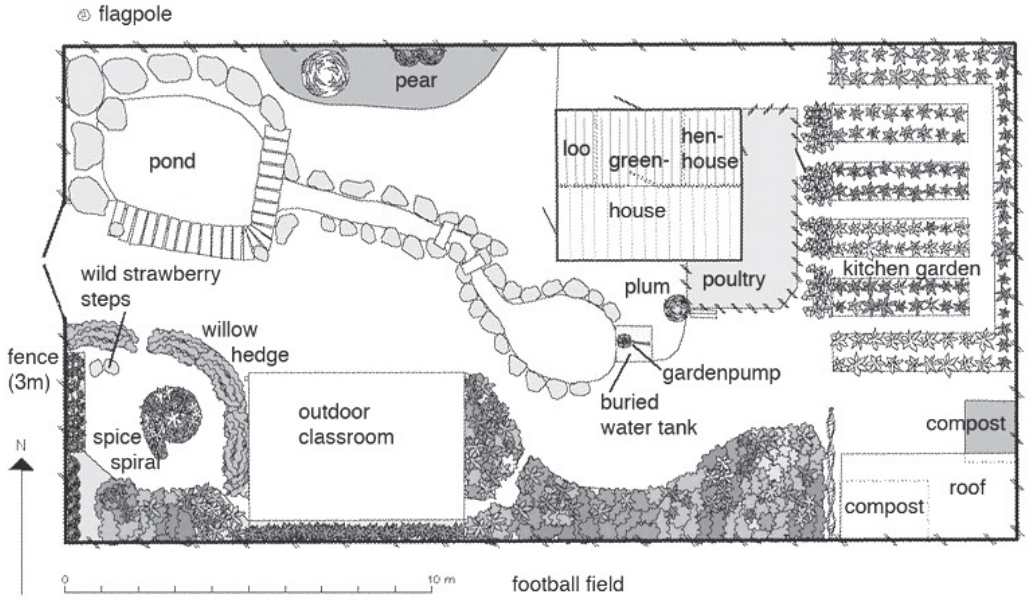

Figure 11. Scaled plan of the school garden at Krusboda School in Tyresö, outside Stockholm (cf. Figure 10). Drawing: Mats Lind

curricula, it has shifted to be more of a goal-orientated instrument. For example, the main mission of the school is 'to promote learning'[49] not to convey knowledge as before.

This means that it is the local school that decides how, what and where the national aims for state education are to be realized. The responsibility for achieving the overriding aims is in principle delegated to each local group of teachers. A teacher in Sweden who wants to create a school garden is allowed to do so, and even expected to do so, if he or she feels it is a way to create good physical conditions to achieve educational goals.

But those today who are involved in designing school gardens have no type drawings or design principles upon which to reflect. As there is no public funding for the construction of school grounds, their ambitions generally have to be based on the school's ordinary budget and on voluntary work. School gardens of the last few decades are not architectural from an architect's point of view as they were, for instance, in the type drawings from 1920. Landscape architects are rarely involved, unless the project is about planning a new school. On the other hand, there is a high level of local involvement in the developing of school gardens that emerging regularly from parents' and school teachers' initiatives (Figures 10 and 11).[50]

WHAT ONE CAN LEARN FROM THE HISTORICAL DEVELOPMENT

This paper is a contribution to the historical understanding of school gardening as a phenomenon. How have the various climates of the times affected the form, content, use and development of school gardens? The following summarizes the development from three perspectives: changes in economic conditions, the school garden as an educational aid and motives in the spirit of modernism.

CHANGES IN ECONOMIC CONDITIONS

Cultivation of school gardens in the 1800s and early 1900s was vital to the national food supply, which was also one of the main reasons why they were introduced into the elementary school curriculum. In line with the growth of the industrial society and its resultant urbanization, it became possible for increasing numbers of people to obtain their food in other ways than growing it for themselves. The rapid technical developments in transport systems and in refrigeration and storage technology in the 1930 to 1950s strongly contributed to the loss of the school garden.

When the need for private vegetable gardens disappeared during the 1960s, most school gardens were also phased out. A new administrative–economic approach swept over municipal administration in the 1980s and 1990s, bringing with it extensive administrative and organizational changes, such as the purchaser–provider system practised in most municipalities in the country. In this way, school administrators, like real estate agents, placed price tags on the design and management of school gardens in a way very different to what had been done previously. From both an administrative and educational viewpoint, the school garden began to be regarded as a place for budget cutbacks rather than for investment.

THE SCHOOL GARDEN AS AN EDUCATIONAL AID

Ever since the nineteenth century, representatives of garden education have put forth pedagogical arguments defending school garden activity as a subject of its own, as a source of inspiration for other subjects and as the basis for a deeper insight into how nature functions. This took place in parallel with a boom for pragmatic educational methods, where outdoor activities were regarded as a valuable complement to more traditional teaching. Dewey was one of the foremost representatives at the theoretical level, while in practical pedagogical work one can still see traces of reform education in educational institutions such as the Steiner-Waldorf and Montessori schools.

The strongest support for school garden activity in Sweden was manifested in the curriculum for elementary schools of 1919 and in the type drawings for elementary school establishments of 1920. Although the number of school gardens was dwindling drastically at that time, the arguments in their favour and for other outdoor activities were exceptionally well formulated.

During the renaissance in interest in school gardens in the 1980 and 1990s, new emphasis was put on their value as a place for learning, as an object for learning and as a way of learning.[51] But despite an abundance of arguments from defenders of school gardens and explicit support in national guideline documents, the practical work of planting and caring for a garden has always clashed with more traditional school work, which is often perceived as more important from a content-orientated, knowledge-orientated and cognitive point of view.

Where the school garden has gained ground, it has always been due to passionate supporters: from Eneroth, Dewey and Sjöholm to the present day.

MOTIVES IN THE SPIRIT OF MODERNISM: MORALS, CULTURE, A VIEW OF NATURE AND POLITICS

The early elementary school came into being through central initiatives, but it was administrated locally. Allied with the Church, a central motive for education was an

understanding of the Creation, a concept that became somewhat weaker when agricultural society faded into the past and industrialization and urbanization took over, whittling down both old morals and the traditional methods of upbringing and schooling. The nationalism and patriotism that dominated the scene when the government took over the main responsibility for education in 1919 gradually shifted toward an increasingly reductionist and scientific approach to how nature functions. In the spirit of modernism, a dualistic view of man as separated from nature and of nature as uncontrollable came to dominate.

When environmental problems began to be addressed seriously, it helped advance a view of people as individuals who are dependent on an adaptation to nature for their survival. A long series of international events led the way to the development of the goal of an ecologically, economically and socially sustainable society. The paradigms of both agricultural and industrial societies began to be supplanted by a more holistic view of nature, and terms such as 'the information society' came into use in the 1990s to denote a new era of human development.

But parallel with this development, the school garden continued to exist as a place where pupils not only could understand nature, but also could understand the aspects of beauty and aesthetics in gardening activities. The object of school garden education was to teach children to be competent and orderly, to understand the conditions of production, and that manual labour was the equivalent of staying healthy and strong. This was considered a guarantee for a real, serious, 'embedded-in-doing' interest in caring for the environment and in helping to promote an exemplary Swedish countryside. This romantic view of nature and the cultural landscape was reinforced by the rise of nationalism and the wave of ideas for reforming education that swept through the country in the early 1900s. Before then, the school garden was seen as a means of developing children's love for God and Creation, but it increasingly became a way to develop their sense of nature and their love for nature and the native country. Since the late 1900s, the school garden has been seen rather as a method for relating holistically and scientifically to how nature functions, how gardening can be used to learn about how to master nature and also accept its laws, and as a pragmatic base for addressing environmental issues and shaping public opinion.

CONCLUSIONS

The school garden can be seen as both a historically rooted and action-orientated instrument for school teaching always caring for the garden as a pleasure for the eye and soul. School gardens of the past twenty-five to thirty years can also be interpreted as a 'vent' that lets pupils cultivate and learn to understand their cultural heritage in real life. A commonly held belief among teachers is that the youth of today are often deprived of daily contact with the cultural landscape of production. Beginning in the 1980s, most of the children grow up in the suburbs – and the newly aroused interest in school gardens can therefore be explained as a desire to give 'city kids' an opportunity to follow food production 'from field to fork'.

This should not be confused with the most powerful motive behind the school garden in the nineteenth century, namely the national food supply. Today's gardens involve learning to cultivate as a craft, but the goal is not primarily to learn how to grow your own food. School gardening of today has turned into a method for learning about nature's ecocycle and ecological and environmental issues and for allowing pupils and

adults to be participants in sustainable development.

The aim of the school garden has thus shifted from being an end to a means. From having once filled a food supply function, gardening is now regarded as a sensuous experience that can be used as a lever in sociocultural situations both inside and outside the school. This again raises demands on the design and management of the school garden as a basic place for teaching and learning.

Finally, a pattern regarding the extent of school garden activities can be discerned revolving around two concentrations: one in the late 1800s and early 1900s and the other nearly a century later, with the emerging interest in school gardens, gardening, parks and nature as resources to be used in school work and accompanied by a general rise in awareness about public health, including a focus on the health benefit of being and doing things outdoors. Whether the latter period should be viewed as a new peak in the statistics or whether the school garden movement will continue to grow is a question that only the future can answer.

REFERENCES

[1] For simplification, this paper uses English translations of titles of the referred to Swedish national curricula, but the original titles are as follows: *Kongl. Maj:ts Nådiga Stadga angående Folk-underwisningen i riket*. No. 19 (Stockholm: Swensk författningssamling, 1842), *Normalplan för folkskolan* (Stockholm: Norstedts, 1878, 1889, 1900), *Undervisningsplan för rikets folkskolor* (Stockholm: Norstedts, 1919, 1955), *Timplaner och huvudmoment vid försöksverksamhet med nioårig enhetsskola* (Stockholm: Skolöverstyrelsen, 1955), *Undervisningsplan för försöksverksamhet med enhetsskola* (Stockholm: Skolöverstyrelsen, 1955), *Läroplan för grundskolan Lgr 62, Lgr 69 and Lgr 80* (Stockholm: Skolöverstyrelsen, 1962, 1969, 1980), and *Läroplan för det obligatoriska skolväsendet, förskoleklassen och fritidshemmet Lpo 94* (Stockholm: Skolverket, 1994, 1998 revd edn).

[2] Ulla Johansson, *Att skolas för hemmet. Trädgårdsskötsel, slöjd, huslig ekonomi och nykterhetsundervisning i den svenska folkskolan 1842–1919*. Akademiska avhandlingar No. 31 (Umeå: Umeå University, 1987).

[3] Gerd Arfwedson, *Reformpedagogik och samhälle*. Studies in Educational Sciences No. 25 (Uppsala: Uppsala university, 2000).

[4] For simplification, this paper uses English translations of titles of the referred to Swedish public regulations on school buildings and establishments, but the original titles are as follows: *Normalritningar för folkskolebyggnader* (Stockholm, 1865; 1878 revd edn), *Normalritningar för folkskoleträdgårdar* (Stockholm: Norstedts, 1890), *Normalritningar till skolanläggningar för folkskolan* (Stockholm: Norstedts, 1920), *Folkskolebyggnader. Anvisningar och bestämmelser angående byggnader för folkskoleväsendet* (Stockholm: Skolöverstyrelsen, 1944), *Skolbyggnader. Anvisningar och bestämmelser angående byggnadsföretag för skolväsendet* (Stockholm: Skolöverstyrelsen, 1955) and *Skolhushandboken* (Stockholm: Skolöverstyrelsen, 1979).

[5] Gunilla Lindholm, 'Skolgården – vuxnas bilder, barnets miljö', *Stad & Land*, 129 (1995), I, pp. 1–83. Lindholm is a landscape architect with a special interest in the perspective of the child in public planning.

[6] Johansson, *Att skolas för hemmet*, p. 40.

[7] *Kongl. Maj:ts Nådiga Stadga angående Folk-underwisningen i riket*, kap 3:0.

[8] Johansson, *Att skolas för hemmet*, p. 42.

[9] Olof Eneroth, *Handbok i svensk pomologi* (Stockholm: Norstedts, 1864–66).

[10] Olof Eneroth, *Om skolträdgårdar och seminarieträdgårdar*, 3rd edn (Stockholm: P. A. Nyman, 1864), p. 4.

[11] Ibid., p. 5.

[12] Johansson, *Att skolas för hemmet*, p. 43.

[13] Arfwedson, *Reformpedagogik och samhälle*.

[14] Lindholm, 'Skolgården – vuxnas bilder, barnets miljö', I, p. 5.

[15] For example, new school subjects (such as metalwork and sewing) made reconstruction necessary.

[16] Ibid., I, p. 10.

[17] Stiftelsen Lars Hiertas Minne, *Normalritningar till folkskole-trädgårdar jämte beskrivning och kortfattade anvisningar rörande trädgårdsskötsel såsom undervisningsämne i folkskolan.*

[18] The competition primarily focused on small elementary schools in the region of fifty to sixty pupils.

[19] Christer Larsson, 'Slumrande skolträdgård

återuppväckt', *Skapande Uterum*, 4 (2000), pp. 6–7.

[20] Fredrik Laurell also drew a school garden in a neighbouring parish, this time in a modified Baroque style.

[21] Lindholm, 'Skolgården – vuxnas bilder, barnets miljö'.

[22] Stiftelsen Lars Hiertas Minne, p. 1.

[23] Fredrik Laurell, 'Våra skolträdgårdar', in *Tidskrift för folkundervisningen* (Stockholm: Norstedts, 1902), pp. 27–43.

[24] Ibid., p. 34.

[25] Ella Ödmann, Eivor Bucht and Maria Nordström, *Vildmarken och välfärden* (Stockholm: Liber, 1982), p. 141.

[26] Ibid., p. 141.

[27] Arfwedson, *Reformpedagogik och samhälle*, p. 109.

[28] Ibid., p. 45.

[29] John Dewey, *Individ, skola och samhälle. Pedagogiska texter av John Dewey*, edited by Sven G. Hartman and Ulf P. Lundgren (Stockholm: Natur och Kultur, 1980). For example, Dewey maintained that children have to leave their intellect at home because there was no need for it in school.

[30] Arfwedson, *Reformpedagogik och samhälle*, p. 45.

[31] Dewey/Hartman and Lundgren, *Individ, skola och samhälle*, p. 85.

[32] Gottfrid Sjöholm, *Skolträdgårdsunder visningen, ett försummat uppfostringsmedel* (Stockholm: Sveriges allmänna folkskollärarförenings litteratursällskap, 1923).

[33] Lindholm, 'Skolgården – vuxnas bilder, barnets miljö', I, p. 29.

[34] Laurell, 'Våra skolträdgårdar'.

[35] Johansson, *Att skolas för hemmet*, p. 50.

[36] Ibid., p. 50. Almost all children in the county of Gotland participated, with more than every third pupil taking part in school gardening activities in 1906. The lowest number of participants was in Stockholm and in the counties to the far north (p. 52).

[37] Lindholm, 'Skolgården – vuxnas bilder, barnets miljö', I, p. 30.

[38] In the horticulture sector, the number of employees decreased by twenty-four to thirty-one per cent (depending on where in the country) between 1950 and 1959; Sven Gréen, *Trädgårdsbok för ungdom* (Stockholm: LTs, 1960), s.20.

[39] *Timplaner och huvudmoment vid försöksverksamhet med nioårig enhetsskola*, pp. 90–2.

[40] *Undervisningsplan för folkskolan* (Stockholm: Skolöverstyrelsen, 1955), p. 167.

[41] *Läroplan för grundskolan Lgr 62*.

[42] Britt Almström, Arvid Bengtsson and Sture Koinberg, *Använd skolgården!* (Stockholm: Statens råd för byggnadsforskning T38, 1981).

[43] Per Wickenberg, *Normstödjande strukturer. Miljötematiken börjar slå rot i skolan*. Studies in Sociology of Law No. 5 (Lund: Lund University, 1999), pp. 101–30.

[44] Ibid., p. 92. Wickenberg refers to G. Richardson, *Svensk utbildningshistoria* (Lund: Studentlitteratur, 1998), p. 7.

[45] National Curriculum, in *Lgr 80*, p. 88.

[46] Ibid., p. 117.

[47] Skolöverstyrelsen, *Skolhushandboken* (Stockholm: Liber, 1979).

[48] Petter Åkerblom, 'The impact and importance of school gardening in primary schools', in *Learning to Change Our World? Swedish Research on Education and Sustainable Development*, edited by Per Wickenberg, Harriet Axelsson, Lena Frizén, Gustav Helldén and Johan Öhman (Lund: Studentlitteratur, 2004), pp. 75–88.

[49] *Läroplan för det obligatoriska skolväsendet, förskoleklassen och fritidshemmet Lpo 94*, p. 7.

[50] This is a common situation in Sweden. Four examples from Sweden and twelve more school ground greening projects in the Nordic countries are discussed in Karen Attwell, Annichen Hauan, Titti Olsson, Benny Schytte and Reino Tapaninen, *Gode udemiljøer ved nordiske skoler. 16 eksempler fra Danmark, Finland, Norge og Sverige* (Copenhagen: Nordiska Ministerrådet/By og Byg, 2004).

[51] Lars-Owe Dahlgren and Anders Szczepanski, *Outdoor Education. Literary Education and Sensory Experience*. Skapande Vetande No. 31 (Linköping: Linköping University, 1998).