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Kajsa Borg & Per-Olof Erixon

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Contents

Editorial

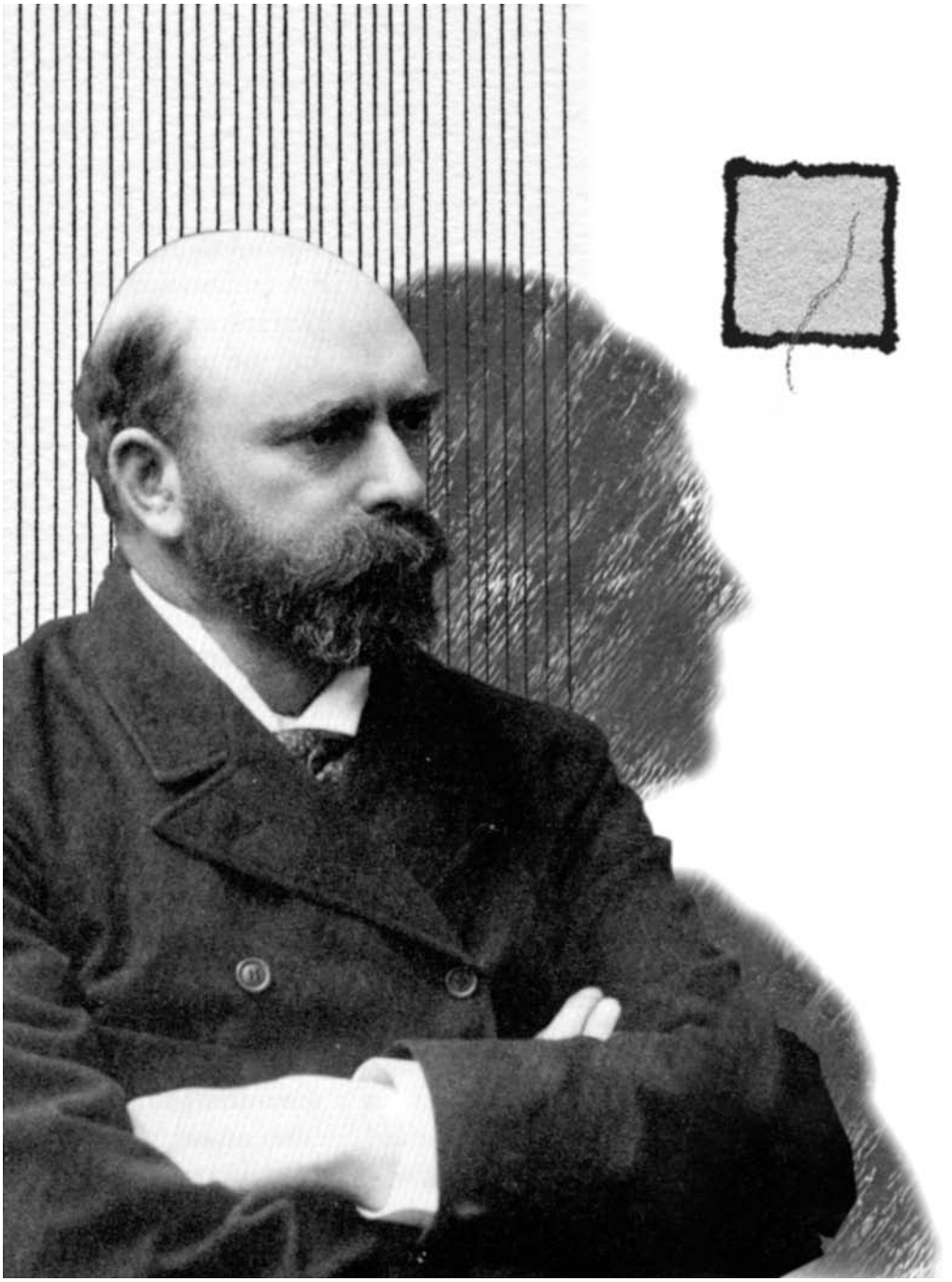
This special issue of Journal of Teacher Education concerns Sloyd, Aesthetic Education, Visual Arts and Handicraft. The issue is released in connection to the first international conference with the same focus, "Tradition in transition" in Umeå, May 15-18, 2006. The conference is arranged by Umeå University, Sweden and Åbo Academy University, Vaasa, Finland in cooperation with UnizonKvarken, the European Union, the Nordic Forum for Research and Development in Sloyd (NordFo) and Textile Education and Research in Europe (Texere) and is supported by the Swedish Research Council (Vetenskapsrådet).

Compared to other academic subject fields, research concerning aesthetic school subjects and teacher education for those subjects is a young phenomenon and not easily available. One of the problems is that this subject knowledge can be found within other fields of research, like design, technology, art and craft, vocational education, home economics as well as pedagogy and educational work. Another problem is that in the Nordic countries research is often published in the Danish, Finnish, Norwegian and Swedish languages and therefore not available to an international public. This issue is an attempt to present a collection of new research articles within the field. For this purpose a number of researchers from the Nordic countries have been invited to present their research, using English as a means of communication. Most of the contributors to this special issue will present papers at the conference.

The articles represent different branches within the field and should be looked upon as examples of the variety of research that is going on in different countries. Thorbjörnson's article describes the exciting story of how the philosophy of educational Sloyd was spread around the world more than 100 years ago. The following article covers in brief the development of the Swe-

dish Sloyd subject from 1900 to 2000 (Borg). Johansson's article gives a close-up description of the activities and communication, verbal and non-verbal, which take place in the Sloyd classroom today. In Lindström's article, he discusses whether or not portfolios can contribute to educational improvement when assessing aesthetic subjects. In the next article Ohlsson challenges the dichotomy between theory and practice, by giving examples of how a practical mind might represent an intellectual virtue. Porko-Hudd's articles is a summary of a thesis on how the thoughts of the producer of web-based teaching materials can affect the teaching material itself. Two articles deal with the field of handicraft. One of them focuses on the dialogue between the craftsman and the material (Illum), and the other one describes the environment and the conditions of handicraft education in secondary schools (Lindberg). Klaebo & Svaboe give an example of how digital technology can have an impact on textile design, not only as another tool, but also how the new technology offers new combinations and opportunities.

Kajsa Borg & Per-Olof Erixon,
special issue editors.



Otto Salomon 1849–1907

Swedish educational sloyd – an international success

Hans Thorbjörnsson

How did Swedish school handicraft ('slöjd' in Swedish; translated as 'sloyd' in older English texts) come to be at the international forefront for a few decades around 1900?

During the 1880s, "Swedish educational sloyd" was developed. The ideas were mainly based on the Nääs sloyd teacher training college and its leader Otto Salomon, a self-educated teacher of Jewish origins. Salomon called the teaching system developed at Nääs "educational sloyd". The college was financed by Salomon's uncle, the merchant and landowner August Abrahamson. The college gained international recognition, and up until the outbreak of the First World War, over 1500 foreign participants (teachers) from over forty countries arrived to take part in the handicraft courses at Nääs. For a few decades, this sloyd teaching method developed into an international educational movement. The various international supporters held lectures, wrote newspaper articles and books, formed societies and taught handicraft at their schools. Educational sloyd and its ideas were demonstrated at large international exhibitions. This article will discuss in depth how educational sloyd spread from school to school and from country to country thanks to the efforts of individual, highly dedicated men and women.

The Nääs System

On the estate of Nääs, situated between Gothenburg and Alingsås, the wealthy Jewish businessman August Abrahamson (1817–98) initiated a sloyd teacher training college in 1875. His nephew Otto Salomon (1849–1907) led the programme and during the 1880s developed a system for teaching handicraft in elementary school.

Around 1880, many countries were in the process of establishing a system of elementary schools and colleges. Such was the case in eas-

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tern Europe, parts of Asia, in Latin America and South Africa. In western and northern Europe, USA and Canada, elementary schooling had already been established. However, baby booms, migration and rapid societal changes placed new demands on the school system. Problems arose in Scandinavia, Germany and Britain, and were especially prominent in the USA. Elementary school was too theoretical and the classes were too large. The school was also given new tasks: teaching civics and hygiene, and to provide a basis for vocational training and to teach practical elements alongside the theoretical elements.

The Swedish approach of including practical work into the elementary school syllabus aroused interest in other countries. Participants from over forty countries came to Nääs to construct a variety of handicrafts from wood during a six-week period. The most important aspect, however, was to attend Salomon's lectures on the history of education and handicraft educational methods. Discussions were held on handicraft teaching several times each week. Educational sloyd was a means of formalising education. The pupils learnt more than how to use tools and wood. During the lessons, the pupils' entire personality developed. A number of principles governed the children's work in the classroom. Sloyd would teach the child to respect and enjoy manual work, and to become honest, honourable, careful, attentive and perseverant. The child would become used to cleanliness, and to train his/her physique and eyesight. The aesthetical sense would be developed, as would the ability to construct quality products. The pupil's independence and self-activity were strived for. The pupil would solve problems under constant mental activity. All teaching was to be individualised. No form of throwaway prototypes were to be constructed, no preparatory exercises were to be done; every exercise was to lead to a functional product. Maintaining the child's interest was of utmost importance. The education was to be carried out by teachers, not by craftsmen. Participation in sloyd was optional for both pupils and teachers.

Salomon's theories were strongly influenced by Uno Cygneus in Finland. Cygneus maintained that handicraft in school would not provide vocational training. Manual labour was an important aspect of the upbringing of all children. It contributes to an understanding between all classes of society and provides physical exercise. He also taught Salomon that the hand and spirit worked in concert. Cygneus encouraged Salomon to study Rousseau, Pestalozzi, Fröbel and other pedagogues. Salomon retrieved many

ideas from them; ideas that he later developed into a collective theory.

The Progressive Movement

During the 1890s, progressivism began to develop within the USA's schools. There were links with the desire for social and political change (The Progressive Movement). The school would lead the way. William James, Francis Parker and Herbert Spencer wrote books on the subject, and John Dewey produced his classic work *The School and Society* (1899).

The situation in Europe was similar. Industrialism was at its most intensive, and its negative effects were beginning to be dealt with, for example, with legislation against child labour and the establishment of schooling for all social groups. Millions of people moved from the country into cities and industrial centres. Workers united and demanded political influence and education. Temperance movements, free churches and movements for elementary education and sport made new demands. The development towards democracy affected women, who demanded suffrage, access to education and labour and equal rights with men.

The educational reforms of the early 1900s were international but nevertheless focussed around common ideas. They were based to a large extent on the thoughts of the classic pedagogues: Commenius, Rousseau, Pestalozzi and Fröbel. The child's development played a central role – the child was to be given freedom with responsibility. Discussions revolved around an active education with independence and individualisation. Other important terms were project work, group work and pupils' influence on their own education.

What happened in Sweden?

In Sweden, eighties radicalism arose to fight the conservative views of the landed gentry, many priests and farmers who dominated national and regional politics. The conservatives regarded the enlightenment of the masses as a threat to the social order, and they were critical to the increased expense of elementary schooling and the many teachers who were radical, left-wing and often engaged in the Free Church. In their opinion, children ought to start work at an early age, for example by helping their parents on the family farm. Many priests and conservatives were suspicious of the two Jews at Nääs who educated hundreds of school teachers every summer. Salomon held a sensitive position, since while he supported elementary schooling, was also critical of much of its content and organisation. Salomon expressed himself carefully, but

made clear his dislike of mass-education, theory and rote learning. Favouring handicraft entailed criticizing elementary schooling.

For a large part of the 1800s, there was a great interest in the child's versatile development. Formal education was a favoured term. With Salomon, for example, there was a strive to meet the needs and interests of the child. Elementary schooling began to become pupil-focused. An educational reform based on progressive ideas emerged. Teaching would begin with real objects rather than abstract reasoning. The development of the individual, the union of practice and theory and the improvement of morality and health were incuded in the syllabus. Handicraft found its place within these ideas. For 10–15 years around 1890, there was a strong interest in the Nääs System, but after that, progressivism gained new elements which criticised Swedish educational sloyd for its rigidity and lack of creativity, imagination and social co-operation between pupils.

The first foreign contacts

Attempts to make Nääs and the teaching there internationally well known were initiated in 1876 with a series of well-planned measures carried out by Abrahamson and Salomon. They sent models, plans and a description of Nääs to the World Exhibition in Philadelphia. In the same year Salomon published the first part of *Slöjdskolan och Folkskolan* [Handicraft School and Elementary School] and sent the book to a large number of supporters of handicraft teaching throughout the Nordic countries. Some of them were grateful for this gift and expressed an interest in visiting Nääs.

In April 1878, August Abrahamson sent at description of Nääs sloyd schools with a covering letter to several Swedish ambassadors in Europe. He asked them to pass on the description to a suitable representative for the country's government together with an invitation to visit the Nääs stand at that year's World Exhibition in Paris. He also offered to donate handicraft models and provide further information about Nääs and educational sloyd. We can confirm that a German delegation visited Nääs in 1880, and that during the early 1880s groups of teachers arrived from Belgium, Russia and Austria.

Swift, reliable communication

The period between 1875 and 1914 was a peaceful one in Europe. At the end of the 1800s, the means of spreading educational ideas improved, and travelling to distant lands to, for example, visit or study at an institution like Nääs was a realistic possibility. An international postal ser-

vice had begun to function. At Nääs, telephone was installed in 1892. Several decades earlier, railways had been built between the large cities in both Europe and North America. Regular steamship services were established between Europe and the other continents. Course participants on their way to Nääs from the Americas could plan their journeys and arrive on time – perhaps with a delay of a day or two. There were two steamship routes between Britain and Gothenburg. The journey by train from Gothenburg to Nääs took one hour.

Journeys with meetings, lectures and conferences

Every one or two years, Salomon travelled through western or central Europe. He often conversed with the international greats in handicraft such as Woldemar Götze in Leipzig, where German handicraft teachers were educated, and Gustave Salicis, who founded a famous handicraft school in Paris in 1873. During 1884 and 1886 Salomon gave several lectures in Denmark, Germany, Holland and Switzerland. In 1904 he embarked on a long lecturing tour through Britain and Holland. In other years he visited Italy and Austria to study and establish new contacts. He participated in international conferences on handicraft and lectured in the other Nordic countries.

Lots of lectures

Every summer at Nääs, Salomon gave a large number of lectures in English, German and sometimes French. Prior to his death in 1907, around 1500 foreign participants from over 40 countries had attended his courses, and a few hundred delegations and individuals from many countries had paid short visits. Officials, politicians, professors, principals and all sorts of teachers came from all over the world. All came to hear Salomon present his ideas. At the same time, they provided him with ideas during their conversations.

Salomon never got to visit the USA, despite many invitations and his own carefully laid travel plans. He did not travel to the World Exhibition in Chicago in 1893, the Congress of the National Educational Association (USA) in the summer of 1904, or to visit John Dewey at the University of Chicago.

According to written sources, over a hundred of Salomon's supporters gave lectures on handicraft all over the world. Elisabeth Hughes, principal for teacher education at Cambridge, travelled from town to town and presented lectures at, for example, the Yorkshire Ladies' Council of Education and The Democratic Club in London. Of the latter event, she wrote to Salomon:

"They were a lot of revolutionary worksmen & greatly interested in Sloyd [handicraft]; altogether Sloyd is making great strides in Cambridgeshire." [1]

A. T. van der Meulen, an elementary school teacher in Samarang, Java, who had attended two Nääs courses, gave lectures on educational sloyd to the Batavia district of the Dutch Indian Teaching Association in December 1895 (Slöjdundervisningsblad från Nääs, SLUB, 1896:3, Handicraft teaching pamphlet from Nääs;). In 1885, college principal A. Sluys (Nääs course 1883) presented a series of lectures on educational sloyd in Brussels, Antwerp, Lille, Liege and Mons (SLUB 1885:2). Other sloyd lecturers were Guiseppe Manelli in Naples in 1887, John Johnson in Madison, Wisconsin in 1888, Josef Urban in Vienna in 1886 and Hans Kjennerud at the Christiania Teaching Association, Norway in 1886. (according to notes in SLUB 1886:2,3; 1887:12; 1888:3).

Anne Stewart, who attended the Nääs course in 1904, wrote on the 23rd February 1906 to request an English edition of the Nääs model series to give to Mr Charles A. Bennett, publisher of Manual Training magazine and leader of the Manual Arts Department at the Bradley Polytechnic Institute, USA. Stewart wrote that she gave lectures on Nääs at this institute's Art and Crafts Club. After this, she left Carlisle Indian School to teach in Cleveland, Ohio.[2]

Books were written and translated, articles were published

Educational sloyd's ideas were also spread using books, articles and exhibitions. Many of Salomon's texts were translated into English and released in Britain and the USA. Some books were translated into German, French, Spanish, Russian and 5–6 other languages. Over a hundred books written by Salomon's supporters all over the world contain long sections on Nääs Sloyd, and were published in countries such as Belgium, Italy, Austria, Hungary, Rumania, Argentina, Cuba and Brazil.

During the years from the mid-1880s until Salomon's death in 1907, over a thousand articles on Swedish educational sloyd were written in newspapers, magazines and journals all over the world. In August Abrahamson's archives, there are hundreds of newspaper cuttings from Britain, Germany, Belgium, Holland, France, Italy, USA, Cuba, Uruguay, Chile, Argentina and other countries. Additionally, correspondents in letters from Bulgaria, Rumania, Greece, Russia, Australia, Java and South Africa report of articles they have written on sloyd, Nääs and Salomon.

College principal A. Sluys from Brussels attended a course in Nääs during the summer of 1883. He wrote a detailed report to the Belgian government the following year.[3] The report was read by Sir John Lubbock in England. He referred to Sluys and wrote an article on Swedish educational sloyd in The Fortnightly Review in October 1886. Librarian Ch. Delgrave in Paris also read the Sluys report, and wrote the article "Un voyage au pay de Slöjd" [A journey to the country of sloyd] in Revue Pedagogique no. 11, 1886. Sluys' report was translated into English and published in 1889 by the Industrial Education Association in New York with the title "Manual Training in Elementary Schools for Boys".[4] The desire for articles on educational sloyd was clearly noticeable in the USA. The IEA's journal Educational Leaflet in the years 1889–90 contained material that had previously been published in Britain some months earlier, Thornton's "Sloyd Students at Nääs" in the Manchester Guardian, and Elisbeth Hughes' "The economic advantage of introducing the Swedish Wood-Slöjd into schools". In 1888 the IEA released Salomon's "The Slöjd in the Service of the School" – a long article that had been published two years earlier in the German journal Der Arbeiterfreund. The English newspaper Pall Mall Gazette ran an article on the 21st September 1886 entitled "Sloyd – on Swedish handicraft". The same article was reprinted in Le Temps in France on the 15th October in the same year (SLUB 1886:11).

In 1885 Salomon started to produce *Slöjdundervisningsblad från Nääs* [Handicraft teaching pamphlet from Nääs]. In this small newspaper he published articles and informed handicraft teachers about new models, changes to the system, etc. The subscribers included Salomon's Swedish apprentices who had travelled abroad to work in the Americas and Britain. Of around a thousand copies, a hundred were sent abroad.

Intensive correspondence

Otto Salomon was the spider at the centre of the sloyd web. He meant a great deal for spreading the ideas of educational sloyd over the world. Salomon corresponded intensively with his representatives/students in other countries. Letters were sent in both directions five or six times a year. He continuously encouraged them to summarize their experiences and problems, and to describe the teaching system in that country, etc. Reading his letters, we sometimes get the impression that he has not received correspondence for a long time.

"Ever since Forsman left Chile, I almost never get to hear anything from there, for indeed Cabezas has not written a line since he came home. It seems he has forgotten his friends, sloyders and gymnasts alike, here in Sweden."[5]

Salomon received and sent four to five, often long and substantial, letters every day while he resided at Nääs. Perhaps half of them were sent to and from his handicraft friends on different continents.

Salomon's apprentices propagated handicraft

Salomon's apprentices travelled the world to teach educational sloyd. Carl Hårdh (Carlos Hordh) became a school inspector in Argentina, Gerhard Wictorin became a college principal in Uruguay and Aron Heidengren became a college principal in Cuba. Maria Andrén lead a number of courses for teachers in Britain and Carl Johansson taught in Askov, Denmark, Sheffield and Leeds, England and Montreal, Canada. Other countries with Swedish (or Nordic) handicraft teachers educated at Nääs were Chile, Peru, Puerto Rico, Costa Rica, Venezuela, Italy, Greece and South Africa.

Several Latin American governments contacted Salomon to request handicraft teachers. Salomon negotiated salaries, employment periods and travel reimbursements. He recommended Carl Hård to Corrientes, Argentina, Karl Ekelund to Santiago, Chile, Gerhard Victorin to Montevideo, Uruguay, Ernst Bjerke to Lima, Peru and Aron Heidengren and Charles Åberg to Havana, Cuba – all Swedes who became college teachers. The American L.L. Summers, teacher at the Pratt Institute in Brooklyn, who had attended Nääs courses in 1900 and 1901, became Salomon's recommended handicraft teaching inspector in Cuba (SLUB 1901:10). Salomon obtained work for three more Swedish teachers in Cuba, and these contacts resulted in five Cubans attending courses at Nääs between 1906–09 (Moreno, 1998).

School inspector J. J. Brebner from the Orange Free State, South Africa, visited Nääs in the summer of 1892. He became interested in educational sloyd, and requested a skilled sloyd teacher for Grey College in his home state. The Dutchman Frans Hondius accepted the position when Salomon offered it to him. Hondius had been a student, then a teacher at Nääs. He had recently married to the Norwegian Emelie Roggen, a skilled sloyd teacher who taught several sloyd courses at Nääs. She accompanied her

husband to South Africa. Hondius moved in 1897 to a new position in Pretoria. Salomon contacted the Dutchman van der Meulen and asked him to suggest another Dutch teacher, for language reasons. At the same time he wrote to Brebner in Bloemfontein and recommended the Swede Johan Hjelm, who had worked in the USA and at the time was in Johannesburg. However, Hjelm travelled home to Sweden. Once there, Salomon wrote an informed him of another teaching position in Argentina[6].

Gustaf Larsson and educational sloyd in the USA

Gustaf Larsson (1861–1919) was particularly successful at propagating Nääs sloyd. He was born in Sweden and studied at Nääs, where he also taught on some courses. In 1888 he travelled to Boston, and with the support of the philanthropic Mrs Quincy Shaw, he started a handicraft school for children and a college, Boston Sloyd Training School, where for over twenty years he trained around 400 teachers, who then went on to teach in the USA, Mexico and Cuba. Around 100 000 American schoolchildren are estimated to have been taught according to the American version of Swedish educational sloyd developed by Larsson (*Who was Who in America,* 1962). Salomon thought that his supporters in other countries ought to adapt in a similar manner. Larsson published several books on his 'American sloyd', as well as a journal, first called *Sloyd Bulletin* and then renamed *Sloyd Record*. He lectured on educational sloyd in many parts of the USA, and took part in the great exhibitions. In 1907 he travelled to India and ran a handicraft course that resulted in over ten handicraft schools in the district of Mysore.

Larsson persuaded William James and John Dewey to lecture on his courses. With his engaging manner he informed many influential school principals of the principles of Swedish educational sloyd. He visited both the Pratt Institute and Teachers' College in New York, and talked with the teachers there, and he recommended handicraft teachers to a large number of positions in many states. His colleagues and students ran many summer courses in handicraft organised by American universities.

Larsson was regarded in the USA as a representative of Nääs and Salomon. On several occasions he replaced Salomon as lecturer. For Swedish Nääs teachers who visited the USA, Sloyd Training School in Boston became their point of entry. They often took a supplementary course with Larsson so that they could teach in

the USA. Conversely, many of Larsson's American students applied to Nääs to supplement their skills. Gustaf Larsson described his contacts with American teachers in his frequent correspondence with Nääs. Salomon received a great deal of information indirectly. In 1893, Gustaf Larsson wrote that he educated over 80 teachers. "Many have attended Nääs. Miss Carling has room in a private school in Providence. I have helped Miss Cederoth to obtain a position at State primary School, Palmer, Massachusetts. We hope to start a sloyd school in San Francisco, where a Mrs Brown is interested. Mrs Shaw still funds the handicraft here. She has been invited to exhibit educational sloyd in Chicago this summer (at the World Exhibition). I will attend with a few teachers. We shall also show an exhibition of models. " [7]

Anna Blake started a school for practical activities in Santa Barbara, California. Ednah Rich taught educational sloyd there. Rich had studied under both Gustaf Larsson in Boston and Otto Salomon at Nääs. In 1897 she became principal of the school. In 1909, Rich's school was made into the State Normal School of Manual Arts and Home Economics.

Educational sloyd was presented at exhibitions

At the World Exhibition in Philadelphia in 1876, Nääs participated with models and tools. At that event it was mainly Russian handicraft teaching that received attention. At later World Exhibitions, Nääs sloyd's success was greater: at Paris in 1878, Chicago in 1893, Paris in 1900 and St Louis in 1904. The exhibition in 1900 in particular was clear evidence of educational sloyd's and Salomon's international breakthrough. School sloyd inspector in Stockholm Hjalmar Berg reported to the government:

> *"Even during a brief stroll through the various departments, one received a strong impression of the great influence that Nääs has had on handicraft schooling. One clearly saw how even in the most diverse countries, Swedish educational sloyd has served as a paragon./.../ Sweden's influence is most apparent in the exhibitions from Russia and Austria-Hungary, as well as from some English schools and the famous American-Swede Gustaf Larsson's* ***sloyd*** *institute in Boston. Close ties with Swedish educational sloyd could be witnessed in the Finnish and Norwegian exhibitions." (SLUB 1901:6)*

The network in action

In 1877 August Abrahamson sent a series of sloyd models as a gift to the Ministry of Education in Rio de Janiero, Brazil. The General Consulate Leonard Åkerblom encouraged Abrahamson to send a model series to the Emperor, Dom Pedro II, as well. He did so, and one model series was used at a deaf-blind institute while the other was exhibited at the Bureau of Education.[8] In the early 1880s, Abrahamson and Salomon donated complete model series to schools in Osnabruck, Zabern and Strasbourg. S. Martig in Basel visited Strasbourg, saw the model series there and ordered one for Basel. Dr O. Hunziker at the Swiss Permanent School Exhibition in Zurich purchased a model series for the exhibition, perhaps after having seen the models in Basel or Strasbourg.[9]

Professor John Ordway of the Massachusetts Institute of Technology in Boston visited Stockholm and Salomon at Nääs in 1882. They continued to correspond, and in 1884 Salomon sent Ordway a model collection. Ordway displayed the Nääs models at an exhibition in Madison, Wisconsin that was visited by 5000 teachers, and gave lectures on educational sloyd. Later that year when he moved to New Orleans and a position in Tulane University, he took the model series with him. The following year the first sloyd courses were held at this university. At the same time, Salomon sent a new model series to elementary schools in Boston.[10]

Independent women

The Finn Jenny Ericson was educated by Vera Hjelt at the Educational Sloyd Institute in Helsinki.[11] After a further handicraft course in the USA, Ericson was employed by a college in Wisconsin and established sloyd teaching there. She also taught at a private school. On the 6th of March, she wrote to Salomon:

> *”It has been rather difficult to introduce sloyd to this town, but I succeeded in the end, and continue to gain advantage. /.../ The children’s interest in the work is literally enormous. No matter how tired they are when they arrive at the workshop after the day’s lessons, nothing will prevent them from giving up a minute of their cherished work. /.../ Our new school president knew nothing of educational sloyd but has now become a convicted supporter, and intends to make it compulsory.”*

Jenny Ericson moved to Carlisle, Pennsylvania and taught at Indian School. She participated in several teachers’ congresses for ”Indian teachers” and gave lectures on sloyd and its effect on

upbringing.[12] In 1899 she moved to San Juan in Puerto Rico to teach at a college there.

During the 1890s, Swedish educational sloyd was regarded with indifference in Germany. For a time, Marie Kühl in Nurnberg was probably the only teacher in the country who used the Nääs system.

Contacts the world over

The School Authority in Nelson, New Zealand wrote to Nääs for information about educational sloyd, as it was considering to introduce it into the town's schools. A priest there, E. C. Isaac, had enlightened the authority during his lecture on "Technical or Manual Instruction" (SLUB, 1895:10). Handicraft inspector Godehkewitz in Cherson, Russia, wrote to Salomon on the 30th of January 1904, requesting handicraft designs. Consul Östberg in Alexandria wanted price estimates in case the Egyptian government wanted to send teachers to Nääs. Miss Alvhild Shaleen from Lindstrom, Minnesota wrote that she had studied under Anna Murray (from Sweden) at Chicago Sloyd School, and now wanted to attend one of Salomon's courses. She came to Nääs early in the summer of 1906.[13]

Increased interest

Nellie von Mickwitz, a handicraft teacher in Fellin, Livonia, read an article about Nääs in the German journal *Die Frau*. She wrote to Salomon and applied for a course, and attended in the late summer of 1906. K. P. McDonnel and J. Coulter, teachers in Ireland, attended a lecture by Mr Mulholland from Belfast on Swedish sloyd. McDonnell wrote to Salomon:

> *"Mr Mulholland speaks very highly of the College (Nääs) and indeed finding from the objects which he made there I know that the teaching must be very good."* [14]

Josef Brunner was schoolteacher in Vienna. He visited Kreibich in Penzing, who had studied at Nääs. They discussed educational sloyd, and Brunner became so interested that he applied to Salomon's course. Margrete Thoenes, teacher in Bonn, heard a great deal about Nääs from her colleagues Klostermann and Köster, that she also wanted to attend.

Charles A. Kunou followed an interesting route. He was educated at a technical school in Stockholm, and then studied under Gustaf Larsson in Boston. After a few years as a teacher in this city he received a sloyd teaching position at the State Normal School in New Britain, Connec-

ticut. From there, educational sloyd was spread to 3–4 other schools in Connecticut. Kunou moved to Pasadena, California, and ran a handicraft school for boys, which inspired the establishment of a handicraft teacher training programme at Throop Polytechnic Institute. He left his position in 1896 to organise handicraft teaching in Los Angeles' elementary schools. Kunou's replacement in Pasadena was Arthur Chamberlain, who had studied at Nääs and its German equivalent in Leipzig. A few years later, Chamberlain was elected chairman of the Section of Manual Training in the National Educational Association. He was one of Salomon's closest friends in the USA. Charles Kunou persuaded B. B. Hoffman to attend a course at Nääs in the summer of 1890. Afterwards, Hoffman remained at Nääs until March 1891, to learn more about educational sloyd. After arriving back in the USA, he was made principal of Baron de Hirsch School, a technical institute in New York. He later translated and published *The sloyd system of woodworking*. This included Salomon's *Slöjdskolan och Folkskolan V* [Handicraft School and Elementary School V] and *Nääs modellserier* [Nääs model series] by Salomon's colleague Alfred Johansson.

Euphrosyne Langley from Chicago and Anette Buttler from Santa Barbara attended a late summer course at Nääs in 1900. Some years later Langley, now a colleague of John Dewey, wrote to Salomon and invited him

> *"... to give in The School of Education of the University of Chicago a series of lectures on sloyd."* [15]

The plan was that the Nääs course should be recreated as exactly as possible, with Salomon as lecturer and Langley and Buttler as assistants. Langley pointed out that this was an opportunity to reach American teachers:

> *"This university is a strong center of influence, and whatever you do here would be known and have might. You would be certain of intelligent and thoroughly interested students."*

John Dewey wrote himself, and repeated the invite[16]. Salomon was offered a fee of 300 dollars for six weeks or 150 dollars for 3 weeks:

> *"Hoping that you will do America and this institution the honour of this visit."*

Salomon was unfortunately forced to decline this offer, as well as many others. He had to lead the summer courses at Nääs.

John Byatt (Nääs courses in 1890 and 1892) left London and became a teacher at the Manual Training College of Victoria, Australia. In 1901 he had trained the 14 first handicraft teachers. The following year Byatt reported that handicraft teaching was provided in 18 Australian schools. Charles B. Levens at the Sloyd Centre, Pfahran, Victoria wrote in 1903 and thanked for the photographs of Otto Salomon and Nääs Castle. People were still interested many years later. In 1913 F. N. King travelled to Nääs from Ballarat, Victoria to attend a summer course.

Carl Zirul from Russia attended several courses at Nääs, his first being in 1884. Upon returning home, he became a handicraft teacher at the teaching institute in St. Petersburg. He was supported by the principal of the institute, who had also visited Nääs and become interested in educational sloyd. Zirul wrote books and articles on Nääs in Russian. In several letters he informed Salomon of his work on sloyd adapted to Russian circumstances. In the summer 1891, courses in sloyd for teachers were arranged at Novaja Lagoda, Moscow, Vilna, Tomsk and Irkutsk, with organisers who had been educated at Nääs. Sixty Russian sloyd teaching courses educated around one thousand people throughout the country. Zirul himself ran fifteen courses for schoolteachers, for example, in Riga in 1888. He wrote instructions in educational sloyd for colleges and teaching institutes. He was chairman at two major teaching conferences in sloyd teaching.[17]

From the end of the 1700s until 1918, Poland was divided between Austria, Prussia and Russia. In the Austrian part, schools were given relative freedom. Josef Siedmograj, teacher in Sokal and student of Nääs, established Swedish educational sloyd there and made his town into a centre for teacher training in practical subjects. The engineer Wladyslaw Przanowski established a sloyd schooling centre in Warsaw. Prussia, on the other hand, fought against all that was Polish in its part of Poland. Teaching was strictly controlled, handicraft excepted, this being regarded as a harmless subject. Consequently, teachers concentrated their strive for Polish culture within this subject. Customs and traditions, culture, historical imagery, national and religious symbols all survived thanks to teaching in Nääs-influenced sloyd; a phenomenon unique to Poland. After Poland's independence in 1918, educational sloyd was included on the elementary school syllabus. Thus, Salomon's educational programme became part of the Polish education system until the German invasion in 1939 (Zielinska, 1993). At least four

books on Swedish educational sloyd were written in Polish.

The Siamese (Thai) Nai Cheune studied medicine in England. With another Siamese, he attended Nääs courses in 1904 and 1905, after which he wrote to his supervisor Algernoon Brown to send more Siamese to Nääs. Cheune also wrote to the Education Department in Bangkok to inform that:

> *"...sloyd (Nääs method handicraft) must be taught in Siam and I have induced the Department to send Siamese students to Nääs every year. The answer was satisfactory."* [18]

Cheune's letter to Bangkok was fruitful. Siam sent a further six students to Nääs in the summers of 1907–12.

Thousands of foreign letters of introduction for prospective visitors and course attendants can be read in the archive of the August Abrahamson Foundation. These were usually sent by earlier course attendants who wanted to help their countrymen to visit Nääs.

Sloyd courses for teachers

Handicraft teaching courses spread the ideas of educational sloyd. Several such courses were run in Britain during the 1890s with Nääs-educated Britons as lecturers and Nääs-educated Swedes as teacher trainers during the handicraft lessons. We know that some of the British attendants of Nääs courses worked at colleges and teaching institutes in their homeland.[19] Vera Hjelt ran a course in Nääs sloyd for Finnish women teachers in Ekenäs, Finland in 1885. A new handicraft college in Helsinki was founded in 1896. The teachers at the educational department had attended a Nääs course in the summer 1895. The Norwegian Hans Konrad Kjennerud ran sloyd courses in Tromsø and Kristiansund in 1886. Sören Meldgaard established sloyd teacher training at the folk high-school in Askov, Denmark in 1891. Courses in different countries often consisted of a modified version of Nääs sloyd, adapted to the conditions of that country. Metalwork and other handicrafts could be included.

Teaching organisations in support of educational sloyd

Many teachers from different countries worked independently for educational sloyd. They were sometimes opposed by their colleagues who had different opinions of handicraft teaching. In many countries or regions, organisations were set up for teachers with an interest in Nääs sloyd. They met at congresses and lectures, produ-

ced membership leaflets and exchanged ideas. In England, "The Union of Sloyd Teachers in England trained at Nääs" was established in 1888, as was the "Association of Sloyd Teachers in Great Britain and Ireland". In the USA the "National Educational Association of the US" showed an early interest in sloyd. In Boston, a students' association for teachers that graduated from Sloyd Training School was established in 1902, with a board that included Gustaf Larsson and two Swedish Americans (SLUB, 1902:9). Teaching associations were also established in other countries, including Austria (1887), Belgium ("Societé National du Travail Manuel", 1887) and Switzerland (1886). All worked towards the establishment of educational handicraft in schools.

What succeeded and what did not?

The personal contact between Salomon and the course attendants at Nääs was probably the key to the widespread distribution of Nääs educational sloyd. Salomon's great dedication to his cause left a strong impression on those who saw and heard him. His hospitality and kindness put him in his guests' favour. His many letters to independent supporters strengthened their interest and resolve. His ideas fitted with the times and awoke new thoughts. The way of life at Nääs, with hard work, interesting lectures and pleasant company during the many hours of daylight, with singing and games in the beautiful countryside was said to have a suggestive influence. Nääs sloyd's opponents argued that this way of life was at least as important as Salomon's pedagogical message.

Educational sloyd was mostly spread by elementary schoolteachers, principals and college teachers. They showed an enthusiasm for Salomon's ideas, but were not influential people within the educational system. This can be regarded as the movement's strength, but also as its weakness, since Salomon's supporters were forced to submit to decisions made by people with more influence in local education authorities and government agencies. Educational handicraft's ideas quickly spread far and wide. However, their implementation functioned less well, for example, because woodwork contrasted with the country's own handicraft traditions, because obtaining handicraft benches was costly, because material was expensive or because politicians had different ideas about schooling.

What were the views of those within this network? In letters to Salomon, his colleagues readily show their support for his views and theories. However, when they describe their

achievements at home, the reader is made aware of the practical problems of everyday life in school. Educational sloyd was obstructed by the demands and costs of other school activities. Many letters focus on the attractive design of models. The appearance of the product was used to judge the quality of the teaching. Swedish teachers who taught English colleagues on teaching courses reveal their disappointment over the English teachers' desire to "make a show" of handicraft teaching, i.e. show off in front of their peers.

Pedagogues took part in debates on the formal education and principles of educational sloyd in articles, discussions and conversations. However, out in schools, material goals probably dominated. Were tools used correctly? Were objects constructed correctly? Is their form aesthetically attractive? Salomon's ideas did not receive a strong response from the professors in the new field of education. Several were more interested in theoretical educational subjects. Then, as now, practical subjects were looked down upon. Salomon did not have enough support from politicians and government officials. In Britain and parts of the USA, tradesmen and craftsmen in industry wanted to teach their own apprentices, rather than leave it to teachers.

Educational sloyd never established itself in Germany. Salomon did not fit in with the German middle class search for a national identity. They needed the romantic tradition offered by literature, where Salomon the realist and rationalist played no part. Salomon was also too rational for the pedagogical think-tanks of the early 1900s. Certainly, imagination and creativity could be found in Nääs sloyd, but not enough to satisfy the American and British critics, as well as Carl Malmsten, the Swedish architect and designer who attacked Nääs sloyd in the 1920s.

Studying the spread of ideas

The Nääs System of Swedish educational handicraft forms a Swedish contribution to the international educational debate. It is interesting from several aspects. The ideas of Pehr Henrik Ling or Ellen Key reached out to educationalists over most of the world, but they did not directly affect teaching in the way that the theories of educational sloyd did. There were no international movements proposing the teaching of practical subjects (manual work). The Russian Viktor Della-Voss' system for teaching handicraft was directed towards vocational studies.

The focus on formal education was typical of the times, and in the 1880s and 1890s pro-

voked a strong response. However, these ideas became something of a burden when the reformist pedagogues of the early 1900s desired to see other values in practical schoolwork. On the other hand Salomon's later interest in educational sloyd satisfying the child's needs was well received. This perhaps has allowed sloyd to be regarded as an early educational reform movement.

Salomon worked at a private institution. He spread his ideas abroad without the support of Swedish state institutions and authorities. He was not active at a university, and did not spread his ideas with the aid of an academic career or platform. However, with economic help from his uncle, August Abrahamson, he was able to run a very deliberate, powerful and for its time, modern information operation.

Ideas on education are usually limited to a single nation and are then dominant, i.e. very visible and easily understood. When such ideas spread to other countries they are usually more 'underground', alternative ideas. Individuals might hear or read about these new ideas, become interested and try to implement them in their own country. Often, however, the new ideas are altered and adapted to the country's own traditions and current situation.

Contemporary features rendered the Nääs System short-lived from an international perspective. It was based on formal education, rigid planning and consequent procedures. Teachers were required to make the work interesting, independent and problem-based. Why did the system not last? Probably because many teachers that focussed on handicraft techniques and carefully crafted objects could not realise the intentions of the system. They could not meet the requirements of these objectives, and continued to work according to their misunderstandings of it. The dominant pedagogues of the early 1900s ignored the progressive features of educational sloyd and argued that they were not adapted to the pupils' needs and interests. These critics focussed on new goals: imagination, creativity and co-operation.

Otto Salomon's dilemma

Salomon balanced between two approaches:

- creating a fixed, easily understood system that worked for the establishment of handicraft in Swedish elementary schools, using teachers with a limited education and who lacked the technical know-how of expert craftsmen.
- creating a flexible system based on principles that could be applied in different countries and cultures, and could be interpreted in slightly different ways.

Salomon learnt, as far as we can tell, that a system of education should not be developed in detail. Details invite attack by critics. Details also allow the system to be judged a failure. That Salomon constantly stated that only the general principles mattered did not help. A lasting system must allow alternative interpretations and practices. It should preferably be of use to all teachers and pupils. It can be expressed in vague terms, i.e. all-embracing and general. The system ought to be able to assimilate new ideas. It should not be expressed in terms that in later times might be seen as negative. As the pedagogical pendulum swings, regularity is interpreted as deadlock and dictatorial control, precision as pedantry and narrow-mindedness, and upbringing as discipline and punishment.

For and against educational sloyd

William James, the famous professor of philosophy at Harvard University, held a lecture in 1895 on the Boston version of Swedish educational sloyd for an audience of several hundred Boston teachers. He argued that, of all the methods of handicraft teaching he had studied, the Swedish method advocated the best principles. He especially appreciated that lessons were applied to objects that were useful to children, that advancement took place gradually, that design played a prominent role and that handicraft was only taught by pedagogically educated teachers (SLUB, 1895:2, s. 2–3).

> *”Of the various systems of manual training so far as woodwork is concerned, the Swedish sloyd system is by far the best psychologically considered.”*
> (James, W. ”A Voluntary Testimony” Hand and Eye, September 1899)

Obstacles to the spread of educational sloyd arose for many reasons. One was countries' own educational traditions and conditions. In Germany, the leading pedagogues held a conservative view of handicraft teaching and its goals, while elementary school teachers preferred teaching theoretical subjects rather than practical ones (Reincke, 1995, p. 230). In Britain, in line with its industry, metalwork was far more common that woodwork. Swedish handicraft traditions were regarded as exotic. The Dutchwoman Lucie Brugman did not believe that woodwork would become established in Dutch schools because timber was so expensive there.[20]

The conclusive opposition developed in the USA in the early 1900s. Stanley Hall, Francis Parker and Caroline Pratt were among those who found the sloyd system to be too rigid

and controlled.[21] They wanted to allow pupils and teachers greater variation and creativity. They wanted to make room for imagination and project work. Their views spread rapidly over the world, with new ideas from John Dewey. Salomon's ideas soon became eclipsed, even though some clearly were progressive.[22] One can pose the question whether an anti-Semitic tendency could be found among some of the critics, e.g. Stanley Hall, and in Germany, where sloyd never established itself. Modern educational research, studied by Hans Joachim Reincke, argues that Hall's views on manual training were irrelevant, vague and unilaterally reactionary in their comparisons with German medieval handicraft. William James' views on the philosophical and psychological basis of handicraft teaching have recently been brought up in a fruitful and comprehensive discussion (Reincke, 2001). Reincke has also studied in detail the German pedagogues of the early 1900s who competed with Salomon and openly opposed him, e.g. Alwin Pabst, Georg Kerschensteiner and Emil von Schenckendorff. Reincke regards them as far more conservative than Salomon in their views on the child and handicraft teaching. Kerschensteiner emphasises the child's obedience, expertise and the preparation of youth for military training and becoming good soldiers (Reincke, 1995). It is surprising that Kerschensteiner was regarded by many Swedish pedagogues of the early 1900s as being a progressive inspirer.

Sources and literature

Unpublished sources

August Abrahamson's Foundation archive. Departments B:1 (The director's copybooks and concepts) and E:III (Letters to the director). Gothenburg Provincial Recoed Office. (August Abrahamsons Stiftelses arkiv i Göteborgs Landsarkiv)

Olof Hansson's private collection of letters and other documents concerning Nääs. In Enskede and Smögen, **Sweden**.

Literature

The Australian Journal of Education. (1903).

Bennett, Charles Alpheus (1937). *History of Manual and Industrial Education*, 1870–1917. Peoria, Illinois.

Blachford, G. (1961). *A history of handicraft teaching.* London.

Eyestone, June Elisabeth. (1989). *The influence of Swedish Sloyd and its Interpreters on American Art Education. Unpublished dissertation.* University of Missouri. Columbia, Missouri.

Hand and Eye. (1899). London.

Hodson, George. (1901). *Educational Sloyd in Theory and Practise*. London, Liverpool.

Hudson, J.C. (1902). *What is sloyd.* London.

Knibles, G.H. – Turner, J.W. (1903). *Interim report of the commissioners on certain parts of primary Education.* Sydney.

Moreno, Lazaro. (1998). *Cuban Sloyd. An Evolutional Approach, Theoretical Perspective and Empirical Contribution.* Åbo: Åbo Akademis förlag.

Pratt, Caroline. (1901). Manual training at Nääs. *Education* (USA), March 1901.

Reincke, Hans Joachim. (1995). *Slöjd. Die schwedische Arbeitserziehung in der internationalen Reformpädagogik.* Frankfurt am Main: Peter Lang.

Reincke, Hans Joachim. (2001). Sloyd in America – Stanley Hall´s critique on sloyd. I Techne-serien B:10/2001. *Visioner om slöjd och slöjdpedagogik* (pp. 343–352). NordFo. Vasa och Åbo.

Salomon, Otto. (1892). *The Theory of Educational Sloyd.* London.

Slöjdundervisningsblad från Nääs. Månadstidning. 1885–1902. Göteborg. (SLUB)

Thorbjörnsson, Hans. (1990). *Nääs och Otto Salomon. Slöjden och leken.* Helsingborg: Ordbildarna

Whittaker, D.J. (1965). *The Slöjd System. A Scandinavian Contribution to Education with special Reference to Britain.* Unpublished dissertation. University of Liverpool.

Who was Who in America. (1962). Vol. 1, 1897–1942. Chicago.

Zielinska, Krystyna. (1993). Slöjd – Transfer und Wandlung in Polen, i Sonnenberg-rapport *Internationaler Berichte zur Geschichte von Arbeit und Technik im Unterricht.* Erster Band.

Footnotes

[1] AA's Foundation archive, EIII:19, 5/3 1893.

[2] This information is interesting because it was Bennett who in 1926–37 published the standard work *History of Manual and Industrial Education* including a detailed presentation and analysis of Nääs educational sloyd. Bennett was in the 1890s employed at Teachers College in New York, an institution with good Nääs contacts.

[3] Sluys, M.A. (1884). *L'enseignement des travaux manuels dans les Écoles primaires de garcon en Suede*.

[4] This amalgamation, formed in 1884, was in 1893 made into Teachers College and became part of Columbia University. In the early 1890s Otto Salomon was one of IEA's eight European contact people.

[5] Salomon in a letter to Miss Hult who travelled to Chile. AA's Foundation archive, BI:7, p.162, Sept. 1896.

[6] AA's Foundation archive, BI:8, 2/12 1897.

[7] AA's Foundation archive, EIII:19, 20/2 1893.

[8] Letter in Olof Hansson's collection (copies at Nääs) 8 May 1877.

[9] Letter from Salomon to Theodor Brandi in 1881 and 1882 in Osnabrück's town archive. Letter to August Abrahamson 25/6, 27/6 and 6/10 1883 in Olof Hansson's private collection.

[10] AA's Foundation archive, EIII:5, no. 564 and 679 in 1884.

[11] Vera Hjelt was regarded by Salomon as being especially competent. She studied at Nääs in 1884.

[12] AA's Foundation archive, EIII:23, 24/2 1896

[13] AA's Foundation archive, EIII:25 (Östberg), EIII:35, 21/8 1905 (Shaleen).

[14] AA's Foundation archive, EIII:26, 28/2 1899.

[15] AA's Foundation archive, EIII:33, 25/2 1904.

[16] AA's Foundation archive, EIII:33, 7/3 1904.

[17] AA's Foundation archive, EIII:23, 1/9 1896.

[18] AA's Foundation archive, EIII:35, 23/2 1906.

[19] D. J. Whittaker (1965) views the period between 1888 and a decade or so later as being one in which Swedish educational sloyd was very influential in Britain. Between 1884 and 1914, around 700 British teachers applied to Nääs, but were seldom given travel expenses by their educational board. Upon their return, they received little support from the school boards or Ministry of Education to establish handicraft in schools. A British version of handicraft was proposed instead, with courses taught by craftsmen in school workshops, for pupils in nearby schools. Opponents argued that Swedish **educational sloyd** was difficult to adapt to British traditions and circumstances. The subject did not allow grading and examination, which was regarded as a disadvantage. The opponents were constantly active and powerful. The most important literature on educational handicraft was George Hodson (1901) *Educational Sloyd in Theory and Practise*. Mixtures of Swedish and British handicraft teaching were established in a hundred or so schools, mainly in central England, Scotland and Ireland. Around 1920, the Swedish influence finally disappeared.

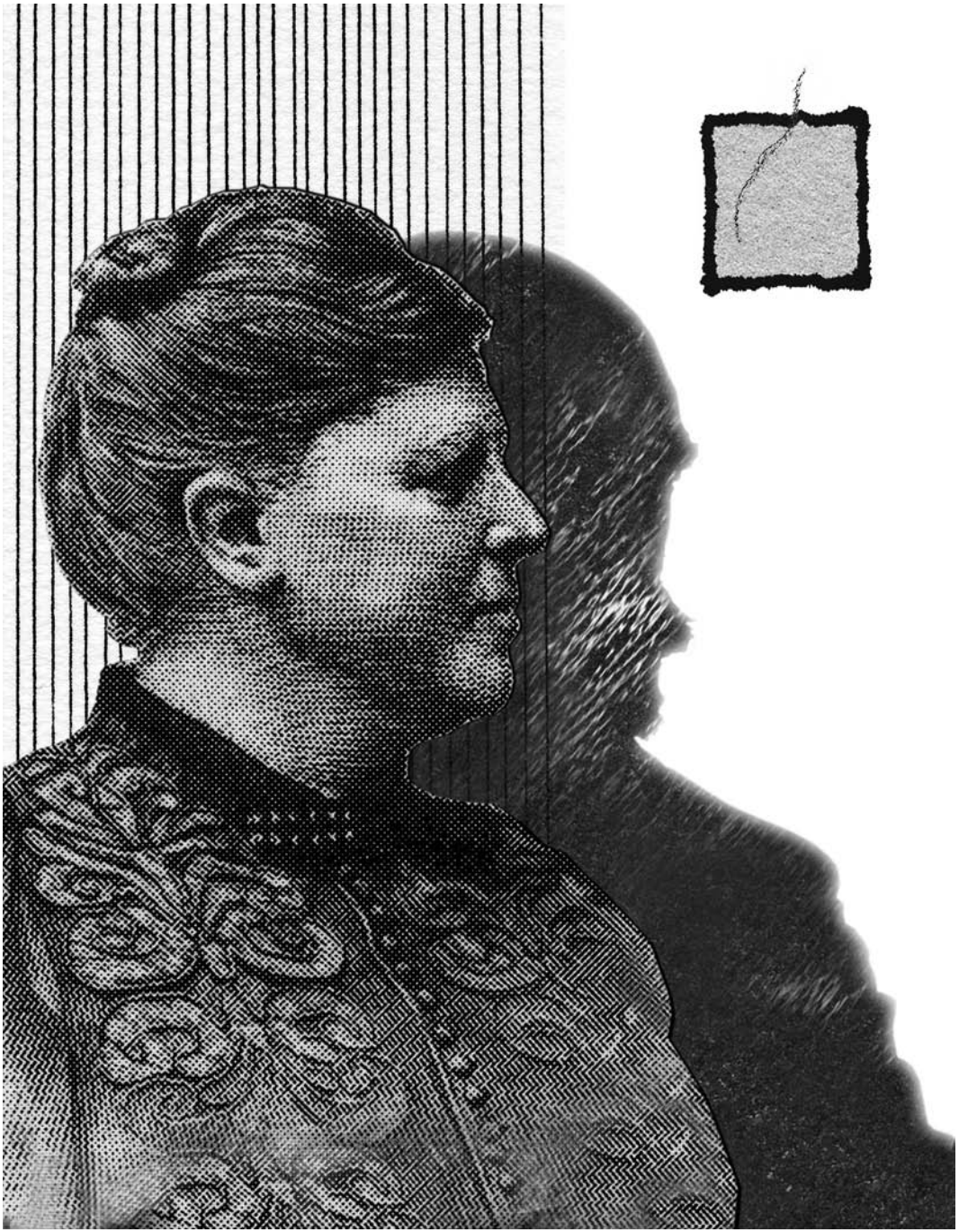
[20] AA's Foundation archive, EIII:19, 29/12 1892.

[21] Bennett. (1937). p. 439 (regarding Hall, Parker). See also Pratt, 1901.

[22] June Eyestone (1989) argues that Gustaf Larsson went a step further (towards a coordination of school subjects) than Salomon. The pupil would first draw a plan of the proposed object in drawing lessons, then construct it in handicraft lessons. Up to Larsson's death in 1919 and for a few more years, educational sloyd was rather influential in the USA.

Colonel Francis Parker's methods were very different to Larsson's regarding amongst other things technical expertise. "Anything goes" placed handicraft beneath other school subjects. Parker proposed coordinated teaching in several different subjects.

Ella Victoria Dobbs, active during the first half of the 1900s, partly at the University of Missouri, Columbia, reinstated the balance by coordinating teaching in art (painting/drawing) and handicraft. Dobbs had studied educational handicraft under Kunou and Chamberlain at Throop Polytechnic Institute and then continued her studies at Teachers College, Columbia University (New York) under the leadership of John Dewey, Frederick Bonser and Arthur Wesley Dow. June Eyestone sees Dobbs as an interpreter of educational handicraft. There is some affinity between her and Salomon. She toned down the demand for technical expertise and was influenced by the progressive movement.



Hulda Lundin 1847–1921

What is sloyd?

A question of legitimacy and identity

Kajsa Borg

Abstract

The purpose of this article is to discuss the development of the Sloyd subject in Swedish schools over the last 100 years. The Sloyd subject is described in terms of legitimacy and identity related to society changes. Legitimacy is used as the external perspective from society on the subject. Identity is used as the internal perspective of the subject used by the actors, how they seem to understand and interpret the main purpose, aims and goals of the subject. The article ends with a view towards the future and some new possible aspects on legitimacy and identity regarding Sloyd.

The Swedish school subject Sloyd

The development of society is mirrored in the development of schools because of influences from political issues, media, parents and pupils, teachers and related research and development. This article will focus on the Swedish tradition of teaching Sloyd, the current situation in the Swedish school system and some prospects for the future. I will discuss the development of the Sloyd subject over the last hundred years in terms of legitimacy and identity. In this article legitimacy is used as the external perspective from society on the subject, which means to what extent the need for the subject is recognized by members of society. Identity is used as the internal perspective of the subject used by the actors, i.e. teachers and teacher educators and students, how they seem to understand and interpret the main purpose, aims and goals of the subject.

The concept of Sloyd

Sloyd is the English translation of the Swedish word *slöjd*, when it is used in educational contexts as the name of a compulsory school subject in the Swedish comprehensive school system. Sloyd for boys and Sloyd for girls were introduced in the 1880s in Swedish schools, as a pedagogical system of manual training adopted to

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develop the child in general, through learning technical skills in woodworking or in sewing and knitting by making useful objects by hand. The word can be derived from the old Icelandic word *sløgð* with the original meaning being something like sleight, cunning, artful, smart, crafty and clever. The word was used in Sweden as early as the 14th century in a local handwritten code[1]. 'Sloyd' was used in English translations of Otto Salomon's (see below) Swedish texts about the content and philosophy of the subject as early as 1890. Thanks to Salomon's worldwide net of contacts, his ideas were spread to many other countries (see Thorbjörnsson's article on this issue).

The content and ideas of the woodworking part of the Sloyd subject were transformed and mixed into various other national contexts and can be recognized as "Lavoro Manuale Educativo" (Italy), "Education Laboral" (Cuba), "Manual training" (USA) or within subjects such as "Industrial Arts" (USA), "Art, Craft, Technology" (UK), Technisches Werken (Austria) and "Gidjutsu" (Japan). Similar subject contents also appeared in Russia as well as in other East European countries. Textile sloyd can be found within "Home economics" (USA), "Handarbeit" (Germany), "Kateika" (Japan), "Textiles Werken" (Austria) as well as in Art and Craft subjects.

In the Nordic countries there are also different subject names for similar subject contents. Since 1995 the *Nordic network for research and development in Sloyd* (NordFo) has used Sloyd as a common concept when the English language is used, in order to avoid confusion with different alternative translations. Sloyd is recognized as a keyword in some databases (e.g. ERIC), and can be found in the title of a dissertation (Moreno Herrera, 1998).

I will in this article discuss the development of the Sloyd subject and the changes in legitimacy and identity, through making three brief descriptions of the situation with around 50 years in between, starting around the entry of the 20th century, continuing with the post war situation and ending with the current situation.

The tradition from the 1880s

When compulsory schooling (forms 1–6) was introduced in 1842, it was the first attempts to introduce parts of the theoretical curriculum for all, and it received criticism from representatives of several groups in society. Farmers did not understand why they had to send their children to the schools, when they were needed at home to assist in looking after the younger children or in working with the farm and the cattle. Most

people in Sweden could read and write to some extent even without going to school, since the church required that everybody should be able to read the Bible and know the hymns. For the upper classes a system for popular education had been established as early as the 17th century as a complement to other education.

At the end of the 19th century there were at least two major reasons for reforming the compulsory school system. One reason was that the Swedish national Lutheran church was losing its power, partly because of the birth of "free churches" and other social, political and philanthropic movements. Through the new compulsory school system the politicians could, to some extent, still control the education of all children. Another reason was industrialization. The same characteristics can be found in Sweden as elsewhere at that time: from self-subsistence economy to crafting or industrialised production, urbanisation, etc. In parallel to this structural change in society, a discussion had emerged concerning how children and young people spent their days. When the parents' work changed, their children could no longer participate in their work on the same conditions as earlier. Two parallel educational tracks were developed, one theoretical (with a classical curriculum) for the upper classes and one practical (learning to read, catechetical knowledge) for ordinary people (Hartman, 1995; Lindmark, 2004; Richardsson, 1994). It is noticeable that reading and writing was named 'practical' as a contrast to the classical studies.

The Sloyd subject

As a balance to the 'theoretical' subjects several new subjects, such as gardening, home economics, sloyd and temperance education were consequently introduced. Sloyd for boys (woodworking) in the public schools received governmental support in 1882, while Sloyd for girls (mainly sewing and knitting) received governmental support some years later in 1896. Both of them were elective subjects. The Sloyd subject received support because it met the political interest from both the conservative political wing and those with progressive ideas. The Sloyd subject became the contrast to subjects like reading, writing and arithmetic.

There were some very strong spokesmen and -women for Sloyd education during the time of consolidation. Two pioneers in particular have had a great impact on the concept of Swedish Sloyd: Otto Salomon (1849–1907) for woodwork and Hulda Lundin (1847–1921) for textile work. Neither of these was trained as a teacher, but they independently conducted courses, par-

ticipated in world exhibitions and founded institutions for teacher training. They also wrote textbooks as well as ideological and philosophical texts on Sloyd. Hulda Lundin was inspired by two German sisters, Agnes and Rosalie Schallenfeld in Berlin. They had studied the ideas of the Swiss Johan Kettiger in Wettingen. Otto Salomon was influenced by the Finnish priest Uno Cygnéus as well as philosophers such as Rousseau, especially his interest in manual work (Pannabecker, 1996), and Pestalozzi. A great number of international guests, teachers and students participated in Salomon's courses at Nääs. When Salomon wrote about sloyd, he mainly meant woodworking for boys, but in his college there were also courses in textile work, home economics, drawing and modelling, gardening and physical education. Other activities offered to the course participants were seminars, folk dancing and singing. All courses were open for both men and women, and there were female teachers who taught woodwork (Hartman, Thorbjörnsson & Trotzig, 1995; Thorbjörnsson, H. 1990).

The Sloyd subject was requested by the parents as well as by several groups in society, from left wing to right wing politicians, to pressure groups such as industrial managers and others. The subject was seen as unique in the aspect of fostering both the mind and body of the child. Other subjects were supposed to train only intellectual ability. The pupils were asked to make handicraft objects that were needed or could be used in their homes. The work was expected to train the children's bodies and minds, and to support their cognitive development. The main purpose of the subject was NOT to learn the technical skills, but other aspects that were trained while working by hand, such as respect for manual work, seriousness and carefulness in any task or work. The Sloyd subject was introduced in schools because there was an explicit need to compensate the heavy amount of "theoretical subjects" with "practical" elements.

The Sloyd subject therefore had strong legitimacy at the time of its introduction in the Swedish school system. The identity of the new subject was also quite clear: there was no intention of using the Sloyd subject as a form of vocational education. Sloyd was never thought of as only teaching technical skills. It aimed at the general development of the children's ability to live in society and to appreciate manual work. This was in 1900 called *formal education*.

Teachers of Sloyd were mostly elementary school teachers who had received a couple of months' training in teaching educational Sloyd.

The post war period

After World War II, all political parties in Sweden shared the same idea of introducing a modern way of schooling for all children. They wanted to abandon the so-called parallel school system from the fifth form, with one track preparing for further studies and another track leading to an educational "dead end" or vocational training after 7 or 8 years in school. The visions for the new school were that it should be governed by democratic values and that the children should be brought up to be democratic citizens. There was also a strong intention of equality, all children should be given the same opportunity of receiving education wherever they lived in Sweden. During the 1940s and 1950s there were several school commissions who studied and prepared the possibility of introducing a comprehensive school system for everybody from the first to the ninth form.

The commissions were influenced by different pedagogical philosophies and psychological research, such as Piaget and others. The children were assumed to have an inner drive to fulfil themselves and shape their identity in accordance with certain developmental stages. The commissions were also influenced by labour education (Freinet), activity education (Maria Montessori), social education (John Dewey) and education through art. Herbert Read (1943) discussed how fostering could be done through art. "Free creative expression" was a concept for a form of education stressing the right of every child to develop their own personality and their own expressions. Throughout the official documents it is possible to recognize the idea that there are two different kinds of children: those with theoretical talents and those with practical talents (Sjögren, 1991). Instead of dividing school education into two streams, either "theoretical" or "practical", the commissions recognized their responsibility for both categories of children. Perhaps the rather commonly accepted ideas of the two kinds of talents, the practical and the theoretical, gave support to the fact that the so-called "practical-aesthetic" subjects were given considerable volume in the new comprehensive school system. The general idea was that all children should get an equal start, and from the 7th form they were offered opportunities to choose subject combinations according to individual interests (and talents?). Inspired by John Dewey and the progressive education movement in the USA, learning by experience, and the interaction between school and local society, the practical-aesthetic subjects received a fairly prominent part of the curriculum. With such an organization, equal value was supposed to be given to both "theo-

retically" and "practically" talented pupils. The practical-aesthetic education was said to be one of the most important tasks for the new school system (SOU 1948:27 p.31), especially for stimulating and developing the children's creative ability. The main purpose of the subject was, amongst other things, to develop good working manners, concentration, self-control, responsibility and an interest in manual work (Sjögren, 1991).

During the period from 1950 to 2000, the importance of individual development through educational Sloyd activities has been stressed. This meant that there was strong criticism against the earlier Sloyd tradition of children's reproduction of models, prepared by the teachers in order to secure the progression of subject knowledge. Every child should have the opportunity to create their own objects, according to their own ideas and their own wishes (Hartman et al. 1995). When the children made embroidery, their own clothes or they did wood carving, simple carpentry or metalwork etc., this was not only manual training but also a means to express their thoughts and emotions. Aesthetic education was understood as an interdisciplinary phenomenon taught in art, music and sloyd classes, but also in the Swedish language and other subjects (SOU 1956:13). At the same time, there was a trend in society towards regarding aesthetic values as functional values in daily utility goods. Aesthetic experience and a sense of good quality and design were connected with daily life, household items and interior decoration.

New teacher education for sloyd teachers

Already before the war there were teachers who only taught the Sloyd subject as well as some elementary school teachers who were specially trained in Sloyd. Gradually specialist Sloyd teachers who had a solid knowledge and experience of the craft area replaced the elementary school teachers. From the 1960s onwards, the teacher education for Sloyd teachers in textiles was prolonged to three years and specialized in weaving, dressmaking, embroidery, knitting, etc. For teachers in wood and metal, the organization was different. They were required to have a complete handicraft education in e.g. furnishing or be interior carpenters with additional at least one year's experience of metalwork before being admitted to a one-year teacher education course containing aesthetic expression and subject didactics. The three Sloyd subjects, Woodwork, Metalwork and Textiles, became compulsory subjects in 1955. Woodwork and Metalwork were merged to become one subject in 1962, and the unified Sloyd subject was

introduced in 1969. The national curriculum for compulsory schools mentioned just one subject, Sloyd, but with two branches, Textiles and Wood/Metalwork. Both boys and girls should be given equal amounts of teaching in the two branches at elementary level, while they could choose to work in either one at secondary level. This can be seen as a part of the political intention of enforcing gender equality in society.

The rhetoric of the legitimacy of the subject changed compared to what is described above, fifty years earlier. In the 1950s Sloyd was no longer a part of every ones formal education, but it was a democratic right for everybody to receive education according to his or her ability. The Sloyd subject represented the alternative way of studying for those who did not have much talent for or interest in intellectual work, i.e. for those who were assumed to have "practical" talents or interests instead of intellectual interests. Consumer aspects as well as environmental issues, became more important in society. These together with gender issues, were included in the Sloyd syllabus, and thereby contributed with new aspects of legitimacy to the subject. Another way of adding aspects of legitimacy was the growing interest in the aesthetic influences on everyday life.

The identity of the subject also changed. The aesthetic aspect was added to the former aims to learn about tools, materials and techniques. The former emphasis on simple utensils of good quality was replaced by emphasis on the pupils' creativity. This was to be expressed personally shaped items, not necessarely functional, but expressive. The teachers, on the other hand, were recruited on the basis of a high level of skills or craft knowledge and were required to have experience as craftsmen (in wood or metal). Here a contradiction in the educational system can be identified. While the teachers were expected to be skilled in textiles, wood or metal, these skills were toned down in favour of aesthetic and expressive values in the syllabus for Sloyd in the comprehensive school. The identity of the subject became at least threefold. Firstly, the children should learn the basic techniques and skills, materials and tools; secondly they should learn to express themselves, make their own decisions; and thirdly they ought to understand and appreciate aesthetic values (Borg, 1995).

After 2000 ...

The most recent curriculum for compulsory education (Lpo 94) entered into effect in 1994 and was revised in 2000. Earlier, the national curriculum guaranteed a national equivalence through its prescribed content and organisation. Today we have a decentralized organization. Every municipality has to adopt a local plan showing how the schools in that municipality are to be organized and developed. The curriculum, syllabus and school plan then allow the principals, teachers and pupils of individual schools the flexibility to adapt content, organization and work methods to local conditions. The planning of these elements is laid out in the schools' work plan. Besides the national curriculum there is a national time allocation plan. The minimum number of hours of guaranteed teaching is given in a general timetable for every subject in the 9-year compulsory school system. The Sloyd subject should take up 330 hours, which is equivalent to about 5% of the total teaching time in compulsory school from the first to the ninth form.

It has been said that we now live in a knowledge and information society. School education in general is adjusted to the needs of society, politically, socially and/or economically. In a post-industrial economy there is less need for reproduction of knowledge, but a growing need for knowledge production, creative ideas and communication, as well as developing a critical attitude towards all easily available information (Hargreaves, 2003). Consequently, the steering documents for the school have changed in accordance with the new needs of society. The students' work is now guided by a goal-orientated syllabus for every subject. The students' results are checked and evaluated in relation to the aims and goals of the subjects. Earlier there was a common curriculum of study for most students. Nowadays pupils can usually be flexible and make their own choices and combinations of courses.

The overarching aim of the Sloyd subject as stated in the national syllabus from 2000, is to promote the pupils' all-round development by training their creative, manual and communicative skills. The Sloyd education should create awareness of aesthetic values and develop an understanding of how choices of material, processing and construction influence the function and durability of objects. The pupils are to be provided with knowledge of environmental and safety issues, as well as awareness of the importance of resource management. The teaching is expected to link previous and contemporary sloyd/craft traditions as well as create an awareness of similar traditions in other cultures.

More precisely, translated from the syllabus *goals to strive for*, we find that Sloyd aims at ensuring that the pupils will develop their self-esteem and confidence in their ability to practise Sloyd. The pupils are to develop knowledge and desire to become creative human beings on the basis of their own experiences and interests. The pupils are to develop their ability to work independently, to be able to plan their "sloyd process" and solve tasks. They are expected to acquire practical experience of practising different methods/techniques, using tools and instruments while working with different materials in the sloyd class. They also have to learn how to use information technology in the sloyd subject.

What is new in the latest version of the national curriculum is the emphasis on the pupils' responsibility for their personal learning and their possibility to develop their self-esteem through Sloyd education. The curriculum stresses that in the Sloyd subject the pupil has to follow a complete process from visualizing to materializing an idea. The pupils are asked to develop their ability to plan their work according to conditions such as available time and other resources. They should develop their ability to reflect on and assess work processes and products, and finally they should develop their readiness for the needs of daily life, taking into account factors like gender equality and economic and environmental issues. (Skolverket, 2000).

Compared to 50 years earlier, the role of the teacher has changed in favour of the students' initiative and interest. According to the latest national evaluation, Sloyd is the number one subject in Swedish schools in which the pupils themselves express that they really can have influence and makes their voices heard (Skolverket, 2005).

In accordance with the text above, today's teaching of sloyd is process-oriented. The creative process should take a point of departure in ideas, personal needs or a problem that has to be solved. The pupils have to try to find a way of designing whatever they will produce through sketches or drawings. They are expected to choose materials, find solutions and learn the methods and skills required. Throughout the work process there will be a number of occasions when the pupil has to stop and reflect, because of obstacles or new problems that have to be solved (Johansson, 2002). The teacher supports them by instructing, explaining, giving suggestions and asking questions. After completing the object or the project, there should be time for evaluation together with classmates and the

teacher. The pupils are asked to understand the relationship between the quality of their work, their level of competence and the quality, design and finish of their sloyd object.

Today boys and girls work together quite naturally in elementary level schools. In the higher forms we can still find many girls and few boys working with textiles, but attitudes are (slowly) changing. About 10–15 % of the wood- and metalwork teachers are women. Today it is also possible to become a Sloyd teacher with competence in both textile- and wood/metalwork.

The legitimacy of Sloyd as one of the aesthetic subjects has been studied in connection with a research project evaluating some schools that on an experimental basis organized their teaching without following the national time plan. The researchers could identify five discourses, which were derived from their interviews with teachers and headmasters. Aesthetic subjects in general (e.g. Art, Health/Sports, Home Economics/Consumer Knowledge, Music and Sloyd) were regarded as a) compensation for children with special needs, b) providing a balance between theory and practice, c) joyful activity, d) a teaching method fostering creativity, e) unique subject content (Lindgren & Folkestad, 2005). It is quite possible that this result might be valid not only for a group of subjects but also for every single subject separately, such as Sloyd.

From a national evaluation of the Sloyd subject organized by The Swedish Board of Education, NU-03 (Skolverket, 2005) we learn that students enjoy the Sloyd subject very much. It is one of the most popular subjects in schools. That attitude was known since the previous evaluation (Skolverket, 1994) as well as through a research project focusing on the memories adult persons can recall from their own Sloyd education. Surprisingly enough, there was little difference in attitudes between those who had received a very traditional, teacher-dominated Sloyd education and those who had been taught using a more progressive model where the pupils had possibility to influence their Sloyd lessons. Most informants preferred the Sloyd subject to most other subjects (Borg, 2001). In the latest evaluation, the students expressed a dual opinion; the Sloyd subject is fun and rewarding, but how will the Sloyd knowledge be useful in future life? Only 4,2% of the parents did rank Sloyd as one of the five most important subjects. According to the national evaluation, parents now do question the role and purpose of the subject, which means that Sloyd now seems to have a low legitimacy outside schools (Skol-

verket, 2004). It is possible that the result was biased because of the way the questions were asked, but there is a strong tendency in society and in the schools to put more importance on the teaching and the results in Math, English and the Swedish language. They are regarded as the "most useful" subjects, which partly can be explained by the admission requirements for higher education. As a conclusion, it is possible to say that the legitimacy of the Sloyd subject has been weaker from the society's point of view, even though it is possible to recognize some of the earlier arguments for legitimacy in the list above, like keeping the balance between theoretical and other subjects in schools.

When studying the identity of the Sloyd subject through reading the aims and goals and listening to the teachers' opinions, I find that the conditions for shaping a subject identity has changed from the situation one hundred years ago. The teachers are supposed to foster aesthetic appreciation as well as the new communicative dimension that has been added, including reflection and self-evaluation. The current sloyd subject should promote personal development in a wide sense. Some Sloyd teachers are worried about that the subject might disappear or become theorized; other teachers can see new possibilities when integrating Sloyd and other subjects in the same themes. When teachers are asked about their needs for level up their competence, they want to study techniques and skills within their own field, and integration between subjects as well as they want to learn marketing and "public relations" to be able to better explain the goals and aims of the Sloyd subject (Skolverket, 2005). Those answers indicate a weaker sense of identity. The teachers in Sloyd feel that they need more (updated?) subject knowledge and they realise that they have to be more skilled in presenting their subject to others.

The current teacher education is prolonged. The program provides 1.5 years of general teacher education, equal for all teacher students, 1–1.5 years of Sloyd studies and another 1–1.5 years of studying another subject and an individual specialization. The teacher's own identity is no longer as strongly connected to sloyd/craft as it was earlier. The requirement of sloyd competence has been reduced, while the general pedagogical knowledge has increased (Borg, 2006).

Summing up

Looking back more than 100 years, it is obvious that some of the original ideas still guide the Sloyd subject. On the one hand it is still a general education subject aiming at the students' overall development; the materials used (tex-

tile, metal and wood) are still commonly used in daily life. The tools and technical skills are partly the same, partly new technological inventions and the students still enjoy the subject. Looking at the current discourses defined, this means that Sloyd and other aesthetic subjects are still regarded as a complement or balance to other subjects in schools – for good or for bad. It is good to be recognized for unique subject content and working methods, but it might be negative to be regarded as a complement or a break. On the other hand, the content focus has changed from reproduction and object orientation to becoming more inventive and process oriented, and the aesthetic values and creative and communicative aspects have been added.

The gender issue is not enough problematized in Sloyd. Boys and girls start with having both textile- and wood- and metal work together. Later they might be able to choose what material they prefer to work with. Almost all teachers in textiles are women; about 15% of the teachers in wood/metal work are also women, but very few men teach textile work. It would be more up-to-date that every person, student or adult, regardless of sex, should be able to choose to work with any material or combination of materials they prefer, after having a general introduction in both branches of the Sloyd subject.

The legitimacy of the subject was very strong around the previous change of decade around 1900. The subject was one of several new subjects that were needed as a contrast to a very theoretical school system. Sloyd was regarded as a formal education subject for everybody. In 1950 the school commission indicated that there were two kinds of children, those with talents for practical studies and those with talents for theoretical studies. The aesthetic-practical subjects should function as an equally valuable alternative to other subjects. Now the concept of design has become popular in society and discussed as something fresh, new and valuable (Marner, 2005). The aspects of design is not regarded in the school curriculum, even if the pupils have been taught about colour combination, aesthetic sense, shape, form and function in Sloyd for many years. The Sloyd subject content does not seem to be well known in society.

The identity of the subject was quite clear 100 years ago. All pupils were supposed to learn the same skills through making more or less the same useful objects, which to some extend served as a guarantee for the progression of subject knowledge. In case there was some available time left over after completing the compulsory assignment, the pupils could do some extra work according to their own choice. Fifty years later

the predefined models were abandoned, the student should make objects of their own choice, within limitations set by the teachers. Still the techniques were decided, but the objects could vary. Individual development through aesthetic expression became important. Teachers needed to know both craft skills as well as giving form and colour and know about children's' psychological development. Boys and girls were mixed in the Sloyd classroom, the character of female or male subjects were erased at least officially. Theme work with various labels was practised, which included unspecified aesthetic subjects.

In the current curriculum the individual choice and the process is emphasized. Very seldom the pupils work with similar tasks at the same time. The Sloyd teachers have to be able to develop a very good simultaneous capacity to assist and discuss with every single student about their problems or questions. Nowadays the identity of the subject has become blurred, as the aim of the Sloyd subject has been widened over the years. Even in the national curriculum for the Sloyd subject, the unique subject content is hardly noticeable. New subject content like, environmental knowledge, multicultural aspects and ICT have been introduced in the curriculum. Today many teachers also teach another subject besides Sloyd. They might have a stronger teacher identity in general, but a weaker connection to Sloyd work and Sloyd competence. The teachers ask for help to present and introduce their subject to colleagues, parents and students. The identity of the subject is unclear even to the actors in the field.

The arguments for having sloyd as a compulsory subject in the Swedish comprehensive school system have changed drastically during the past one hundred years. There is a tendency in schools to add new content in order to recognize new needs in society (Hartman, 1995). This can be observed by studying the national syllabuses for the Swedish sloyd subject from 1962 to 1994 (Borg, 1995). To add new objectives or to have new responsibilities included in a school subject is one way of trying to keep a strong legitimacy in order to meet the needs and requests from several pressure groups. Subjects with low status have shown a tendency to more easily adopt new ideas and new educational trends (Goodson, 1987). Regarding legitimacy and identity, it might be the case that in striving for maintaining a strong legitimacy, the identity of the subject has been more unspecified in the process of modernization through the greater diversity created by new aspects added to the subject content.

Looking forward

The original ideas might still be valuable but partly forgotten. The philosophy of the subject was formulated long time ago. The advocate of the Sloyd subject has to fight the myths of a subject being regarded useful only for pleasure or as a break between other more important tasks, or a subject more suitable for students without interest for studying. The legitimacy is questioned by the society; the identity is unclear to the teachers who have to argue with their colleagues for teaching hours and enough economical support for the subject. There might be only two options either to accept that Sloyd knowledge is something from the past, at best a cultural heritage worth studying once or twice during the time in school or to start to reconstruct the subject content in order to restore a strong legitimacy and a clear identity showing a modern image. Not to become populist but to work in order to prove that learning Sloyd is one way to prepare for a future life in the 21st century.

One powerful argument for the second option is that the pupils still like the subject, more than other subjects. Hasselskog and Johansson (2005) were asked by the Swedish Board of Education to elaborate on ideas for the Sloyd subject in the future. They emphasized that the students are very dedicated and feel empowered and free while working with Sloyd. The same arguments can on the other hand be used against the subject from society side. Is it possible to keep a school subject where the teacher does not conduct teaching, just discuss possible problem solving with the students, where every student can have her/his own choice, at least to some extent?

Students are supposed to develop self-confidence in making their own decisions and accepting consequences of the decisions they made. The subject aims at developing creative problem solving and innovative thinking as well as knowledge about materials, tools and techniques. They should learn to conceptualize, visualize and materialize their ideas and needs, they learn to take risks, to make mistakes and to communicate what they want to do. Without an individual driving force and determination there will be little outcome. Similar attitudes are necessary conditions for those who want to work as entrepreneurs in society. A modern society requires creative, inventive and self-confident citizens to meet the eternal changing conditions for modern life in an uncertain world (Hargreaves, 2003). The American professor in regional economic development, Richard Florida has in two books (2002, 2005) described the creative class as a necessary generator

of ideas and entrepreneurs to keep the society going, when very few work in the agricultural area, like 100 years ago, and when the production industries have been relocated to countries with lower wages.

> *The super-creative core of this new class includes scientists, engineers, university professors, poets, novelists, artists, entertainers, actors, designers and architects, as well as the thought leadership of modern society: non fiction writers, editors, cultural figures, think-tank researchers, analysts and other opinion makers. Wether they are soft-ware programmers of engineers, architects or filmmakers, they fully engage in the creative process.* (Florida, 2002, p.68)

He points out that creativity has to be connected to working life as well as leisure time.

> *These people engage in creative problem solving, drawing on complex bodies of knowledge to solve specific problems. People who do this kind of work may sometimes come up with methods or products that turn out to be widely useful, but it is not part of the basic job description. What they are required to do regularly is to think on their own.* (Florida, 2002, p.69)

In the Sloyd classroom the students should develop their ability to make their own design for the objects they are producing. The process-orientated work includes many steps from developing ideas to presentation, appraisal and evaluation of the object. Most common are objects where design, aesthetics and functionality are combined, flavoured with personal preferences and limited by personal skills and knowledge. The only possible way to learn to work with Sloyd is to work with Sloyd, like learning other manual activities. It has to do with 'learning by doing' in the meaning intelligent reflection or learning by experience (Dewey 1938).

References:

Borg, K. (1995) *Slöjdämnet i förändring 1962–1994*. Linköping: Linköpings universitet, Institutionen för pedagogic och psykologi.

Borg, K. (2001) *Slöjdämnet intryck, uttryck, avtryck.* Linköping: Linköpings universitet, Institutionen för beteendevetenskap. (diss)

Borg, K. (2006) *Akademisering – en väg till ökad professionalism för slöjdlärare?* (in print)

Dewey, J. (1938) *Experience and Education.* New York: The Kappa Delta Pi Lecture Series.

Florida, R. (2002) *The Rise of the Creative Class.* New York: Basic Books.

Goodson, I.F. (1987) *School Subjects and Curriculum Change. Studies in Curriculum History.* London: The Phalmer Press.

Hargreaves, A. (2003) *Teaching in the Knowledge Society. Education in the age of insecurity.* Open University Press/ MacGraw-Hill Publishing Company.

Hartman, S.G. (1995) Lärares kunskap. Traditioner och idéer i svensk undervisningshistoria. Skriftserien *Skapande Vetande, nr. 28, 1995.* Linköping: Linköpings universitet.

Hartman, S.G., Thorbjörnsson, H. & Trotzig, E. (1995) Handens pedagogik. Skriftserien *Skapande Vetande nr. 29, 1995*. Linköping: Linköpings universitet.

Hasselskog, P. & Johansson, M. (2005) Slöjdämnet in i framtiden utvecklat, avvecklat eller invecklat? I: Skolverkets Antologi 05:909. *Grundskolans ämnen i ljuset av Nationella utvärderingen 2003.* Stockholm: Fritzes, s.170–176.

Johansson, M. (2002) *Slöjdpraktik i skolan hand, tanke, kommunikation och andra medierande redskap.* Göteborg: Acta Universitatis, Gothenburgensis.

Lindgren, M. & Folkestad, G. (2005) *Skolans musikaliska och estetiska verksamhet i en avreglerad skola. Forskningsprojekt kring försöksverksamheten Utan timplan – med oförändrat uppdrag (DS 1999:1)*. Göteborg: Musikhögskolan vid Göteborgs universitet.

Lindmark, Daniel (2004). *Reading writing and schooling: Swedish practices of education and literacy 1650–1880.* Kulturens frontlinjer: Skrifter från forskningsprogrammet Kulturgräns norr, 49. Umeå: Umeå universitet, Inst för litteraturvetenskap o nordiska språk.

Marner, A. (2005) *Möten & medieringar – estetiska ämnen och läroprocesser i ett semiotiskt och sociokulturellt perspektiv.* Umeå: The Faculty Board for Teacher Education.

Pannabecker, J.R. (1996) Diderot, Rousseau and the Mechanical Arts: Diciplines, Systems and Social Context. *The Journal of Industrial Teacher Education.* Vol.33, No 4.

Read, H. (1943) *Education through Art.* London:

Sjögren, J. (1991) *Praktiskt i skolan. Synen på praktiskt arbete och slöjd i utredningsarbetet 1940–1962 inför en ny obligatorisk skola*. Linköping: Tema-T, Working Paper nr. 85. Linköpings universitet.

Skolverket (1994) *The work processes in craft and design working methods and knowledge.* Report, 58. Stockhom: Liber.

Skolverket (2004) Rapport 250. *Nationella utvärderingen av grundskolan 2003. Sammanfattande huvudrapport.* Stockholm: Fritzes.

Skolverket (2005) Rapport 253. *Ämnesrapport Slöjd.* Stockholm: Fritzes.

SOU 1948:27, *1946 års skolkommisions betänkande med förslag till riktlinjer för det svenska skolväsendets utveckling.*

SOU 1956:13, *Konstbildning i Sverige. Förslag till åtgärder för att främja estetisk fostran.* Förslag avgivet av 1957 års skolberedning VII.

Thorbjörnsson, H. (1990) *Nääs och Otto Salomon slöjden och leken.* Helsingborg: Ordbildarna.

Footnotes

[1] Östgötalagen, http://runeberg.org/oglfreud/0149.html

The multiple uses of portfolio assessment

Lars Lindström

In Sweden a little more than a decade ago, portfolios were unheard of as a tool for assessment and learning, except in fields related to the visual arts such as architecture, design and photography. Currently portfolio assessment is being used in a wide variety of settings, in various domains, and at all levels of education from primary school through university studies, to assess and promote progress and achievement. Portfolios have rapidly become a stock in trade of modern schooling. Researchers, such as Davies and LeMahieu (2003), have expressed optimism about the role of portfolios in educational reform. Research on portfolio assessment, however, is still insufficient concerning both conceptual issues and empirical evidence.

Disagreement on what should go into a portfolio, who should make the selection, how the portfolio should be assessed, etc. often originate in the fact that portfolios are used for different purposes. Taking this into consideration, it seems futile to expect that all portfolios should look the same, that they should be assessed by the same criteria, and so on. The question of whether or not portfolios contribute to educational improvement cannot be answered without referring to specific contexts and clearly defined aims (Wiggins, 1998).

Portfolios in which students store their work are by no means any educational innovation. In order to make portfolios more useful in assessment, oral or written reflections in which students evaluate their own learning are increasingly mandated.

Another major change is the fact that portfolios are being put into multiple new uses.

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Figure 1. Uses of portfolios in education

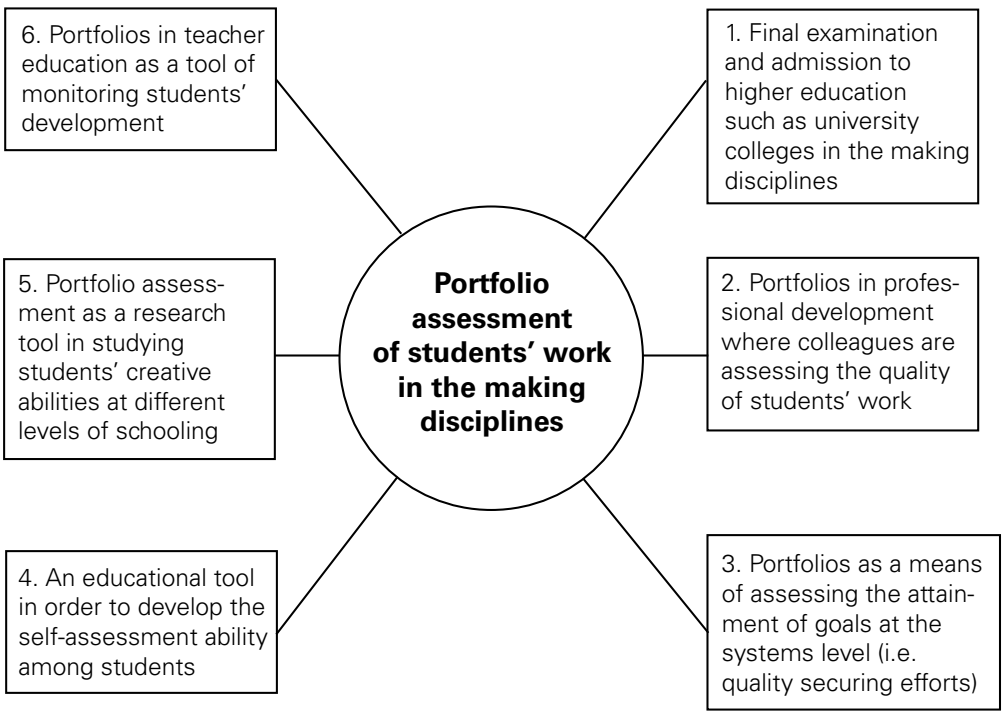

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Figure 1 illustrates those educational uses of portfolios that I will present in this article. The following examples represent only a segment of the thirty-five or more purposes of portfolios that have been listed elsewhere (Mitchell, 1992). However, I consider them to be of particular relevance to the discussion of assessment in my own field of expertise, which is the *making disciplines* (aesthetic activities, arts, crafts, design and technology in education).

1. Final examination and admission to higher education such as university colleges in the making disciplines

The most well-known application of portfolios in visual arts education is their use in final exams of studio work at the pre-university level. Around 4,000 students in 60 countries choose each year to take the International Baccalaureate (IB) in Art and Design (Anderson, 1994; Boughton, 1998, 2004). The Dutch Central Practical Examination (CPE) was introduced in 1981 as a mode of assessing studio work at the national level (Schönau, 1996). This model has later been adopted and modified in Hungary and Finland. The US College Board's Advanced Placement Studio Art examination (Mitchell, 1992; Myford & Sims-Gunzenhauser, 2004) has operated for more than thirty years and is another example of portfolio evaluation at the pre-university level. Recently, Blaikie, Schönau and Steers (2004) reported on how art-and-design students in Canada, England and the Netherlands experience the use of portfolios in connection with final assessment in secondary school. A portfolio, for this purpose, was defined as a "focused collection of pieces of visual art and design, often accompanied by reflective and explanatory written data" (p. 303).

Typical of final exams is that the procedures are explicit. Since all students should be given equal chances, it is important that everybody knows the rules of the game. At least when final exams are used nationwide, they often set the standards for the rest of the educational system. Thus, they influence what is aimed for at all levels of the upper secondary school, and they sometimes stimulate what happens at lower levels of the educational system, too.

However, there are some specific features of final exams that must be taken into consideration when using them as models for assessment in other educational contexts. First, the demand for fairness often imposes restrictions on teachers that are not justified in other situations. For example, in the CPE, teachers have to be careful not to interfere with the students' work or

give them any advice or suggestions on how to proceed. Some teachers will probably experience these requirements as a straitjacket that prohibits them from doing their best teaching. When the 28-hour CPE examination period has started, students are not allowed to bring work home. In another context this rule, too, may very well be conceived as counterproductive.

The IB used to prescribe a certain weighting of criteria, such as imagination (35%), persistence (20%), technical skill (15%), etc. Even if these figures are used only as an indication of where to put the emphasis, adding up scores on different criteria, weighted in approximately the same way across diverse artistic tasks, can surely become misleading. Moreover, as remarked by Doug Boughton (1998), Chief Examiner 1994–1999, the weights applied reflected an ethnocentric view of art, favouring studio work made in the Western modernist tradition. Imagination always received the highest weighting, which is not necessarily appropriate for art produced in Non-Western and postmodern cultural contexts.

As a response to this criticism, a curriculum review committee was set up, with Boughton (personal communication, 2005) in the chair. The committee introduced a new, holistic method, which described five important criteria for examiners to pay attention to initially in relation to students' work. However, instead of providing a mark for each criterion, as is the case with the old, analytic method, a single holistic judgment is made. This allows the examiner to be reflexive, and to take account of the cultural context and genre of the work, and also to take account of any characteristics in the work not described by the criteria. Kerry Freedman and Boughton conducted a study, in conjunction with IB, to determine if there were any significant differences between the reliability of judgments using both methods. They found reliability to be the same.

Other potential biases should be taken into consideration, too. For example, portfolio assessment might favour female students, according to a study by Blaikie, Schönau and Steers (2003). Consistently across three Western countries, high school students' experiences of portfolio assessment in art differed according to gender. Males were less likely than females to know and understand the qualities a teacher is looking for in their work; males considered it less important than females did to know and understand the criteria for assessment; it was less important to males than females to discuss their art with their teacher; and males found group critiques less valuable than females did.

Design and technology education in Britain has been criticized for yet another type of bias in the assessment of student performance. Since the assessment procedures were widely regarded as being formulaic, routinized and predictable, it was felt that the hard-working rule-followers were rewarded at the expense of the risk-taking design innovators. Sharing this criticism, Richard Kimbell (2005) launched a research project called "Assessing Design Innovation". The project has moved through three phases: initially exploring performance descriptors of design innovation, then examining classroom practices that encourage it, and finally developing assessment activities that promote the evidence of innovative performance among 16-year-old students.

The research team developed a "structured worksheet" (mini-portfolio) approach, including a collaborative element and a story-line of digital photos. The students work concentrated for seven hours and are encouraged to develop interesting ideas, knowing that they will not be judged by the craft quality of the final outcome. This approach has been very well received, also in Sweden where a parallel trial has been carried out. However, it still remains to be proven that it accurately identifies those students who are really good at design innovation.

2. Portfolios in professional development where colleagues are assessing the quality of students' work

As a result of the potential importance of the final exams for the life career of students, the work is judged not only by the student's teacher but by a colleague from another school as well. "This procedure," says Diederik Schönau, one of the architects of the CPE in the Netherlands, "in combination with the obligation to visit other schools and to discuss the quality of studio work with unacquainted colleagues, has made the experimental examination of studio work in the Netherlands a success" (Schönau, 1996, p. 164). Teresa Eça (2005) reports on similar findings from an experiment in Portugal, using portfolios for art external assessment at the end of secondary education (age 17+). The new assessment procedures developed "communities of assessors". These enabled increased consistency of examination results and positive professional development opportunities.

The successful use of the community of art teachers as an arbiter of quality, may have major implications for how we look upon standard setting and staff development in general (Boughton, 1997). In countries such as the UK, the Netherlands, Australia, and New Zealand, com-

munity moderated procedures of judging studio art have been installed at the upper secondary level. However, similar procedures can be used at lower levels in school, too. Defining and interpreting criteria for quality, examining samples of work and setting standards are, after all, procedures used not only in the wider "art world" but in any genuine profession.

However, describing criteria for quality is no easy task. Donald Schön (1987) noted that "not only in artistic judgment but in all our ordinary judgments of the qualities of things, we recognize and describe deviations from a norm very much more clearly than we can describe the norm itself" (pp. 23–24). One implication of this observation is that in order to define criteria and achievement levels, teachers should be given the opportunity to compare a set of portfolios of varying quality.

In a study by Lindström (in press), a comparative approach, called Repertory Grids, was applied to articulate implicit criteria used by teacher educators and professional craftspeople to assess craft-and-design portfolios, consisting of final products, sketches, and interviews about the working procedure. The criteria used by these assessors were categorised in five themes. Three of these distinguish the expert from the novice by properties of the working process (idea and design; realisation; evaluation); the other two were articulated in the assessment of the final product (craft; form). Two additional themes (function, utility) appeared in the interviews, but merely descriptively and not as a means of discerning expert ability from that of a novice.

Large similarities were found in the way that teacher educators and the artisan assessed craft portfolios (Lindström, op. cit.). However, the craftsperson tended to be more product-oriented, while the teacher educators were more process-oriented. This discrepancy is important to keep in mind when discussing the relationship between formal education and the world of work. Ambitions to make education more "authentic" or "real", if carried too far, can reduce the freedom and tolerance for failures that are required in order to foster lifelong learning. With too much autonomy, on the other hand, learning will become disconnected from the everyday contexts in which people live and work. In defining criteria of quality, a decision has to be taken on which social contexts and cultures of learning education should prepare for.

Portfolio assessment as a vehicle in professional development can be applied in a more or

less formalized way, from the strictly regulated collegial systems used in national exams to an informal "portfolio culture" developed at an individual school. The latter may imply that teachers, within or across subject areas, take turns in bringing a few student portfolios (representing, for example, diverse achievement levels or kinds of assignments) to staff meetings, in order to discuss their qualities and get feedback on how they should be assessed.

For the less experienced trainees, participation in such discussions will help them to decode what is often called the "tacit knowledge" of the profession, or "knowledge by familiarity." But the more experienced teacher will profit as well, since teachers typically conduct most assessment of students' work alone in the art room. These unchallenged and apparently "subjective" judgements are sometimes questioned by those outside the field. A greater openness about criteria and how these are applied will not only sharpen the eye of the individual teacher but also raise the status of the profession in its relation to the outside world (students, parents, school administration, etc.).

3. Portfolios as a means of assessing the attainment of goals at the systems level (i.e. quality securing efforts)

Quality securing refers to the assessment of an organization's quality by comparing its actual status with an imagined one. The procedure lays the foundation for efforts to plan how the quality can be maintained and improved. Elliot Eisner talks about "taking the temperature" of an organization (Eisner, 1993). In the USA, multiple-choice tests are often used to provide policy-relevant information. Although these tests have been criticized for not offering valid data and promoting teaching to the test, alternative modes of assessment, such as portfolio assessment, have often been considered to be too complicated and expensive. Dennie Wolf and her colleagues, however, suggest that a sample of portfolios at selected schools would be a feasible procedure for gathering information about the current conditions of the educational system (Wolf, Bixby, Glenn, & Gardner, 1991).

In Vermont, USA, portfolios with collections of the students' best work were introduced statewide in 1990 to provide for accountability. Portfolios were scored to permit comparisons of schools and districts. Specifications for grades 4 and 8 mathematics and writing (not for any

of the making disciplines) included directions for what would be collected as well as criteria and achievement levels. Assessment was multidimensional, i.e. analytic instead of holistic, in order to provide useful feedback to the participating schools. One finding was that students' writing, irrespective of grade level, scored low on "voice," that is students found it hard to express themselves in a personal and authentic way. Furthermore, portfolio assessment tended to change the curriculum taught, for example by laying increased weight on "problem solving" in mathematics.

Most teachers liked the implementation of portfolio assessment, although they were more interested in using the portfolios for teaching purposes than for providing data that could be used for comparisons across schools and districts. That is, they used the portfolios to help students learn better and did not have a personal stake in increasing scoring reliability, which was heavily emphasized by policy makers in the administration. This tension between sometimes conflicting aims seems to be fairly universal when portfolios are used as a means of assessing the attainment of goals at the systems level. How it is resolved depends on a number of circumstances (Firestone, 1998).

For large-scale assessment, the potential drawbacks of portfolio assessment, particularly in terms of reliability of scoring and the time and effort involved, must be recognized. However, in a report from a large-scale trial, Dorn (2003) concluded that with appropriate training, art teachers have the ability to reliably evaluate student performance in the making of "expressive objects". An attempt should be made system-wide, he suggests, to "accurately assess the school district's art program without assessing every child at every level over 12 years of schooling" (op. cit., p. 368). Although justified for practical reasons, the diagnostic ("temperature-taking") benefit of Dorn's approach to assessment is reduced by his use of holistic scoring based on products only.

4. Portfolios as an educational tool in order to develop the self-assessment ability among students

Criterion-based portfolio assessment is commonly used as an educational device. Assessment is then regarded as an integral part of good teaching, not as something that can or should be separated from it. With specified criteria and achievement levels, new dimensions of studio work in the visual arts become accessible

for attention, reflection and communication. However, the capacity for assessing one's own work on multiple dimensions is not an inborn power of the human mind. Like most other abilities it has to be exercised and trained. Otherwise, it will not advance from the detached, rule-following behaviour of the novice to the involved, intuitive performance of the expert (Dreyfus & Dreyfus, 1986).

Portfolio assessment is here used for a formative rather than a summative purpose. That is, its aim is to guide the learning process rather than to make an overall judgement based on past achievements. The teacher is given an active role in trying to help students track their "footsteps," in order to see merits and shortcomings of their work and to set goals for themselves. The proper weighting of criteria should be discussed rather than determined in advance. Arts PROPEL, a programme in the United States for students aged 10–16, is an example of portfolio assessment used for a formative pupose (Winner & Simmons, 1992; Lindström, 2005). The Mini-Portfolio, advocated by art educator Donna Kay Beattie in the US, draws inspiration from both the Dutch CPE and Arts PROPEL (Beattie, 1994). Beattie wants to combine formative and summative aspects of assessment.

Although both Arts PROPEL and the Mini-Portfolio start with predefined criteria, it is doubtful whether this *"top-down"* approach should always be recommended for formative purposes, especially in the lower grades. The alternative approach may be termed *"bottom-up."* It is characterized by an inductive procedure allowing a set of criteria to emerge step-by-step. The teacher may start the criterion-building procedure by asking her students to bring visual imagery that, in their minds, represents high-quality work. The students are welcome to bring artefacts from the art world or the popular culture. Or they could select some work made in the classroom. In fact, they can select any image as long as they can explain why they think it is well done. Then the teacher may divide the class into small groups, asking group members to share their selections and justify their choices. From these discussions, students may be asked to identify three to five characteristics (indicators) of good work. The indicators may later on be tested, supplemented and refined when applied to the assessment of student work. This "bottom-up" approach incorporates the students in the development of criteria and achievement levels and thus may give them a sense of ownership in the assessment of their portfolios (Johnson, 1996, pp. 156–157).

5. Portfolio assessment as a research tool in studying students' creative abilities at different levels of schooling

In Sweden, an instrument for assessing portfolios of students' performances and project work in the visual arts has been tested (Lindström, Ulriksson & Elsner, 1999; Lindström, 2002, 2006). It was developed as part of a project, initiated by the Swedish National Agency for Education, called "The Evaluation of Swedish Schools 1998 Concerning the New Curricula." The study included 22 classes in grades 2 (8-yrs), 5 (11–yrs), and 9 (15-yrs) of the compulsory nine-year comprehensive school and in the final year or concluding courses in the arts programme of the upper secondary school. At a later stage, 32 five-year-olds from various preschools were included in the sample. The study comprised a total of about 500 children and adolescents. For each individual a portfolio was collected, containing questionnaires, logbooks, preliminary studies (sketches, drafts), models (photos, cuttings, postcards, etc.), final products and a 10–15 minute videotaped interview with questions about the work process. Fourty-six portfolios were presented on a CD-ROM in order to anchor criteria and achievement levels in actual student work on different school levels.

There is a major difference between portfolios used in a research context and portfolios used in final examinations. In the evaluation of Swedish art education, the purpose was to describe what students accomplish given the kind of teaching that takes place in the everyday world. Nevertheless, some restrictions had still to be imposed on the teachers: students should be given a time frame of 10 to 30 hours (depending on the school level); they should keep track of their ideas in a logbook; preliminary studies should be stored in the portfolio, even if they were not considered successful; students should try to document models that inspired them, etc. Most importantly, the tasks or themes selected for studio work should allow for diverse solutions. That is, training of technical skills could be included in the project but should not constitute its major aim.

In all other aspects (materials, techniques, themes, social and cultural backgrounds of the students, pedagogical approaches, etc.), a diversity representing everyday schooling was aimed for. One of the criteria assessed is "inventiveness." This capacity is difficult to assess at final examinations, since the risk of failure make students "play it safe." In fact, the Finnish guidelines for the *Final Exam in Art Education 1998–99* (National Board of Education

Helsinki, 1998, p. 2) explicitly states that "candidates should not experiment with unfamiliar materials and techniques." István Bodóczky at the Hungarian Academy of Applied Arts concludes that some intellectual processes, "like divergent thinking, readiness to take risks (experimenting), individuality, etc., contradict the usual exam situation which demands conformity and integration from the students" (Bodóczky, 1998). Within the less threatening framework of research, however, students may be more willing to take risks.

In short, Lindström *et al.* (op. cit.) found that Swedish students from age 8 to age 15 acquired *knowledge* and *skills* as regards how to make art. However, they did not develop the *understandin*g and *familiarity* that is required to apply what they have learned to new situations or to rely on their own judgement. As an implication of these findings, guidelines for what should go into the portfolio must take into account not only the quality of the *product* or performance, but also the *process*, i.e. the student's ability to reflect upon her work and learn from models, take risks, explore in depth, etc. A student with sophisticated reasoning and an appropriate approach may still hand in flawed or careless work, while a less sophisticated student may produce painstaking and well-executed work. With a multidimensional assessment, each of these students will be both acknowledged for her achievements and encouraged to progress.

6. Portfolios in teacher education as a tool of monitoring students' development

In teacher education, portfolios are often used as a tool of monitoring students' professional development. Most often students are encouraged to reflect on their experiences as classroom teachers. Problems emerging from practice teaching are usually complex and sensitive to the context. As a consequence, there are no *panaceas* that will cure them all. For example, Gunilla Wiklund at the Stockholm University College of Music has developed a portfolio approach to the analysis of teaching experiences, asking students questions like: "Describe how the lesson started and went on." "Could you use the aids that you had prepared?" "What did you find difficult?" "What did you find easy?" "What would you change until next time?" (Wiklund, 1996)

The questions of what students found difficult and easy encourage the teacher trainees to exercise self-assessment. In a long term perspective, students will be able to analyse how their strengths and weaknesses develop over time,

with some of them recurring over and over again, while others fade away or even change from one pole to the other, for example when a weakness has been overcome or transformed into a strength. The question "What would you change?" prompts the students to set goals for themselves and thus to become more independent and responsible learners.

Portfolios are increasingly used in ordinary academic courses as well, in order to make students reflect over what they are reading, listening to, discussing, making and learning. An early such course, involving 577 students and around 40 teacher trainers at the Stockholm Institute of Education, was designed and analysed by Lars Lindström (1997). The purpose of the course was to introduce students to the use of multiple "forms of representation" or "entry points" to various domains of knowledge across the curriculum. Sixty-one student portfolios from seven student groups and 364 evaluation questionnaires were examined. It was found that the teacher's response to the portfolios to a large extent determined how the students evaluated the usefulness of portfolios as an examination tool. Groups where students did not feel seen or heard often had a low opinion of this form of assessment, while the opposite was true for groups where students felt respected and appreciated for what they had done. Interestingly, some students began to take an increased responsibility for their own learning even outside of the course setting, by evaluating their progress and setting goals for themselves.

There is a growing literature on portfolio assessment in teacher education (e.g. Huba & Freed, 2000) and neighbouring disciplines, such as education for health care and social work (e.g. Taasen, Havnes & Lauvås, 2004). Reviewing early experiences, Dysthe (2002) described portfolios as a "pedagogical chameleon" that may be used for all kinds of purposes and in different teaching contexts. In other reports, however, portfolios are rather envisioned as a Trojan Horse. Tjalve Madsen (2003), for example, concludes his international review of portfolios and portfolio assessment in teacher education with the following remarks: "For many students, portfolios have involved a perspective on learning that challenges them to revise their ideas about what is accurate and useful knowledge, their conception of their own role and that of the teacher in learning processes, and their view on how their competence should be assessed in a fair and valid way" (p. 177).

Most recent reports on portfolios in teacher education deal with digital portfolios. In an

exam paper reviewing this phenomenon, Jan Sjunnesson (2001) makes an interesting observation. In North American studies of teacher education, the focus is almost exclusively on the individual and his or her learning processes, described in terms such as ”student-centered”, ”self-empowering” and ”encouraging preservice teachers to assume a responsibility for their learning”. Student work is mainly looked upon as solitary. No common goals or social learning processes are recorded, according to Sjunnesson (op. cit.).

In the Scandinavian literature, on the other hand, the potentials of digitalizing portfolios are referred to rather in terms of the building and assessment of collective portfolios. Dysthe and Engelsen (2003) in Norway and Gustafsson (2004) in Sweden all emphasize the new opportunities for learning created by *collective portfolios* organized around themes and projects that cut across and link individual portfolios. By using these opportunities students will learn more about how a group can contribute to realize a common objective, which is an important ingredient in preparing for lifelong learning.

A collective portfolio in a learning community – an epilogue

Taking advantage of collective work and group processes, however, is not an exclusive concern brought up by the use of portfolios or ICT; it is ultimately a matter of social and cultural change. Recently, Chris Watkins (2005) re-invented the idea of classrooms as ”learning communities”. I will finish this review of the multiple uses of portfolio assessment by quoting an example of a collective portfolio in a community setting. It includes, to varying degrees, the elements defining a portfolio, such as collection, selection and reflection (Hamp-Lyons & Condon, 2000). And if anything, it connects school to ”real life”.

The story comes from a book (School of Barbiana, 1970) written as *Letters to a Teacher* by eight Italian boys, eleven to thirteen years old. They went to school in Barbiana, a community of about twenty farm houses in the hills thirty miles north of Florence. The school was started fifty years ago by a parish priest who realized the urgent need of young people to study and understand problems directly significant to their own lives. The school died with the priest; and yet its legacy is still alive. The following passage from the book (op. cit., pp. 103–104), describing the authors’ ”humble technique” of

writing, may enrich the contemporary vision of a portfolio used for helping young people making sense of their lives:

> *To start with, each of us keeps a notebook in his pocket. Every time an idea comes up, we make a note of it. Each idea on a separate sheet, on one side of the page.*
>
> *Then one day we gather together all the sheets of paper and spread them on a big table. We look through them, one by one, to get rid of duplications. Next, we make separately piles of the sheets that are related, and these will make up the chapters. Every chapter is subdivided into small piles, and they will become paragraphs.*
>
> *At this point we try to give a title to each paragraph. If we cannot, it means either that the paragraph has no content or that too many things are squeezed into it. Some paragraphs disappear. Some are broken up.*
>
> *While we name the paragraphs we discuss their logical order, until an outline is born. With the outline set, we reorganize all the piles to follow its pattern.*
>
> *We take the first pile, spread the sheets on the table, and we find the sequence for them. And so we begin to put down a first draft of the text.*
>
> *We duplicate that part so that we each can have a copy in front of us. Then scissors, paste and coloured pencils. We shuffle it all again. New sheets are added. We duplicate again.*
>
> *A race begins now for all of us to find any word that can be crossed out, any excess adjectives, repetitions, lies, difficult words, overlong sentences and any two concepts that are forced into one sentence.*
>
> *We call in one outsider after another. We prefer it if they have not had too much schooling. We ask them to read aloud. And we watch to see if they have understood what we meant to say. We accept their suggestions if they clarify the text. We reject any suggestions made in the name of caution.*
>
> *Having done all this hard work and having followed these rules that anyone can use, we often come across an intellectual idiot who announces, 'This letter has a remarkably personal style.'*

References

Anderson, T. (1994). The International Baccalaureate Model of Content-Based Art Education. *Art Education*, 47(2), 124–129.

Beattie, D. K. (1994). The Mini-Portfolio: Locus of successful performance examination. *Art Education*, 47(2), 14–18.

Blaikie, F., Schönau, D. & Steers, J. (2003). High school portfolio art assessment in Canada, The Netherlands, and England. *Studies in Art Education,* 44(4), 335–349.

Blaikie, F., Schönau, D. & Steers, J. (2004). Preparing for portfolio assessment in art and design: A study of the opinions and experiences of exiting secondary school students in Canada, England and The Netherlands. *International Journal of Art & Design Education*, 23(3), 302–315.

Bodóczky, I. (1998). Remarks on portfolio assessment. Paper presented at the Swedish-Finnish-European Symposium "Assessment in Secondary Art Education", Hanasaari (Finland).

Boughton, D. (1997). Reconsidering issues of assessment and achievement standards in art education. *Studies in Art Education,* 38 (4), 199–213.

Boughton, D. (1998). IB assessment in art education. Lecture given at the Swedish-Finnish-European Symposium "Assessment in Secondary Art Education", Hanasaari (Finland).

Boughton, D. (2004). Assessing art learning in changing contexts. In: E. W. Eisner & M. D. Day (Eds.) *Handbook of Research and Policy in Art Education* (pp. 585–605). Mahwah, NJ: Lawrence Erlbaum.

Davies, A. & LeMahieu, P. (2003). Assessment for learning: Reconsidering portfolios and research evidence (pp. 141–169). In: M. Segers, F. Dochy, E. Cascallar, *Optimising New Modes of Assessment: In Search of Qualities and Standards*. Dordrecht, Neth.: Kluwer.

Dorn, C. M. (2003). Models for Assessing Art Performance (MAAP): A K-12 project. *Studies in Art Education,* 44(4), 350–370.

Dreyfus, H. L. & Dreyfus, S. E. (1986). *Mind over Machine*. New York: Free Press.

Dysthe, O. (2002). Om förhållandet mellan individ och grupp i portföljprocessen. In: Skolverket (Ed.) *Att bedöma eller döma* (pp. 91–108). Stockholm: Skolverket / Liber.

Dysthe, O. & Engelsen, K. S. (2003). Digitale mapper ved to lærarutdanningsinstitusjonar. In: O. Dysthe & K. S. (Eds.) *Mapper som pedagogisk redskap* (pp. 205–235). Oslo: Abstrakt.

Eça, T. (2005). Using portfolios for external assessment: An experiment in Portugal. *International Journal of Art & Design Education,* 24(2), 209–218.

Eisner, E. W. (1993). Reshaping assessment in education: Some criteria in search of practice. *Journal of Curriculum Studies*, 25(3), 219–233.

Firestone, W. A. (1998). A tale of two tests: Tensions in assessment policy. *Assessment in Education*, 5 (2), 175–191.

Gustafsson, J. (2004). Portföljer, en bärande idé? *Studies in Educational Policy and Educational Philosophy*. E-journal, 2004:2.

Hamp-Lyons, L. & Condon, W. (2000). *Assessing the Portfolio*. Cresskill, NJ: Hampton Press.

Huba, M. E. & Freed, J. E. (2000). *Learner-Centered Assessment on College Campuses*. Boston: Allyn & Bacon.

Johnson, B. (1996). *The Performance Assessment Handbook, Vol. 1: Portfolios and Socratic Seminars*. Princeton, NJ: Eye on Education.

Kimbell, R. (2005). Assessing design innovation. In: L. Lindström (Ed.) *Technology Education in New Perspectives: Research, Assessment and Curriculum Development*. (pp. 15–35). Stockholm: HLS Förlag.

Lindström, L. (1997). *Portföljen som examinationsform – ett socialt-konstruktivistiskt utvecklingsarbete inom lärarutbildningen*. Stockholm: Stockholm Institute of Education Press (HLS Förlag).

Lindström, L. (2002). Criteria for Assessing Students' Creative Skills in the Visual Arts. In: P. Hagenaars (Ed.) *A Must or a-Muse. Arts and Culture in Education: Policy and Practice in Europe. Conference Results* (pp. 175–189). Utrecht, Neth.: Cultuurnetwerk.

Lindström, L. (2005). Portföljmetodik i estetiska ämnen. In: L. Lindström & V. Lindberg (Eds.) *Pedagogisk bedömning* (pp.159–192). Stockholm: Stockholm Institute of Education Press (HLS Förlag).

Lindström, L. (2006). Creativity: What is it? Can you assess it? Can it be taught? The International Journal of Art & Design Education, 25 (1), 53–66.

Lindström, L. (in press). Assessing craft and design: Conceptions of expertise in education and work. In: A. Havnes & L. McDowell (Eds.) *Balancing Dilemmas in Assessment and Learning in Contemporary Education*. London: Routledge.

Lindström, L., Ulriksson, L & Elsner, C. (1999). *Portföljvärdering av elevers skapande i bild*. Stockholm: Skolverket / Liber.

Madsen, T. (2003). Internasjonale erfaringer med mapper og mappevurdering i lærerutdanning. In: O. Dysthe & K. S. (Eds.) *Mapper som pedagogisk redskap* (pp. 159–181). Oslo: Abstrakt.

Mitchell, R. (1992). *Testing for Learning*. New York: Free Press.

Myford, C. M. & Sims-Gunzenhauser, A. (2004). The evolution of large-scale assessment programs in the visual arts. In: E. W. Eisner & M. D. Day (Eds.) *Handbook of Research and Policy in Art Education* (pp. 637–666). Mahwah, NJ: Lawrence Erlbaum.

National Board of Education Helsinki. (1998). Final Exam in Art Education 1998–99. Paper presented at the Swedish-Finnish-European Symposium "Assessment in Secondary Art Education", Hanasaari (Finland).

School of Barbiana (1970). *Letter to a Teacher.* Harmondsworth, Middx: Penguin.

Schön, D. A. (1987). *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. San Francisco, Cal.: Jossey-Bass.

Schönau, D. W. (1996). Nationwide assessment of studio work in the visual arts: Actual practice and research in the Netherlands. In: D. Boughton, E. W. Eisner & J. Ligtvoet (Eds.), *Evaluating and Assessing the Visual Arts in Education: International Perspectives* (pp. 156–175). New York: Teachers College Press.

Sjunnesson, J. (2001). Digital learning portfolios: Inventory and proposal for Swedish teacher education. Uppsala University, Department of teacher education, exam paper.

Taasen, I., Havnes, A. & Lauvås, P. (2004). *Mappevurdering – av og for læring*. Oslo: Gyldendal.

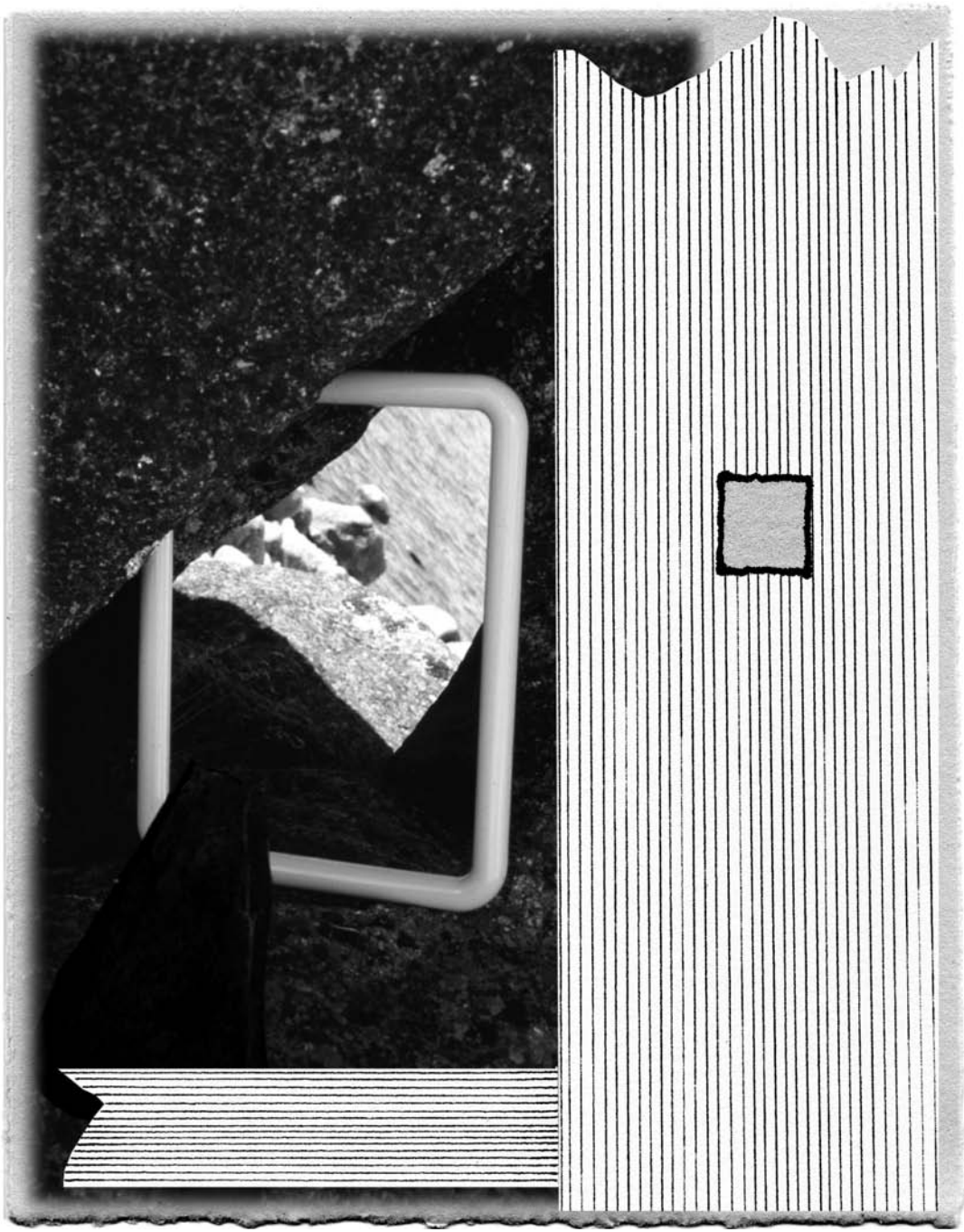
Watkins, C. (2005). *Classrooms as Learning Communities*. London: Routledge.

Wiggins, G. (1998). *Educative Assessment*. San Francisco: Jossey-Bass.

Wiklund, U. (1996). *Portföljen – en modell för utvärdering av musikutbildning*. Stockholm: KMH Förlaget.

Winner, E. & Simmons, S. (1992). *Arts PROPEL: A Handbook for the Visual Arts*. Cambridge, Mass.: Educational Testing Service/Project Zero, Harvard Graduate School of Education.

Wolf, D., Bixby, J., Glenn, J. I. & Gardner, H. (1991). To use their minds well: Investigating new forms of student assessment. In: Grant, G. (Ed.), *Review of Research in Education* (Vol. 17, pp. 31–74). Washington, DC: American Educational Research Association.



Three teaching materials in sloyd

– An analysis of the makers' thoughts behind the visible surface

Mia Porko-Hudd

This article is based on my doctoral thesis (Porko-Hudd, 2005) concerning the analysis of the thoughts behind or what is under the visible surface of three web based teaching materials in sloyd, especially textile sloyd. The aim of the article is to give a short summary of the study.

Introduction

Since the middle of the 1990's teachers in textile sloyd in Finland have worked together in creating and developing a website called Käspaikka (www.kaspaikka.fi). The aim of Käspaikka is to support teaching in sloyd, mainly textile sloyd, and since its creation the website has been developed and grown to become a virtual text book in a compulsory school subject that lacks traditional text books, but constantly requires new ideas for educational projects (Sinervo, 2001).

The materials in Käspaikka range from descriptions on how to make different textile objects and how to sew basic stitches to presentations of conducted sloyd projects in schools and research within sloyd or textiles related sciences. All the materials in the website have been done by the teachers themselves during different courses in computer programs and how to use information technology in textile sloyd. These courses have been very popular and they have had the function of in-service education for teachers in using information technology in a meaningful way in sloyd teaching (Kröger, 2003).

The research task for my doctoral thesis originated from personal experiences as a teacher in textile sloyd to plan and make teaching materials for the teaching subject sloyd in the comprehensive school in Finland to be published in Käspaikka. The initial task to plan and make teaching materials in a media which characteristics one did not fully master, led to many questions such as: *What kind of teaching materials can we make? What can they look like? What can they*

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be about? How can themes be dealt with? Whom should we make them for? and *How can the new information technology be used in order to develop the teaching subject in relation to demands from the society?* As there were no ready answers to the questions, one had to find them oneself and plan teaching materials that would suit one's own teaching. This situation led to a fruitful cooperation between me and a colleague of mine who teaches textile sloyd in the comprehensive school. Our cooperation led to the making of the teaching materials *Slöjdvägen* (eng. *The Sloyd Road*), *Familjen Nål* (eng. *The Needle Family*) and *Personliga väskor* (eng. *Unique bags*) (Porko & Backlund-Kärjenmäki, 1998; 1999a; 1999b).

Text books and teaching materials in sloyd

The huge interest in making teaching materials to Käspaikka among Finnish teachers in textile sloyd, can be regarded as quite unique, as teaching in sloyd is often done without the help of teaching materials in the form of traditional text books, even though text books in general are regarded as important means for teaching and learning (Heinonen, 2005, pp. 59–66; Wikman, 2004, pp. 82–89).

One reason for not using text books in the Swedish textile sloyd teaching in Finland[1] is the lack of updated text books within the field. The latest Swedish text book that was written for textile sloyd teaching in the comprehensive schools in Finland was published in the middle of the 1980's during the influence of national curriculum cores from the 1970's and the 1980's. Because of the changes in education concerning the view on the teacher, the pupil and on learning in general, the twenty year old text book can be considered as outdated and not mediating the kind of textile education that the more current national curriculum cores from the 1990's and 2000's state. However, all the materials and tools in sloyd teaching also make up teaching materials and the situation has not been so alarming thanks to professional teachers in sloyd who have planned and conducted sloyd teaching in a creative way. (Porko-Hudd, 2005, pp. 68–72)

According to the current national curriculum cores for sloyd teaching in the comprehensive schools in Finland (Utbildningsstyrelsen, 2004, pp. 240–244) and according to some main sloyd educational theories (e.g. Lindfors, 1991a, pp. 89–103; Lindfors, 1991b, pp. 21–24; Nygren-Landgärds, 2000) teaching in sloyd should be conducted within larger themes that give the pupils freedom to design and make individual artifacts in sloyd materials. This means that

is it not always justified using text books that might steer the teaching in an undesired way or represent sloyd teaching with a completely different teaching ideology.

Instead of using text books when planning teaching, teachers have a freedom in planning the teaching according to their individual teaching ideology. This is certainly not a problem for the creative, sloyd technologically and pedagogically competent teacher, but what is the situation for the sloyd technologically and pedagogically insecure teacher and what are the consequences of this for the pupils' interest in sloyd and their possibilities to learn? This vast question must at this time be regarded as rhetoric, since the aim of this article is not to give it an answer. However, one can say that even though the teacher has a freedom in planning his or her teaching according to one's individual teaching ideology, the freedom can also be regarded as very demanding. This means that the teacher must constantly be aware of trends in the society, new teaching themes, teaching methods and what sloyd techniques are trendy. The teacher must also be on the look out for ideas to new kinds of products and most of all be creative in how all these aspects can be implemented in an educative way in the pupils' sloyd processes.

Even though the teacher can get ideas for his or her teaching from many different sources, he or she must also transform the material into a didactic teaching material that suits his or her education. The lack of teaching material can therefore lead to the situation that pupils do not get information from any other sources but the teacher and become too dependent on the teacher to be able to advance independently in their own sloyd processes. The materials in Käspaikka can therefore be regarded as a new kind of text book in textile sloyd and function as a continuously updated source of information and inspiration for both teachers and pupils (Porko-Hudd, 2005).

Personal experiences of making teaching materials lead to research

After the three teaching materials *The Sloyd Road, The Needle Family* and *Unique bags* (Porko & Backlund-Kärjenmäki, 1998; 1999a; 1999b) had been published in Käspaikka, the idea for the research study emanated from the question: *Why do the three teaching materials look like they do and how come other textile teachers comment that they are different?*

It is quite common to conduct research on teaching materials from the users' point of view, since it is important to know how users conceive a

teaching material. It is also quite common to try and define existing teaching materials. A vast study on defining teaching materials in Käspaikka has been made by Kröger (2003). I have, however, in my research initially been more interested in teaching materials from the makers' point of view and especially how they have reasoned about different aspects in the teaching materials at hand. The main research questions in my thesis consist therefore of: 1) *What were the maker's reasoning behind the visible characteristics of the three teaching materials?* 2) *How do the makers' of the teaching materials educational and teaching ideologies appear in the three teaching materials?* and finally 3) *How do sloyd educational theories and demands from the society as they are stated in the national core curriculum appear in the three teaching materials?*

The aim of the study was to analyze the earlier mentioned three teaching materials in sloyd and show how collective educational ideologies in sloyd in the form of theories within the sloyd educational science and the national core curriculum, how the makers' of the teaching materials educational and teaching ideologies in sloyd, and how trends in the society appear in the teaching materials. This aim can be seen as a concrete attempt to find out *how* a teacher's individual educational and teaching ideology in the subject he or she teaches affects his or her teaching and making of teaching materials. This can be seen as a sequel to earlier sloyd educational research that has shown that the teacher's individual teaching and educational ideology affects his or her teaching in sloyd (Nygren-Landgärds, 2000).

The use of the iceberg metaphor in the study

In order to clarify the research approach of the study, the discussion of analyzing teaching materials was related to the study of an iceberg, which in the same way as teaching materials does not reveal everything by just looking at what is seen above the surface of the water or what is visible in the final teaching material. According to the iceberg metaphor only a fraction of the whole iceberg is visible above the surface of the water and the majority of the iceberg is hidden under the surface (Wiedersheim-Paul, 2005). This means that one can look at the iceberg from two dimensions; the visible part above the surface of the water and the hidden part under the surface.

Haldin-Herrgård (2004, p. 3) has used the iceberg metaphor in order to illustrate that the tacit knowledge of something lies in the iceberg under the surface of water. I have used the metaphor

in a similar way concerning teaching materials in sloyd when I say that one can look at a teaching material as a whole iceberg consisting of the dimensions *above* and *under* the surface of the water. This means that a teaching material can be regarded as the result of a many dimensioned work by the maker of the material who has taken into account several different aspects under the surface e.g. current scientific results within the field, national curriculum cores within the subject, trends in the society and traditions within the subject. The maker has surely also reflected on how the target group studies and learns, how the material should best be presented and how it should be used. These aspects, that can be regarded to lie under the surface of what actually is visible of the teaching material, are to some extent consciously chosen by the maker of the teaching material. There are, however, also aspects that are unconsciously chosen or that make up the existential frames for the making of a teaching material. In order to make the teaching material trustworthy it is important that the maker's knowledge within the different aspects under the surface become visible above the surface to the user of the teaching material. (Porko-Hudd, 2005, pp. 27–30)

The questions that I wanted to find answers to in my thesis consisted of: *What aspects under the surface are visible above the surface in the teaching materials and what is it that affects the character of the teaching materials?* The second part of the question raised the importance of the makers of the teaching materials and especially the importance of their individual teaching and educational ideologies. This aspect led to an addition to the traditional iceberg metaphor as I would like to acknowledge the dimension *by* the surface of the water. This dimension can be seen as a filter that keeps the invisible part of the iceberg *under* the surface from the visible part of the iceberg *above* the surface of the waterline. Both the consciously chosen and the unconsciously affecting aspects of a teaching material that lie under the surface are interpreted by the maker of a teaching material, and what is finally visible in the teaching material above the surface are the maker's conceptions of the study theme at hand and how it best can be studied and taught.

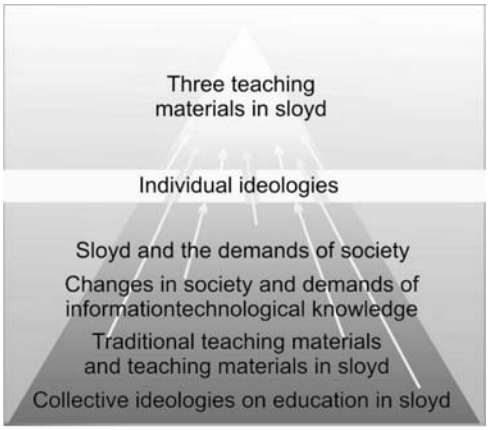
The maker's conceptions of different aspects are dependent on his or her individual ideology about teaching and education within the subject at hand, which means that the individual ideology functions as a filter letting some aspects affect the teaching material while others are not let through the filter and are therefore not included in the teaching material. This line of

thought can lead to the view on teaching material under the surface, by the surface and above the surface. In my thesis I have tried to define and describe the complete iceberg for the three teaching materials *The Sloyd Road, The Needle Family* and *Unique Bags*.

The iceberg metaphor in connection to three teaching materials in sloyd

The part of the iceberg that is under the surface of the water consists, in the case of the three teaching materials at hand, of collective ideologies on teaching and education in sloyd in the form of sloyd educational scientific theories and national curriculum cores at the time of the making of the teaching materials, at the end of the 1990's. Other aspects under the surface are existing traditional teaching materials within the subject, changes in society at the time, new demands of knowledge and the relation between the teaching subject sloyd and the changes in the strong Finnish information technological society. In order to analyze how these aspects under the surface are visible in the teaching materials above the surface and to be able to analyze how the makers of the teaching materials have affected the character of the teaching materials, I conducted an empirical research in order to clarify the makers' individual teaching and education ideologies. The question at hand was what did the filter look like that more or less consciously have let some aspects get through from under the surface to the teaching materials above the surface? (See figure 1).

Figure 1: The iceberg metaphor in connection with the analysis of three teaching materials in sloyd.



The research concerning the individual ideologies was conducted as theme interviews and the analyses led to similarities and differences between the makers of the teaching materials concerning their view on the pupil and the teacher in sloyd and on the contents and on conduc-

ting of teaching in sloyd. After this the teaching materials were analyzed from three different perspectives firstly in order to find out the makers thoughts behind the visible aspects of the teaching materials, secondly to find out how the makers' individual ideologies appear in the teaching materials and thirdly in order to find out how sloyd educational scientific theories and demands from the society, as they appear in the national curriculum cores at the time, appear in the teaching materials.

Results from analyses of the thoughts behind the teaching materials

In order to answer the first research question concerning the maker's reasoning behind the visible characteristics of the three teaching materials, one can say that the visible characteristics of the three teaching materials reflect many of the general demands stated for teaching materials and web pages. This is obvious despite the fact that the two sloyd teachers who made the three teaching materials had deficient knowledge in information technology and computers and also limited experiences of making teaching materials. It seemed, however, as if the two teachers intuitively could take into consideration many central aspects for making teaching materials. This can be dependent on the fact that the teachers have a pedagogical education and many years experience of studies and teaching pupils of the same target group as the teaching materials are aimed for. The teachers also had experience of being involved in making two television programs about teaching in sloyd and a book to them. If general aspects about making teaching materials and making web pages had been subject to more reflection at the beginning of the making process, the making of the three teaching materials might have been more sufficient and the materials might have become more user-friendly. Knowledge about what possible users think about the materials would be interesting considering that teaching materials are made for a special target group and made to be used in teaching.

It was noted that the volume of the three teaching materials had successively grown regarding content, amount of web pages, text, illustrations and photos so that the first made teaching material (*The Sloyd Road*) is the smallest one and the last made (*Unique Bags*) is the largest one. This can be seen as an expression of the fact that when the makers' knowledge and experiences of making web based teaching materials increased, they could better deal with extensive wholes and see what individual learning objects a teaching material could consist of. On the other hand it

can be interpreted that makers of the teaching materials had difficulties in restricting the information in the teaching materials and wanted to make too large entities. This can lead to the fact that the making of teaching materials is never finished.

The two makers' ideas about including the complete sloyd process from the first ideas within a theme to designing, planning, making and evaluating the product and process was kept in all three teaching materials. Variations within the themes concerning for instance what kind of products pupils can make, was however not discussed. This can affect users of the teaching materials to only focus on the products presented, and not on the original idea that the presented products are just examples of what can be made within a similar theme.

The second research question dealt with how the makers' of the teaching materials educational and teaching ideologies appear in the three teaching materials. Summing up one can say that the makers' educational and teaching ideologies of sloyd are clearly visible in the three teaching materials while only four documents out of 29 teaching material documents did not show signs of the ideologies. Earlier research (Nygren-Landgärds, 2000) shows that individual ideologies are visible in a teacher's teaching and teaching materials. The interesting aspect that my study gives is, however, an illustration on *how* the ideologies appear in teaching materials.

The third research question dealt with how sloyd educational theories and demands from the society appear in the three teaching materials. The analysis in relation to this question was made on the texts in the materials. The texts were coded to dimensions developed in the first empirical study concerning individual ideologies. After this the texts where interpreted firstly according to what kind of marks of sloyd educational theories could be seen in them and secondly according to how trends in the society according to the national curriculum core could be seen in the teaching materials.

The interpretation of the texts showed that sloyd educational theories and trends in the society were clearly visible in the three teaching materials. The variety of scientific theories was however not very big. The reason for this might be that the two makers of the teaching materials did not use any other theories when making the three materials. If the teaching materials had been more than three and the making of them had spanned over a longer period of time, it is

possible that the two makers could have developed their making processes and varied the theoretical bases for the teaching materials. This could then also have been possible to see when analyzing the materials.

Most goals for sloyd in the national curriculum core could be seen in the three teaching materials. This can either be regarded as a sign of the two makers' familiarity with the goals or a sign of the general nature of the goals and the easiness to see them in texts written by teachers. Goals that are not so clearly visible in the texts can have been left out because of their irrelevance to the teaching themes at hand and due to the fact that a few teaching materials cannot fulfill all curriculum core goals.

Other trends in the society at the end of the 1990's when the teaching materials were made are visible mainly through the digital form of the teaching materials. This can be seen as a concrete example of how the information technological society influences education and teaching. Other aspects in the society at the time, such as entrepreneurship and sustainable development could, however, have been more visible in the materials. The fact that a few textile teachers make web based teaching materials do, however, not mean that teaching in the subject would suddenly change or that teachers would start using web based teaching materials. The developing of teaching requires much more than that. The existence of web based teaching materials can still be regarded as a small step in the direction of developing teaching in sloyd according to current trends in society.

Summing up

The study's contribution to the relation between sloyd teaching and society is an example of how changes in society and demands that derive from the changes, have influenced general conceptions on the teaching subject sloyd, the subjects teaching content and the character of teaching materials. The study also gives more information about the thoughts and ideas behind teaching materials. This information has an educational value as it shows what kind of influence the maker of a teaching material has on the material's characteristics and how users of teaching materials should be aware of this.

The study's significance for further teaching in sloyd is that the study might arouse interest for the meaning of teaching materials in teaching sloyd and developing the subject. Considering future making of teaching materials in sloyd it is possible to think that the study benefits makers to also think about different visual aspects of

their teaching material making such as illustrations, language and layout.

Finally one can say that teaching materials in sloyd and research about them have got a boost when an ever increasing amount of Finnish teachers in sloyd make web based teaching materials that are spread to other teachers via a website for the purpose. This means that trends in the society and especially the development of information technology in education and teaching have led to new development and research areas in sloyd.

References

Haldin-Herrgård, T. (2004). *Hur höra tyst kunskap? Utveckling av en metod för studier av tyst kunnande*. Helsingfors: Svenska handelshögskolan.

Heinonen, J.-P. (2005). *Opetussuunnitelmat vai oppimateriaalit. Peruskoulun opettajien käsityksiä opetussuunnitelmien ja oppimateriaalien merkityksestä opetuksessa*. Tutkimuksia 257. Helsingin yliopisto: Soveltavan kasvatustieteen laitos.

Kröger, T. (2003). *Käsityön verkko-oppimateriaalin moninaisuus "Käspaikka"-verkkosivustossa*. Joensuun Yliopiston kasvatustieteellisiä julkaisuja N:o 90. Kasvatustieteiden tiedekunta. Joensuu: Joensuun yliopistopaino.

Lindfors, L. (1991a). *Slöjddidaktik. Inriktning på grundskolans textilslöjd*. Loimaa: Finn Lectura.

Lindfors, L. (1991b). *Slöjdverksamhetens grunddimensioner vid arbetsinlärning i ett slöjdpedagogiskt perspektiv.* (Rapporter från Pedagogiska fakulteten 33/1991). Vasa: Åbo Akademi. Institutionen för lärarutbildning.

Nygren-Landgärds, C. (2000). *Educational and Teaching Ideologies in Sloyd Teacher Education*. Åbo: Åbo Akademis förlag.

Porko, M. & Backlund-Kärjenmäki, E. (1998). *Slöjdvägen*. (The Sloyd Road.) Available at: http://www.tkukoulu.fi/~mporko/

Porko, M. & Backlund-Kärjenmäki, E. (1999a). *Familjen Nål. (The NeedleFamily)* Available at: http://www.vasa.abo.fi/pf/li/esph/nalfamilj/index.htm.

Porko, M. & Backlund-Kärjenmäki, E. (1999b). *Personliga väskor.* (Unique Bags). Available at: http://www.vasa.abo.fi/pf/li/esph/vaskor/index.htm.

Porko-Hudd, M. (2005). *Under ytan, vid ytan och ovanför ytan. Analys av tanken bakom tre läromedel i slöjd*. Åbo: Åbo Akademis förlag.

Sinervo, P. (2001). *Käsityön TietoBoxi*. Available at: http://www.tkukoulu.fi/handmade/ (27.7.2001)

Utbildningsstyrelsen (1994). Grunderna för grundskolans läroplan. Helsingfors: Tryckericentralen.

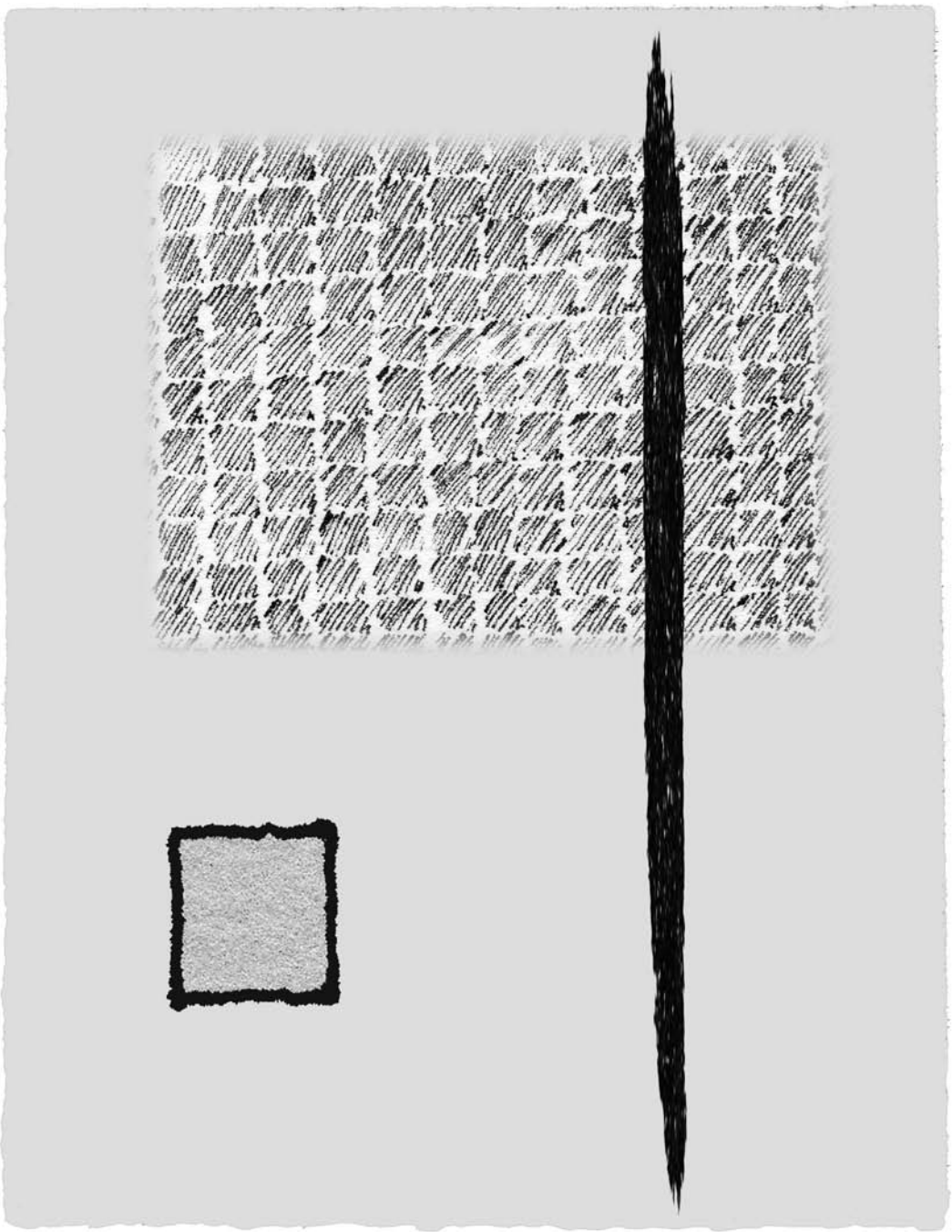
Utbildningsstyrelsen (2004). Grunderna för läroplanen för den grundläggande utbildningen. Vammala: Vammalan Kirjapaino.

Wiedersheim-Paul, F. (2005). *Isberget och andra metaforer.* Available at: http://fefiwid.fek.uu.se/Exawebb/isberget_och_andra.htm#isberget (14.12.2005)

Wikman, T. (2004). *På spaning efter den goda läroboken.* Om pedagogiska texters lärande potential. Åbo: Åbo Akademis förlag.

Footnotes

[1] Finland has two national languages, Finnish and Swedish. This article is written from a Swedish language perspective on teaching sloyd in Swedish comprehensive schools in Finland.



Contexts for craft and design within Swedish vocational education:

Implications for the content

Viveca Lindberg

Abstract

The context for this paper the research project ”Communication and learning in sloyd practices”, funded by the Swedish Research Council. Within the project, we explore sloyd practices from comprehensive school to higher education. In upper secondary education, which is the focus of this paper, the sloyd-related content can be found in various programmes. This paper is related to one of the subprojects, ”Sloyd in a changing world”, with a general issue concerning what kind of sloyd- and craft-related competence is in demand in society today. Here, the focus is on variations and similarities in content in two vocational programmes related to craft and design within Swedish upper secondary education and the implications of these with regards to competence. The data produced are based on group interviews, designed as three sequential sessions for collective remembering (Middleton & Edwards, 1990). Activity theoretical aspects inform the analysis of data. The schools represent different programmes but they all include textile craft in the main vocational subject. The identified similarities and differences in what the teachers want their students to learn is discussed in relation to historically developed traditions and how these shape the actions that frame the content, in order to achieve the sloyd- and craft-related competencies important for professional or personal development.

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Introduction

The context for this paper is a research programme comprising of four subprojects, one of which is called "Sloyd in a changing world". Within the project as a whole, this specific issue is being explored with regards to both quantitative and qualitative aspects. In this article, the focus is on textile-related programmes in Swedish upper secondary school and what competencies teachers prepare their students for. The issue of this paper is to explore the variations and similarities in content when textile-related subjects are contextualized in different programmes. What contributes to similarities and variation? Is there a core of textile-related knowledge that can be identified disregarding of context? What indications does the learning environment give about these matters? What – if anything – has changed over time? In this respect, the study seeks to identify implications for the actions the teachers choose for contributing to the competencies needed for participating in practices engaged in textile work (Leontiev, 1986). Variation, similarities and changes are here related to the local history and to the interplay between local and societal levels.

Swedish upper secondary school – background

From 1970–1991, there were 26 programmes (10 general and 16 vocational programmes[1] within Swedish upper-secondary school. Of the latter, two were related to sloyd: clothing manufacturing and woodwork. For each programme, there was a national curriculum that was to guarantee that all schools, regardless of municipality, would provide their students with an equal education (Lundahl, 1998). Today, the Swedish upper secondary school consists of seventeen national programmes, 14 of which are vocational and three general. Additional to these national programmes, there are specially designed programmes, mostly a local variation of a national programme[2] (Gy2000:19). For each programme, there is a national curriculum and national syllabuses. In these, the aims for each programme and for each subject are stated. The national curriculum defines some of the subjects – the *core subjects*[3] and the *programme specific subjects* (vocational or general). For each school, a space in the curriculum is left for defining courses related to local (or regional) needs – optional courses. Depending on the programme, the amount of predefined programme specific subjects co-varies with the amount of optional courses: the more predefined credits, the less optional courses and vice

versa. Further, some space is left for the individual student to decide which of the courses the school offers (s)he wishes to include into his/her exam. Summarising, the structure of a national vocational programme is the following:

Table I: Programme structure in Credits, national & specially designed programmes (Gy2000:08).

Programme specific subjects (vocational or general)	350–800 credits
Optional courses (vocational and/ or general)	150–1000 credits
Specific subjects, total	**1.450 credits**
Individual options (vocational and/ or general)	300 credits
Core subjects, all programmes	750 credits
Total	**2.500 credits**

A credit is defined as approximately 60 minutes. The final decision of deviations from this approximate time is left to the school and the programme (see below for examples of these kinds of decisions). In principle, the aims of each subject should be guiding the decision of time needed.

Programmes and schools for the study

Within upper secondary school, two national vocational programmes have been interpreted as sloyd related: the handicraft programme and the industry programme. Further, there are some specially designed programmes related to the materials. Complementary to the national specialisations, local specialisations may be constructed (Skolverket, 2000a). For the handicraft programme, there are no national specialisations – all are local – whereas the industry programme has several. However, only few are related to sloyd, and so is the case for the specially designed programmes.

The main arguments in choosing schools for the study were to find representatives for the three types of programmes in order to identify significant variations with regards to tools, tasks, competencies etc. Thereby the schools selected for the research project represent the handicraft programme, the industry programme, and specially designed programmes.

Aims for the three programmes

For each programme, there is a programme description, overarching aims, a curriculum, and syllabuses. In the description of the *handicraft programme* (HP), the following charac-

teristics are emphasised: the specific handicraft culture (which is to be maintained and developed), small-scale conditions, cultural traditions and skills, marketing and selling. This description is reflected in some of the aims[4] for the programme. The main aim is to give basic knowledge for work within a variety of craft areas (production, repair, and services) and to develop insights into the conditions for enterprising. The school is responsible for the students' developing the following competencies (Gy2000:19, p. 21):

– ability to transform ideas into products (with regards to functional demands, design, economy and quality)
– expertise in both craftsmanship skills of the respective craft and an aesthetical mind needed for creative processes
– familiarity with basic theories of relevance for the craft
– familiarity with traditions within craftsmanship and ability to relate these to cultural and stylistic contexts

The handicraft programme is a kind of umbrella for many directions from hairdresser to florist. As these are regional or local, the teachers within each school are to relate and concretise these general competencies to the direction in question – no further guidelines are given on a national level.

The characteristics of the *industry programme* (IP) are described as "providing a basic knowledge of working in both industrial production" (Gy2000:19, p. 25) and related areas with regards to competence "required in manufacturing, maintenance and service" (ibid., p. 25). Technology and technological development are emphasized, as well as competition on a global market, organisational changes (from mass production to outsourcing), control engineering, mathematics and computer applications. The school is held responsible for ensuring that students have the following skills (ibid, p. 26):

– basic knowledge required for effectively using tools, machines, computer systems and methods used in production;
– familiarity with using resources, production economics and work organisation in order to "take part in planning and production, and carry out work tasks with quality and responsibility"
– familiarity with basic scientific theories and models and important technical development of importance related to their industrial area

The basis for the specially designed programme (SDP) that is related to this study is one of the general programmes, the *social science programme*, which has been combined with courses from the handicraft programme. The characteristics of the main programme are described as ”providing knowledge based on the social sciences and the humanities about man’s conditions and activities”, as well as ”developing the ability to formulate, analyse and solve problems in a number of different subject areas” (Gy2000:19, p. 6). This is a general programme, mainly preparing for further studies, which is expressed as the responsibility of the school (ibid, p. 8). These focus aspects like ”interest in social science issues”, ability to ”search for, interpret and analyse information, as well as formulate and solve problems with the help of methods from the social sciences”; ”apply concepts and theoretical models”; ”apply a historical perspective to phenomena and events in society”; etc. However, in order to give a more specific description of the special with the specially designed programme, this national description needs to be completed with the local description of the school.

Summarising, the main differences, with regards to the curriculum for these three programmes, concern the following issues:

– tradition/small-scale production/entrepreneurship (handicraft programme);
– technology/industrial production/global market (industry programme); and
– knowledge about man’s conditions and activities/formulate, analyse and solve problems/prepare for further studies (social science programme)

In this article, two of these programmes – handicraft (HP) and the specially formed programme (SDP) – will be compared with regard to their local history[5] and to the teachers’ conceptions of what sloyd-related competencies that are needed in society today (and thereby what motivates their actions – they want their students to learn).

Courses common for two or three programmes

Of the 1.450 credits for specific subjects, some are common for all three programmes in this study, some are common for two of the three programmes, and some are unique for one of the programmes. In table II, a comparative overview is presented of those specific subject courses that are related to textile work.

Table II: Courses related to textile and programme (Material from local schools and their Internet-pages).

Course	**HP**	**SDP**	**IP**
Working environment and security, 50 credits	yes	yes	yes
Computering, 50 credits	yes	yes	yes
Vocational drawing and design A, 50 credits	yes	yes	yes
Pattern construction A, 50 credits	yes	yes	yes
Credits common for all three programmes	**200**	**200**	**200**
Arts and form – basic course, 50 credits	yes	yes	no
Pattern construction B, 50 credits	yes	yes	no
Credits common for schools 1 and 2	**100**	**100**	**---**
Projects and enterprising, 50 credits	no	yes	yes
Textile, colour and form, 50 credits	no	yes	yes
Textile and clothing, 200 credits	no	yes	yes
Common for schools 2 and 3	**---**	**300**	**300**
Specific courses related to textile and school	Craft technology A-D Materials Patt. constr. C Sale & service Introduction to craft History of culture & style Introd. to clothing & tricot	Embroidery & yarn techniques Design Introduction to aesthetics Vocational drawing and design B Design A Design, textile & weaving	Quality technology Production process Introd. to steering techn. Industrial technology Computerized pattern constr. A-B Textile and clothing B-C Maintenance
Credits for courses related to textile, specific for a school per school	1050	500	800
Textile related courses, in total per school	**1350**	**1100**	**1300**

With regards to Table II, all programmes have national syllabuses for four courses in common, which equals to 400 credits. These courses are also the only courses HP and IP have in common. HP and SDP have two additional courses in common. They share national syllabuses to a total of 300 credits. SDP and IP have seven syllabuses in common. In this case, the amount of credits is 500. However, for one of the textile related specific courses within HP – the sequence Craft technology A-D – the syllabus is formulated in a very general way. As there are several directions within the programme, the teachers within each direction are requested to interpret and specify the goals in relation to their programme. The guided walk indicated that the content chosen for this course contributed to the three programmes becoming more similar than could be expected from the first glance at courses and credits. Another indication of further similarities was given during the second group-interview with the teachers from SDP: they said that they had used the national syllabuses for IP and HP as basis for their construction of local syllabuses.

Collective remembering – sequential group interviews

At the beginning of the research project, we advertised for teachers who were willing to participate in the research project by letting us into their classrooms. Concerning upper secondary school, two textile teachers from one school read the advertisement and contacted the research group. In the other cases, the researcher contacted the schools.

At the first visit to the school, the project was presented to the teachers. Their participation was presented as a study consisting of two parts: a session of sequential group-interviews and classroom observations. The teachers were given an option to take part in only the first part of the study or in both parts. Each teacher's final decision was to be taken at the end of the first part. In this article, the focus is on the results from part one of the study.

The organisation of the sequential group-interviews was inspired by works on collective remembering (Konkola, 2000; Middleton & Brown, 2005; Middleton & Edwards, 1990; Radley, 1990; Wertsch; 2002). The basic idea with collective remembering is that memory is seen as social and related to people, places and artefacts rather than an individual, cogni-

tive process (Halbwachs, 1992/1925; Middleton & Brown, 2005). By interviewing groups of people who partially share memories, the group-interview is a situation where people are invited to contribute to the construction of a social memory.

However, the interview is a specific form of conversation, in which both interviewer and the interviewees contribute to the production of data – the meaning of the conversation is co-constructed (Mischler, 1986; Säljö, 1994; 1999). The data produced during interview sessions is thereby a result of the interaction between the people involved and thus reflect the interview situation (Middleton & Brown, 2005; Säljö, Schoultz & Wyndhamn, 2001). How to contextualise the situation is therefore an issue to be considered when planning the interviews. Another aspect to be regarded is the processing of the data, e.g. by using more than one interview session (Lindberg, 2003a) and by circulating summaries and preliminary results to the participants for validation (Lather, 1986).

In situating the interviews, I have been inspired by the work of Konkola (2000), Berthén (2003), Borg (2001) and Ivarsson (2003). In her study, Konkola structured the interviews around tools and resources. In this study, one of the tools she constructed – a time-arrow – was used in the *first interview* session (of three) for collective remembering within each school. The time-arrow was drawn on a large paper on the wall in the room. In each case, the starting point for time-arrow was the employment year the teacher who had been employed for the longest period of time (see also Berthén, 2003). In these particular schools, the respective time-arrows covered from 1986–2005 within HP and from 1992–2005 within SDP. The teacher in question was asked to start by telling what the school was like when (s)he started, her/his impressions of the teaching and the preconditions for teaching. Further (s)he was asked to make comparisons with the actual situation whenever (s)he found reason for doing so, and to tell about key events (Middelton & Brown, 2005) or critical incidents (Tripp, 1994; Woods, 1999) that (s)he considered had contributed to important changes within the programme. The instruction for the other teachers was to feel free to ask questions or make comments whenever they wanted to. In similar ways, the other teachers were told their stories a chronological order with regards to when they were employed. While a teacher was telling his/her story, the time-arrow was complemented with dates, names, and keywords for the persons, events etc. that were brought up.

The *second interview* was constructed with the steering documents (the national programme, national and local syllabuses and whatever complementing documents – current or previous – the teachers had considered relevant) as structuring tools. The reason for choosing steering documents as tools for structuring the interview was that they, when commented by the teachers, would contribute to a somewhat more specific picture of the design and structure of the programme within the particular school. Here, the initial instruction for the teachers was to present the programme with the help of these documents, to chose one of the first courses and tell what the students were expected to do within the course. Similarly the teachers were asked to present one of the last courses the students meet in the programme. They were also encouraged to tell about changes that had occurred during their employment and they considered important (key events/critical incidents) – that in some way had had an impact on the programme offered to the students. The first two group-interviews were audio-taped and transcribed. Copies of the documents the teachers had chosen for the interview were also received.

The *third interview* was inspired by Ivarsson's (2003) study, where she asked children to present their pre-school, its places and spaces to her – what a place/space was for and what was being done there. Basically, the same design was used for this study: teacher/-s was/were asked to introduce their workshop and other relevant spaces, the machines, tools and materials used and the tasks the student would use them for. Further, this introduction to the workshop served as a shortcut to becoming somewhat acquainted with the environment, the terminology, what the teachers highlighted (vs. walked by without paying attention) before starting part two of the study – the classroom studies. This session was conducted as a video- & audio-taped, teacher-guided walk through the workshop; digital photos were taken as a complement. One teacher within each of these two programmes guided me through the workshop. They were instructed to comment on any changes that had occurred in the workshop during the teachers' time as an employee, when they considered it important, and the consequences of these changes for teaching and learning. One of the questions during the guided walk concerned if the there was some kind of succession in the workshop with regards to where a newcomer (first-semester-student) would spend much time whereas an old-timer would not and vice versa, and whether some workplace, machine, or tool was more important than the others.

Data processing

The time-arrow constructed during the first interview was transformed into a document and the notes were complemented with information from the transcription of the first interview. This summary was given to the teachers and they were asked to complete it if they found that some important aspects were missing. The transcriptions of the second interview and the audio- and videotaped walk through the workshops contributed with complementary information, which was later added to the document. The interview transcripts were then used for constructing narrative descriptions of each school's local history. Finally, similarities and differences with regards to what the teachers within each school and programme want their students to learn. The whole process also guided my choosing of focus for the later classroom studies.

Descriptions of the schools

In the following, the descriptions of each school are structured around the following themes: a general introduction, teachers, programme, organisation of time, buildings and spaces, equipment, and tasks and material.

School 1: Handicraft programme – professional development for production

The school and this particular vocational programme have roots that can be traced rather far back in time. According to books on local history, there have been several masters in tailoring receiving apprentices in the region since the 17th century until the guilds were abandoned in 1846. Only a few decades later, a factory related to textile industry was established, and later also to clothing. The various stages in the development of Swedish vocational education have all been represented here. Shortly after the school reform of 1918, related to offering young workers a combined general and theoretical vocational education (Hedman, 2001), an apprenticeship school[6] was established in 1920. Two years later, a related vocational school[7] was established. When these school forms were abandoned for a new form, the workshop-school[8], one was established in 1943. With the reform of 1970, vocational and general programmes formally became one integrated upper secondary

school. However, the vocational programmes were located in another part of the town the 1990's, when a new house was built.

The number of students accepted to the programme has increased from twelve per year, which was the case in 1984, to sixteen per year during the probation in the late 1980's/early 1990's. Today this number is seventeen.

Teachers

In the group of three teachers – Anna, Alice and Adrian – Anna was employed in 1984. Two years later, she left the school for family reasons but was reemployed in 1999. Alice has been employed since 1989. Adrian was employed in 1997. All teachers have a vocational education or equivalent within the area. They all also have worked several years within clothing-industry. All three teachers have a vocational teacher education.

When Anna was employed, three vocational teachers worked within the programme, one for the first grade and two for the second. The number of teachers has remained, but nowadays each teacher follows her/his class from grade one to grade three. With minor exceptions, each teacher teaches all vocational courses to their students.

Programme

Since 1970, the vocational programmes were of two-years duration and this was also the case as Anna was employed in 1984. A one-year programme for further vocational education was introduced during the late 1980's. When the National Board of Education initiated in a probation – related to the later restructuring of the upper secondary school – the headmaster of those days urged teachers from all vocational programmes to participate, which they did. Part of the probation concerned the structuring of vocational subjects into specified modules – previously there was no other specification than vocational theory and working techniques. When the national reform of upper secondary school was implemented in Sweden in 1992, the headmaster proposed the teachers should use the possibility to postpone the implementation with a year, in order to take advantage of experiences made by other schools. Again the teachers chose to follow their headmaster's advice.

With the latest reform, the programmes of upper secondary school became fewer and broader. In this particular case, it meant that the programme the teachers had been employed for, clothing technology, no longer existed. As a result of discussions within the programme as well as with teachers from the wood tech-

nology programme, which also was terminated, the teachers draw the conclusions that the respective content could be framed within one of two programmes: the industry programme or the handicraft programme[9]. Due to the current labour market situation on the one hand and trends in the figures from those days showing 16-year olds' preferences regarding the national programmes, the teachers from both programmes considered the handicraft programme the most relevant choice.

Organisation of time

The national curriculum regulates the time for teaching. When Anna was employed, the curriculum from 1970 was still in use. In those days, the national timetable stipulated that vocational theory was to be taught seven hours per week each of the two years, and working techniques 23–20 hours per week during the first year respective 28–25 hours per week during the second (in total app. 1700h). The introduction of modules – which was a first step toward a specification of vocational theory and working techniques into more explicit content – during the above-mentioned probation, had a structuring function of the time spent for the content of each module. With the implementation of the curriculum of 1994 (Lpf-94), the time was again reorganised. Each programme was divided into courses: *programme specific subjects, optional courses, individual options,* and *core subjects* (see above). Each course comprises of 50, 100 or 200 credits. Common syllabuses[10] in core subjects were introduced for all programmes, vocational as well as general.

According to the teachers, the division of the vocational subject into courses, combined with the introduction of core subjects, resulted in a scheme that is fragmented – the students have few opportunities to work continuously for whole days. It is the vocational teachers' experience that vocational subjects are subordinated to core subjects (core subject teachers teach within all programmes, therefore the scheme is firstly planned with regards to them). The total time for vocational subjects has decreased. Local decisions also have further consequences for how the total time is used. As mentioned above, a credit point is *approximately* 60 minutes of teaching. With this flexible definition, given from the National Board of Education, the school has decided that a credit point in vocational subjects should be reduced to 80 percent of the recommended time. Further, various activities common for the whole school tend to decrease the factual time for vocational subjects.

Buildings and spaces

In 1984, two separate buildings were used for the program – one for the first grade and another for the second. Five years later, they found a building large enough for the whole programme. In 1996 a new school building was erected for all vocational programmes. The space for this particular programme was complemented in 1999 with a room for pattern construction and in 2003 they were given three more rooms – two for theoretical lessons and a computer room. There is one workshop, divided in three interconnected sections. Two of the sections are reserved for the students in upper secondary school – one for students in grades one and two, and one for students in grade three. The third section is reserved for students in the advanced vocational education (19+). Anybody can move freely between all three sections when needed. This also means that part of the equipment is shared between upper secondary school and advanced vocational education, which contributes to reducing the costs for each of them. The overall impression when entering the workshop is that it is very crowded. With 16–17 students per group, tables for working, sewing machines of various kinds etc. there is hardly space enough for two people passing each other. In order to manage the lack of space without creating too much chaos, a system for increasing order has been established with boxes, shelves and routines, which the students seem well acquainted with.

Equipment

In 1984, the basic equipment consisted of industrial sewing machines and a regular pressing-equipment. In 1991 the first computer was bought for the programme. The main equipment is presented in table III.

Table III: Main equipment (HP)

Equipment	**N =**
Sewing machines:	**35**
– industrial	22
– industrial, computerized	4
– household	1
– overedge	4
– special (knitware)	1
– buttonhole	2
– blind–stitch	1
Pressing equipment	**11**
– regular	8
– steamer	3
Tailors' dummies	**17**
Computers in/nearby workshop (excl. teachers')	**14**
– programme for pattern construction	

The chairs for the sewing machines are adjustable in order to make it possible for the stu-

dents to find a position that is ergonomically right. Cutting tables and pressing equipment are placed next to the rows of sewing machines. There is a rail for full-size patterns in cartoon, clothing in progress and ready-made clothes in each section of the workshop, and bookshelves for the student's binders. Further, there are two groups of four worktables – two students share a table. Each student has a basket, where they keep patterns, fabrics, notes etc. they need for their work. Under two of the worktables, a shelf has been made. Here tailor's rulers of various kinds, other small tools, and huge rolls of white paper for patterns are kept. As the school invested in computers and computer programmes for pattern construction quite early – also with regards to textile-industry – this had an impact on the collaboration between school and industry during the early 1990's. The computer and the computer programme were more advanced than what was regular within industry in those days. Collaboration was established, based on the industry having access to the computer programme within school and paying by offering courses in computer-based pattern construction. When the industry eventually closed down, the school employed the person, who had been working with computer-based pattern construction. Until 2003 there were looms in one of the workshops and weaving was part of the content in the programme. Vocational theory, for instance pattern construction, was considered needing more space and therefore the wall between the classroom and the workshop was replaced in order to enlarge the classroom. At this point the teachers decided weaving was no longer relevant for the programme and all looms were removed.

Tasks and material

Based on the interviews, two major changes in tasks have been identified, one of which concerns pattern construction. In 1984, when pattern construction was taught, this was made in 1/4-scale only because there was not space enough for full-scale patterns. When the programme was moved to another building in 1989, the 1/4-scale pattern construction was abandoned and since then full scale pattern construction is practiced. When the first computer was bought in 1991, manual pattern construction was completed with computer-based pattern construction. Manual pattern construction is still maintained as the basics (three courses – A, B and C – of 50 credits each), whereas computer-based pattern construction is offered as one of the courses (of 50 credits) within the group "Individual options". According to the Adrian, the use of computer programmes so far requires knowledge of the limits and possibilities

of changes in basic patterns, which computer-programmes of today cannot manage.

Another change in tasks is related to two matters. Firstly, a societal change related to structural changes in labour market. Many of the previous textile-industries in the region have closed down – or moved their production abroad. During the 1980's, they provided the school with jackets that were ready-cut for the students to sew. In this way, the students had the opportunity to sew many jackets and thus they got training in repeated sewing. Today this is not possible, which has had consequences for the confidence and speed in sewing the students can develop during their time in school. Secondly, the latest reform resulted in an experienced decrease in the time for specific subjects (Lindberg & Borg, 2006). This has contributed to a shift in the focus of tasks from production to product – and an increased "theoretical work". According to Alice, more bookshelves are needed nowadays, due to the fact that the students do more paper work. The most significant reason for this is connected to changes in the vocational subjects; with decreased time, the teachers have changed the tasks. More time is spent on sewing models of various details (e.g. darts, pockets) needed when making basic clothes (a dress, a shirt, a pair of trousers, a jacket, a coat) and writing job-descriptions for and, occasionally, remarks on these. Sewing models of various details have thereby replaced the repeated sewing, with focus on production. These details are used in the one or two garments the students sew within each course (trousers, dress, blouse, jacket/blazer, coat). Each student is to collect these details in a binder as a catalogue that (s)he can use later in life as a kind of encyclopaedia for how things are done, but also for identifying differences between various solutions commonly used.

During the guided tour, the dominating fabrics displayed in the material room were woollen cloth and synthetic fabrics of various kinds. There was also some cotton and silk, and linings. Dark colours (associated with jackets, trousers, coats) dominated.

School 2: Specially designed programme – for personal development and private use

The school in its present form was founded in 1992. Previously, there was a boarding school for home economics in these buildings, established in the beginning of the 20th century. Due to the reforming of upper secondary school, it was closed down and a new, independent school was established. Since the school is in the coun-

tryside and offers specially designed programmes, the facilitators have maintained the concept with a boarding school. Thus some, but not all, of the students live there for shorter or longer periods of a semester. The first students started their education in the fall of 1993.

Teachers

Bella was employed in 1992. She has a background as an industrial sewer, later she chose a further education to directress. After having worked several years with designing clothes and collections for Swedish clothing companies, she decided to become a teacher. In 1998, when the school invested in a programme for internal development she chose computing as her profile for development. Barbara also started in 1992, but there was only a part-time employment for her, so already the next year she found an employment as a sloyd teacher in comprehensive school. When a full-time job was announced in 1997, she applied for and got the employment. Betty was employed for a part-time position in 1999. She has now specialised on special education and has a full-time employment that combines her two competencies. All three teachers have a textile teacher education.

Programme

The national programme that formed the basis for this particular programme was a general programme (social studies). The specific subject courses integrated partly come from the handicraft programme (textile) or the industry programme. Other specific subject courses are local, but their content is constructed based on courses from either the handicraft programme or the industry programme. One of the first tasks Bella met was to, in collaboration with the headmaster, decide on the programme to come. With regards to the fact that there already was a handicraft programme within the area, and to the labour market situation within Swedish textile-industry, she recommended that they rather should start a specially designed programme than a vocational. She further emphasised the importance of securing that the programme would qualify for higher education within the area. Therefore the special admission requirements for textile teacher education, higher design education and the textile university were explored in order to ensure that the programme would meet these requirements.

Organisation of time

During the period 1993–1996 the curriculum was revised several times. Partly this was done

because the national steering documents were revised and partly because the syllabuses were tried out and revised with regards to experiences made. In 1996, a one-year continuation course was planned. However, it was given only once – since then all upper secondary programmes in Sweden became of three years duration. Simultaneously, the curriculum was revised and aesthetics was increased in order to match the admission requirements for sloyd teacher education. During the late 1990's, the students' interest in design increased. In 2002, this resulted in a revision of the programme, with an increase of courses related to design at the cost of decrease in courses related to environmental matters.

Buildings and spaces

When Bella was employed, the school still was a school for home economics, where the emphasis in relation to textile work was on weaving. During her first year she, besides teaching and designing the programme to come, was also to renew equipment and tools with regards to the intended programme. The workshop is divided into three separate rooms, two larger and a small. The rooms are the same as before, but the space is used differently. Previously, about twenty looms dominated the workshops. They were complemented by a few sewing machines. Many of the looms have been sold and replaced by equipment related to sewing. In addition, there is a small classroom equipped with various yarn-related material for courses where sewing machines or cutting tables are not needed.

As it is a boarding school, the workshops are open for the students also after school, which makes it possible for the students to either work with school tasks or to work with private projects and thereby use the school's equipment and tools.

Equipment

The workshop is divided into three rooms, two larger and one small. In one of the larger rooms, equipment related to sewing dominates. In the other room, the equipment is mixed. In addition to the sewing machines etc. there are also three smaller looms and a big one. Next to this room, there is a small room, which is full with looms. In the two last mentioned rooms, some older tools related to textile work have been used as decoration. Table IV gives an overview of the larger equipment in these three rooms.

Table IV. Main equipment (SDP)

Equipment	N =
Sewing machines:	**20**
– industrial	1
– household	15
– overedge	4
Pressing equipment	**4**
– household (steam iron)	
Tailors' dummies	**6**
Computers in/nearby workshop (excl. teachers')	**3**
– quilt software programme	
Looms	**14**
– large	8
– small	6

Tasks and material

The tasks here presented are based on impressions from the guided tour. The students in this school also produce a catalogue – a collection of models of various details (darts, pockets, collars etc) with descriptions of how the work is done. They are collected in maps in three colours – one for each main category of fabric (cotton, synthetics, and leather). The teachers motivate the catalogue differently – as the main focus of the programme is not on professional competence, the catalogue is to be used out of the student's personal interest in being able to recall how various details are constructed.

When it comes to the products, the students are free to choose the products they want to make as a specialisation within each course. One significant change in the tasks in this school is related to the size of the products. Some years ago the teachers realised that most students had to work late in the evening in order to finish their products in time. When this became clear, they reconsidered the tasks – they realised that the tasks must be related to the time available. Since then, the products are chosen with regards to the time frames – this means that the products the students make normally are rather small.

In the workshops there are several wall cupboards with fabrics and yarn of various kinds. Cotton, tricot and synthetic material in various colours (associating to leisure wear, shirts, skirts etc) dominate the fabrics. The yarn is also in various colours and material (cotton, woollen, synthetic).

Comparison and some conclusions

Although the preconditions for the two schools are quite different, some similarities can still be found. The main differences that have been discerned are, in a broad sense, related to different traditions. HP has a regionally continuous tradition related to tailoring that can be traced far back in history – master-apprenticeship, clo-

thing industry, and early vocational education – whereas SDP is newly established both as an upper secondary school and as an alternative to national programmes. The teachers within each programme seem to reinforce these differences. In HP, all teachers are vocational teachers. They have a previous vocational education or training as tailors or dressmakers and they all have experiences of working within clothing industry. In SDP, all teachers are textile teachers – their education is manly directed at teaching in comprehensive school, evening courses or folk high schools. One of them has a background as a dressmaker and has had a career within clothing industry. When the teachers in HP feel the time is too short for a vocational education[11], the teachers in SDP feel it is sufficient for its purpose. Further, the equipment, the fabrics, and the focus in the tasks reinforce these differences. The equipment within HP is related to professional production – tailoring and clothing industry – whereas the equipment within SDP is varied and related to everyday private use and personal development.

The most notable similarity so far is the task related to the making of the catalogue. The difference was related to how the task was motivated. When leafing through the exemplars found in each of the programmes, the basic idea was the same: sewing details of various kinds for comparison and as models for encyclopaedic use. However, the fabrics chosen for the details varied between the programmes – but so did the choice of details included in the catalogue too. Again, the different objects – professional respective personal development – seem to motivate the choices of fabric and details. Within SDP, this task was part of the course Textile and clothing, whereas it, within HP – where this course was not included – was part of the course Craft technology, a course with general aims that needed a local interpretation. This task was seen as contributing to the students focusing on specific aspects of the work – patterns, fabrics, details and combinations etc. Teachers within both programmes related to similar catalogues they themselves had made during their respective education – vocational education or sloyd teacher education. This encyclopaedic catalogue contributed to raising a question about the tradition of education for textile work: where does the task come from? Here only a brief outline for an answer is given. Some traces can be found already at the end of the 19th century, when a book on methodology for teaching in women's sloyd was published (Lundin, 1892). This book seems to have had an impact on the teaching of textile work in many context in Sweden – and still has.

As a conclusion, the two contexts for textile education each are of significance for what equipment and tools (artefacts of various kinds – cf. Kozulin, 1998; Säljö, 2005) the students are given to work with within the frames of the same or similar courses. They contribute to shaping the learning environment and thereby to what is mediated – in a school context this is part of the content. The artefacts in use mediate what tools they see as necessary for their students to learn to use, how to use them, and how to talk of them in use – in *vocational* or *everyday* contexts. One specific task, the catalogue, indicates that the competences the teachers find important for their students to learn not only relate to artefacts of today, but also to a tradition. This task aims at producing a tool – a support for the memory: an encyclopaedic catalogue. Whether the students choose a vocational or a specially designed, general programme, the one aiming at professional and the other at personal development, they simultaneously also appropriate and become part of the cultural historical tradition of textile education.

References

Berthén, D. (2003). *Gemensam historiebildning – ett sätt att berätta verksamhetens unika historia.* Paper presented at the NERA conference 6 – 9 March 2003 in Copenhagen.

Borg, K. (2001). *Slöjdämnet – intryck, uttryck, avtryck.* Linköping studies in education and psychology, 77. Linköpings universitet.

Gy2000:08. Hantverksprogrammet. Stockholm: Skolverket.

Gy2000:19. Programme manual. Programme goal and structures, core subjects, subject index for upper secondary school. Stockholm: National Agency for Education.

Halbwachs, M. (1992/1925). *On collective memory.* (edited, translated and with an introduction by L. A. Coser). Chicago: University of Chicago Press.

Hedman, A. (2001). *I nationens och det praktiska livets tjänst: Det svenska yrkesskolesystemets tillkomst och utveckling 1918 till 1940.* Umeå universitet, Pedagogiska institutionen, 57.

Ivarsson, P-M. (2003). *Barns gemenskap i förskolan.* Uppsala Studies in Education, 101. Acta Universitatis Upsaliensis. Uppsala universitet, Pedagogiska institutionen.

Konkola, R. (2000). *Yhteismuistelu työyhteisön historiaan liittyvän aineiston keräämisen välineenä* [Collective remembering as a tool for collecting data regarding the history of a working unit. In Finnish]. Tutkimusraportteja No. 3. Helsingin yliopisto, Kasvatustieteen laitos, Toiminnan teorian ja kehttävän työtutkimuksen yksikkö. Helsinki: Helsingin yliopisto.

Kozulin, Alex (1998) *Psychological tools. A sociocultural approach to education.* Harvard University Press.

Lather, P. (1986a). Research as praxis. *Harvard Educational Review,* 56, 257–277.

Lather, P. (1986b). Issues of validity in openly dialogical research: Between a rock and a soft place. *Interchange*, 17, (4) 63–84.

Leontiev, A. (1986). *Verksamhet, personlighet och medvetenhet.* Moskva: Progress Moskva/Fram Göteborg (original work published 1977).

Lindberg, V. (2003a). *Yrkesutbildning i omvandling. En studie av lärandepraktiker och kunskapstransformationer.* Studies in Educational Sciences, 64. Stockholm: HLS Förlag.

Lindberg, V. (2003b). Learning practices in vocational education. *Scandinavian Journal of Educational Research, 47,* 157–179.

Lindberg, V. & Borg, K. (2006). *Educational reforms – changes in sloyd education.* Paper presented at the NERA conference 9–11 March 2006 in Örebro.

Lindström, L., Borg, K., Johansson, M. & Lindberg, V. (2003). *Communication and learning in sloyd practices.* Research application to the Swedish Research Council, April 2003.

Lundahl, L. (1998). Still the stepchild of Swedish educational politics? Vocational education and training in Sweden in the 1990s. *Thematic Network on Teacher Education in Europe, Vol. 1*, Nr 1. http://tntee.umu.se/publications/publications_uk.html#volume1 (retrieved 2000-06-10).

Lundin, H. (1892). *Handledning i metodisk undervisning i kvinnlig slöjd* (med 80 teckningar af Ebba Carlin). Stockholm: Fritze.

Middleton, D. & Brown, S.D. (2005). *The social psychology of experience. Studies in remembering and forgetting.* London/Thousand Oakes/New Delhi: Sage Publications.

Middleton, D. & Edwards, D. (1990). "Conversational remembering – A social psychological approach". In D. Middleton & D. Edwards (Eds.), *Collective remembering.* London: Sage.

Mishler, E. G. (1986). *Research interviewing: context and narrative.* Cambridge, Mass.: Harvard University Press.

Nilsson, A. (1998). Uppkomsten av nya organisationsmodeller för yrkesutbildning i Sverige. *Thematic Network on Teacher Education in Europe, Vol. 1,* Nr 1. http://tntee.umu.se/publications/publications_uk.html#volume1 (retrieved 2000-06-10).

Prop. 2003/04:140. Kunskap och kvalitet – elva steg för utvecklingen av gymnasieskolan. Stockholm: Utbildningsdepartementet.

Radley, A. (1990). "Artefacts, Memory and a Sense of the Past". In D. Middleton & D. Edwards (Eds.), *Collective remembering.* London: Sage.

Skolverket (2000a). *Education for all. The Swedish education system.* Stockholm: Liber distribution.

Skolverket (2000b). *Utvärdering av fem gymnasieprogram 1999* [Evaluation of five upper secondary school programmes]. Rapport nr 182. Stockholm: Liber distribution.

Säljö, R. (2005). *Lärande och kulturella redskap.* Norstedts Akademiska Förlag.

Säljö, R. (1999). "Dialogiska ansatser: Introduktion". In J. Lindén, G. Westlander, G. Karlsson (Eds.), *Kvalitativa metoder i arbetsforskning* (p. 202–209). Stockholm: Rådet för arbetslivsforskning.

Säljö, R. Schoultz, J. & Wyndhamnd, J. (2001). Heavenly talk: Discourse, artifacts, and children's understanding of elementary astronomy. *Human development*, 44 (103–118).

Tripp, D. (1993). *Critical incidents in teaching. Developing professional judgement.* London: Routledge.

Wertsch, J. V. (2002). *Voices of collective remembering.* Cambridge, U.K. ; New York: Cambridge University Press.

Woods, P. (1993): Critical events in teaching and learning. London: Falmer Press.

Footnotes

[1] Besides the national programmes, there were a good 500 special vocational courses (cf. Lundalh, 1998).

[2] In a specially designed programme, subjects from various national programmes may be combined. The specially designed programmes are often hybrid programmes, vocational programmes with an increased amount of general subjects or vocational subjects integrated in a general programme (Lindberg, 2003; Nilsson 1998).

[3] Core subjects (Swedish/Swedish as second language, English, the arts, mathematics, general science, physical education and health, social studies) are common to all national programmes.

[4] The other aims are common for all programmes. These concern service-quality-responsibility; communication skills; ethics; ICT; matters of health and security; sustainable development; and international regulations. Each of these aims are to be related to the respective programme.

[5] According to a research review on sloyd-related education, most studies so far have described the history of sloyd education on a national level. In some cases, the history of an individual school has been described – in these cases the focus has been on documentary-based descriptions (Lindström, Borg, Johansson & Lindberg, 2003).

[6] The conception apprenticeship school relates to the students accepted – the admission requirements were an employment within e.g. craft. The basic idea was that the employer provides the apprentice with the skills necessary for the work whereas the school was responsible for vocationally related theoretical subjects – vocational drawing, vocational economy, and laws regulation labour and vocations (Hedman, 2001; Lindberg, 2003a).

[7] The admission requirements were a minimum of two years working experience, a completed the apprenticeship school. The vocational school provided advanced vocational knowledge for individuals aiming at establishing enterprises or master-positions within industry (Hedman, 2001).

[8] This school form was implemented in Sweden as an answer to the current labour market situation with an increasing unemployment. Therefore workshops for training were established within schools as a solution to the contradictory situation that had emerged with the previous schools; the precondition for admission to education was that you had an employment providing you with the skills and the employers expected their workers to be skilled (Hedman, 2001, Lundahl, 1998).

[9] The handicraft programme is one of the smallest national programmes. It is an umbrella for several vocational areas – e.g. florists, hairdressers, tailors, carpenters (Skolverket, 2000:182)

[10] The syllabus for each core subject consists of common objectives, formulated in general terms. These are to be complemented by locally formulated objectives that, according to the guidelines from the National Board of Education, should be infused by the character of each programme (Prop. 2003/04:140).

[11] N.B. the steering documents specifically point out that upper secondary school does not give vocational education, only preparatory vocational education as it is impossible to predict the specific competencies needed.

Learning in practice – practical wisdom – the dialogue of the process

Bent Illum

Abstract

This article is based on parts of the content in my PhD thesis "Det manuelle håndværksmæssige og læring – processens dialog"(eng. Manual handicraft and learning – a matter of dialogue between the material and the craftsman). The aim of the research was to look for explanations how learning develops in the manual craft field.

The article introduces a learning model – process dialogue – for the learning that takes place in the manual handicraft area. First of all an attempt is made to explain the complex circumstances concerning the use of the concept of apprenticeship, and then there is a discussion of earlier theoretical positions in relation to apprenticeship and the area of learning, after which the theory and the model of process dialogue can be presented. This theory of learning is then positioned in the handicraft and design process itself. In my work the model of process dialogue has been used to show and illustrate the process in the working procedure, the external as well as the internal process. The model demonstrates and documents the individual elements that a handicraft process (or sloyd process) consists of, including the simultaneous perception that is part of the element of process dialogue. This model also includes the internal process, the process dialogue, and it is therefore also used as a basis for learning theoretical considerations of body-based learning (tacit knowledge).

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Introduction

Through man's entire existence, he has taught himself patterns of action and edified his knowledge. A big part of this learning and knowledge-edification has taken place in practice – that is by acting in relation to a piece of work or a process which had to be handled. But how this area of learning actually functions in the individual (learning) or for that matter in institutional situations of learning (teaching) has not been a subject of much interest or research. Part of this can be ascribed to the fact that man, when he needs to learn something practical, only needs to have a presenter and an action which needs to be done. When he has repeated this action a sufficient number of times, he has learned and will then be able to present it to others, who can then begin learning by acting. Often these presentations are not accompanied by much language. Maybe the verbal communication is just: "Look here. You just do this...", "Now it is your turn." How does the individual learn in this situation, and what becomes of this knowledge? When we know that we know it and we can present it to others, why do we not verbalize the actions and the knowledge? Are these patterns of action and this knowledge silent (tacit), or is it just not necessary to verbalize? Are there within this field ways of communication which have not yet been examined?

The situation of learning in school and in everyday life

In the Danish Folkeskole the subjects are often divided into "the academic subjects" and "the others", the non-academic subjects, the practical- and art subjects, the creative subjects or the aesthetic subjects. There are a number of terms which seek to cover the areas for the non-academic subjects. But here are also problems; the chosen term usually does not cover the entire area. For instance, the term "practical subjects" does not include the subjects music, arts and physical education or does it? That completely depends on which perspective you take. But actually this dividing up into academic and non-academic subjects might be interchangeable with the fact that there are different learning conditions, which are manifesting themselves. Pedagogues and psychologists have for at long time been interested in the learning conditions in the so-called academic part of the subject spectrum; but how does the learning take place in the other part of the subject spectrum? Here it looks like the learning situations more resemble those that take place in everyday life, for instance in the homes and perhaps some places in the business life, where the individual adult teaches the rising generation the necessary skills, more than they resemble those that take place in the academic part of the subject spectrum.

From this argumentation it could look like the learning conditions in the non-academic subjects have something to do with the action- and knowledge learning as it takes place in everyday life, where practical actions and knowledge are learned. When empiricism concerning this field of learning must be gathered through research, it will therefore be possible to do so both in an institutional context in the Folkeskole, in a context of everyday life, or in another context where practical skills and knowledge is being learned. My research, which underlies this article, is based on empiricism collected at a Folkeskole. On the basis of the above-mentioned problematics concerning the learning conditions in the practical field, it will be interesting to consider the learning conditions as they are described in the traditional craft's apprenticeship, where one has traditionally learned skills and knowledge in practice.

Research in the learning field of the craft's apprenticeship

Craft's apprenticeship has been known since the Middle Ages as a concept and a form of practice. The concept has had different value and content concerning the perspective of the person speaking or writing about it. The perspective could be based in economic competences, educational conditions, historical conditions, learning systems, handicraft skills, social competences or professional competences. It is obvious that so many and such different perspectives will never have the same opinion about a certain field. Through the last part of the last century, the craftsmanlike educations, which used craft's apprenticeship in Denmark, underwent a number of changes (Sigurjonsson. 2003), but in the end of the 20th century and in the beginning of the 21st century, the politicians in Denmark once again became aware of the importance of craft's apprenticeship as a form of education. Lave and Wenger in 1991 submitted their research achievements in the book "Situated learning – Legitimate peripheral participation". In this they told how their theory about situated learning and legitimate peripheral participation among other things has come about on the basis of field research with the Vai and Gola tailors in West Africa. By observing life, work and the way of educating with these tailors, Lave and Wenger formed their theory. It was especially the conception of learning which was the focus of interest for these researchers. Traditionally learning can be considered as "a certain kind of individual short-term mental exercise" (Lave. I: Nielsen & Kvale 1999. p. 39). This definition generally applies to the research fields of anthropology, psychology, sociology and social theory. In educational

connections in the western countries, learning has traditionally taken place in formal institutionalized contexts; but with the tailors in West Africa, Lave and Wenger could describe another method of learning, another system of learning, which somehow was different from the formal institutionalized method. Judging from the descriptions, it is probably the same method as has previously been present in the craft's apprenticeship in our society. Lave and Wenger found that the learning took place in the working partnership in the practice situation – the circumstance they called "situated learning". Through the observations they also found that education took place in a way where "the apprentice" participated very little in the beginning, yes he might even only observe, while later he participated in easy processes and in the end he participated fully in the practice production. In their theory this phenomenon is called "legitimate peripheral participation". Their observations showed that while "the apprentice" learned the handicraft he was also educated to becoming a member of the tailors' society. This applied both to the commercial, the educational, the social, the organizational and the economical fields. From an anthropological perspective you can say that this education primarily took place as a socialization course similar to the thoughts of Lave and Wenger, where socialization took place through a number of situated learnings.

This argumentation you also find in other places with Lave (Lave. I: Jacobsen. 2001). On this basis Lave and Wenger think that learning as such concerning the craftsmanship only takes place in situated practices. I will question this and return to this later in this article.

Hubert and Stuart Dreyfus also did research in the end of the 20th century on the concept of learning; but their basis was in the computer development and the consequent wish for further knowledge about the human concept of intelligence. Through the book "Towards a Phenomenology of Ethical Expertise" (Dreyfus & Dreyfus. 1991) they discuss their theory of the development of the craftsmanlike competence with examples of practice, from for instance, playing chess and driving a car. These thoughts are continued in "Life on the internet" (Dreyfus, H. 2001). They research is from a psychological, philosophical point-of-view; but their focus is also aimed at the learning process as such. They state that knowledge and experience arise through practice training. Training shall not be understood here as an unconscious repetition; but as a common use of craftsmanlike skills in everyday life. Their theory includes

five levels from the neophyte to the expert. The neophyte learns by means of rules and instructions. The expert works in an intuitive, holistic way, as Dreyfus & Dreyfus described, based on his/her many prior practice experiences with his/her problem-solving and he/she achieves in that way results of a high qualitative level. This theory of learning depends on a form of social gathering in the form of a kind of "education" on the first levels, neophyte and advanced neophyte. There the education has an asymmetrical relationship between a master and an apprentice or between a teacher and a student, even though it does not necessarily have to take place in a formal, institutionalized context. On the two last levels, the competent and the expert, it is the holistic, and in the case of the expert, also the intuitive holistic way of working, which is prevailing. This way of working must absolutely be said to be individual. The learning, which takes place on these two levels, must therefore also be subject oriented.

These two very different learning theories about learning in relation to the handicraft weight the social aspect very differently. In Lave and Wenger's theory the situated learning, which takes place in a social context, the central aspect. Dreyfus & Dreyfus' learning theory focus on learning which takes place in the person, I am tempted to say "inside" the person, and which is being summed up there.

Do these differences have grounds in different scientific basis, anthropology respectively psychology/philosophy? That is possible. Lave and Wenger only deal with which learning takes place in the individual tailor, in relation to being absorbed and admitted into the tailors' community. Their examinations are based on a wish to uncover some conditions concerning different kinds of learning in a formal and an informal context. H. and S. Dreyfus deal with learning in relation to the individual person's skills and competences which relates to mastering one craftsmanlike area or another. The basis is to want to uncover the human intelligence in relation to its usability or uselessness in relation to the computer industry. These two very different theories show a little of how broad the conception of the craft's apprenticeship is just in the area of learning.

The craft's apprenticeship and the learning, or the learning systems it contains, are according to the new broad and complex conception of intelligence, a very complicated field. Many researchers deal with this complicated field of research. From the anthropological, social field can be mentioned Lave & Wenger (1991,

2003), Nielsen and Kvale (1999), Dreier, (In: Nielsen and Kvale, 1999). From the psychological, philosophical field can be mentioned H. & S. Dreyfus (1999, 2001), Johannessen (1999), Nielsen & Kvale (1999), Molander (1993), Schön (2001) and Gustavsson (2000). From the field of brain research, which must be considered a sub-field to the psychological, philosophical, medical field, can be mentioned Bergström (1998) and Gerlach (1999), and from the field of working life can be mentioned Illeris (2002) and Schön (2001).

Analysis of the craft's apprenticeship's learning field

In order to uncover and define learning in practice, I believe there is a need to analyze, not only the very broad conception of craft's apprenticeship, but also the learning systems which are to be found. In most educational courses, at the time where the education is established, you can find a certain purpose concerning the goals of knowledge and skills, which are desired improved in the individual. At the place of education, which can be a business or an educational institution, a method to improve the learning of the desired knowledge and skills is chosen. Based on the given education/exemplification, a learning takes place in the individual student or apprentice, which can be read as "a more or less permanent change in behavior as a result of experiences, knowledge and exercises by ones own choice of activities, work and assignments" (Hansen. 1998).

I call the relation between goal, contents, method and learning profile a "system of learning" in this connection. From this definition, containing several parameters, it is clear that different learning systems can be found.

Especially the learning systems, in relation to the problem presented in this article, are essential to get clarified. The conception of craft's apprenticeship as such contains as mentioned a number of sub-fields, such as business competence, business understanding, economical competence, social competence, historic conditions, the educational conditions of the craft's apprenticeship as well as the craftsmanlike professional skills and the actual learning systems of the craft's apprenticeship, which each have their own learning style.

It is the learning systems or the learning styles and the craftsmanlike skills and knowledge of these, which relate to the problem field of this article. The essential questions in this connection must be:

1. What are the contents of the learning?
2. Which learning system applies?

Already in these two questions, the complexity of the field becomes obvious, because there are several answers to each of the questions.

When I look at what an apprentice in Denmark learns during his education, it turns out that there are several focuses of learning during the education. Naturally there are labor market directed goals of skills, knowledge and competences; but that is not the only thing the apprentice learns. He/she is also implanted with/taught an identity in the course of the apprenticeship/education. It is the special group identity, which just in Denmark belongs to this particular education field. As a figurative example of this can be mentioned that blacksmiths usually wear blue work clothes, carpenters wear khaki or white and bricklayers wear white. This is how it is, without there being any clear logical explanation for this. If a carpenter one day comes to work in blue work clothes, it is not well received.

The different craftsmen also have a clear notion of the craftsmanlike hierarchy and know exactly where they are placed themselves. On top of that, most craftsmen also have a clear notion of where their actual trade is on society's social ladder. So in the course of the training as craftsmen a clear group identity preparation of the apprentice takes place, so that he/she can become a valid member of this actual professional or rather social professional environment. In my opinion this phenomenon is a result of what Lave & Wenger call legitimate peripheral participation (Lave & Wenger In: Nielsen & Kvale. 1999). In the training a more or less conscious influence of the person has taken place from peripheral participation to complete participation in the community. There has been a social learning (a learning of a social nature) towards complete participation. This learning has mostly taken place in social contexts in the practice community, in what some researchers (Lave & Wenger; Nielsen & Kvale and Dreier in: Nielsen and Kvale. 1999) describe as situated learning.

But where has the professional learning of skills, knowledge and competences taken place, then? Does it follow on its own as a covert learning, a kind of silent transfer of knowledge, as a by-product to the above-mentioned social learning? I do not find that likely. I do not even think it has been rendered probable that there is a direct connection between the social learning and the professional learning, apart from the fact that they both take place in the same learning

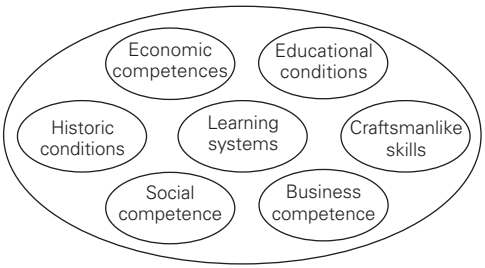
space. I actually believe, that it is this indistinct condition, which causes Merete Munk in her book "Mesterlære retur" to be able to expose a considerable criticism to the craft's apprenticeship as it is interpreted by Lave & Wenger and others, especially in the area of learning. Munk summed up her criticism of the craft's apprenticeship in Lave & Wenger's interpretation with the words:

"It has further been shown that the craft's apprenticeship does not distinguish between learning and socialization, and that the craft's apprenticeship is not a theory about learning, but solely deals with socialization." (Munk. 2002. p. 114)

The complexity of the craft's apprenticeship

Out of this complex field, I am in this article occupied with how learning takes place in this field. It must be likely that the learning towards so many joint-fields as the model contains, takes place at different times and in different ways, but in what ways? Which areas are the most important for the apprentice? In which order must the most important areas be learned? It must be expected that even though the education today mostly are education of exchange (Sigurjonsson. 2003), the learning for the part of a large number takes place in practice fields of formal or informal character. But which practice fields are we talking about here?

That indicates that the craft's apprenticeship's very complex field could look like the figure 1.



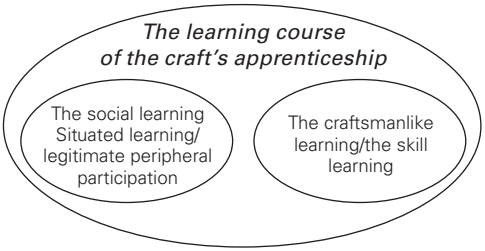
The complexity of the craft's apprenticeship
Figure 1 (Illum. 2004. p. 71)

These above-mentioned considerations then mean that, in my opinion, there are at least two learning spheres/learning systems within the craft's apprenticeship or as I prefer to call it in this connection, the craftsmanlike field. That indicates that the craft's apprenticeship's very complex field could look like the figure below.

The one learning system must be of a social character, since it is directed towards the personal, towards the formation of a group identity as craftsman of the certain kind, which this training is directed towards. This learning

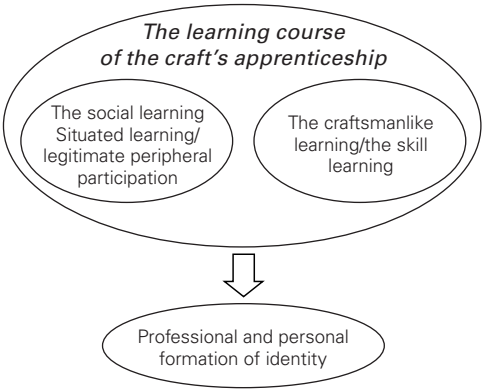
takes place, as mentioned above, within the conceptions of legitimate peripheral participation and situated learning. The other learning system must be the learning field which gives the apprentice craftsmanlike skills and competences. By craftsmanlike I here mean specific body-based skills and competences, which are relevant to the handicraft in question. For instance it applies to the carpenter that he needs to possess body-based skills and knowledge that make him capable of using his tools to as an example make an attic on a house.

The last-mentioned learning system has fulfilled its mission, when a person has achieved the necessary professional skills, knowledge and competences. The person will also have obtained a strong self-esteem and a personal identity feeling which will probably melt together with the above-mentioned social formation of identity. Maybe it is precisely these two different ways towards the craftsmanlike joint identity which, when they have not been looked at separately, have contributed to muddling the learning image in the craftsmanlike field. From the last-mentioned argumentation the joint image of learning and of formation of identity looks as the figure below.



The learning course of the craft's apprenticeship. Figure 2 (Illum. 2004. p. 72)

The above-mentioned formation of an identity and professional learning in the apprentice takes place through two different learning systems in the learning course of the craft's apprenticeship and can be illustrated as on the figure below.



The joint formation of identity relationship of the craft's apprenticeship. Figure 3 (Illum. 2004. p. 73).

The handicraft experts as minority or majority

The professional, traditional craftsmen in the North are often looked at as a "dying out race" in the post modern society. The Nordic countries nowadays do quite a bit to register the ancient handicrafts before they become completely extinct. Gradually as society changes more and more rapidly, the demands to the products we surround ourselves with will change. Therefore the needs for different types of professional craftsmen will also change over time. That is why, in my opinion, nothing strange if some of the traditional handicrafts diminish drastically or disappear completely. On this background it is commendable that some people undertake to gather material about these types of handicrafts, before it is too late. But new "handicrafts" also turn up. New products and processes are developed, which need to be mastered and treated by somebody. As examples of this can be mentioned that the pyramid-builder is extinct, that air mechanic has turned up, the plumber has within his field changed the coal furnace for the gas furnace, and the factories produce new products developed by different kinds of designers.

That the number of traditional professional craftsmen is going down can be seen in statistical works; but many work situations in both the business world and in the everyday life contain skills of craftsmanlike character. Craft's apprenticeship as a learning system has survived in the trades and the skill-areas, which had a craft's apprenticeship-like educational situation, for instance singers, painters, architects. Now we can add new titles to the field of professional craftsmen, such as designers, creators, textile developers and so forth. There has become many more of these occupational names. So to me the "handicraft" is still going strong, when this is understood as to be able to use one's hands by means of body-based experiences and skills to produce something, which others will pay for.

Learning to produce the products which are necessary to survive in ones own culture has always been a characteristic for man (Mollerup. 1998), for that matter, a skill which separates us from the animals. Learning to produce these products based on body-based experiences, tools and reflection on the process is a consequence of man's way of using his senses.

If this is the case, it means that the learning method, where the function of the senses and the dialogue of the process (learning in practice) which form a whole, is fundamental and

humanly universal. Based on this background it can be said that the way of learning, which for instance is in focus by researchers such as Lave and Wenger, the Dreyfus brothers, Illum and others, partly with an anthropological and partly with a psychological, intelligence- and learning theoretical basis, actually points out the learning method of the handicraft, which is a part of the universal human learning method. It looks to me like the people, who have the opportunity to use and do use this way of learning, do not constitute a minority, but a majority of humanity.

The craftsmanlike learning

The social learning system is as earlier mentioned treated and described by researchers such as Lave & Wenger, Kvale & Nielsen, Dreyer and others, while what I call the craftsmanlike learning is not quite as well described. In their theory about intuitive expertise, Hubert and Stuart Dreyfus discuss the results of this craftsmanlike learning; but they hardly mention how this learning takes place and how it leaves its marks in man, leaves its marks in the body. The craftsmanlike kind of learning happens to a large extent through the senses. When we work with our hands, almost everything is taken in through the senses, both the far-away senses (sight and hearing) and the nearby senses (taste, smell and tactile senses). If the perception takes place through one sense, there may be a fine perception; but if there is a multi sense perception, then this is much stronger than the first-mentioned (Beck and Wellershoff. 2002).
By manual craftsmanlike labor and learning the tactile and sight senses are leading; but also the hearing and smelling senses are essential. The taste sense usually has less importance. Here are perception situations where the multi sensing is the prevalent. On this basis it must be a good, efficient way of learning, which can be found in the manual craftsmanlike field. But how does the learning itself take place, and how can the results of this learning be stored and recycled as knowledge, skills and competences?

The process course for the sloyd process / the handicraft process

When you work within one of the areas of sloyd or handicraft, your work traverses a course, a process, a work process for the practical work. This process has many names: The Danish Ministry of Education's Executive Order use the conceots the creative and craftsmanlike production (www.faellesmaal.uvm.dk/fag/Sloejd/formaal) or the design and work process (www.faellesmaal.uvm.dk/fag/Sloejd/beskrivelser). The curriculum for the previous graduate education at Danmarks Pædagogiske Universitet

uses the name the process for aesthetic practical work (DLH. 1993). The design theorists use the design process, and the philosopher Michael Husen calls the process the entire work (Husen. 1984). It is a process, which has been focused by researchers especially within the framework of Nordic Forum for Research and Development (NordFo) by Linnea Lindfors (Lindfors. 1992), Kajsa Borg (Borg. 2001), Jan Sjögren (Sjögren. 1997), Christina Nygren-Landgärds (Nygren-Landgärds. 2000) and others. These researchers have all worked from their separate basis, with their separate perspective, towards their separate focus – and essential points in the sloyd process' long and complex course has been thoroughly examined. But the total image of the sloyd process' course is not yet completely elucidated, and many questions are still to be answered, like: What is the essential in the handicraft- and sloyd process? What is the fundamentals of handicraft- and sloyd process? Or in the modern, Danish discussion terminology: What is the core of our subject area? To me the core is definitely of a learning theoretical nature!

Pointing out and clarifying the dialogue of the process

At a seminar in Gothenburg, Sweden, within the framework of Nordic Handicraft Forum, a study – the Maihaugen Report (Godal. 1999) – was quoted for. The question was which was the most essential to the ancient craftsmen in their education and professional experience, the knowledge of materials or the knowledge of tools. This knowledge is not to be understood as if the individual craftsman or "sloydsman" knows where to buy wood or how to hit with a hammer. It is to be understood as the individual having to obtain a more profound understanding of the differences of materials. What is the characteristics of the materials, their potential, their limitations and that the individual must be able to use the tools in such a way, that they have become a periodically integrated part of the person himself. I can give an example. When a young child uses a hammer, it takes all of the child's attention to hold on to the hammer and to hit, that is to move the hammer in a way which makes the head of the hammer even hit the nail. When the skilled "sloydsman" or craftsman uses a hammer, his attention is turned to the intrusion of the nail into the material. If the process turns out the way it should, the "sloydsman" also manages to keep an eye on the materials, which are to be nailed together, to ensure that they have been correctly placed in proportion to each other. In other words, the focus has been shifted. The tool has become an integrated part of the "sloydsman"

himself, and the attention is no longer where the hand ends, but where the tool ends. This could also be expressed by the fact that focus has been shifted from using his energy, consciousness and power to getting the tool to work, to directing focus in the working process towards going into dialogue with the material.

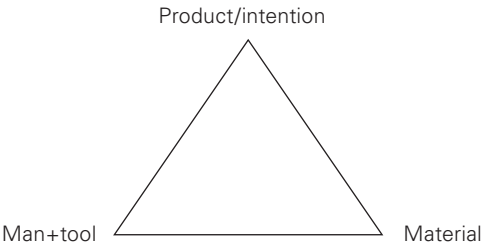
In the here mentioned working process with hitting a nail into a material, probably made of wood, one can ask one-self if a dialogue arises – what I call the dialogue of the process. The word dialogue stems from the Greek word 'dialogos', which means conversation or discussion. Can you then call the craftsmen hitting a nail a dialogue? Can something which is usually non-verbal or silent, be a dialogue? I believe that a conversation or communication can be described as an exchange of views and arguments concerning a common field, and it is in this way I metaphorically apprehend the dialogue of the process. Man and tool constitute the one participant in the dialogue and the material is the other participant. The common field is the working process itself. In a verbal dialogue man mainly uses his auditory sense to hear words (sounds), which results in internal visualization and conceptualization. I here allow myself to except body language, facial expressions and so forth as a part of the verbal dialogue. In the dialogue of the process man also uses his senses, but in a slightly different and broader way.

An example: When the "sloydsman" puts the nail in that place on the wood material where the nail is to be hammered in, he intuitively estimates from his knowledge of this exact kind of wood, this kind of nail and this size of hammer, how hard he needs to hit with the hammer. After the first blow the "sloydsman" can, if he is attentive, sense how the activity has been carried out. He can *hear* how the sound was in relation to the sound he expected. He knows the sound of a correct blow. With the auditory sense he perceives the sounds of the process, and he compares these sounds with his experience-based knowledge of sounds when a nail is hammered in. From this comparison alone, the "sloydsman" can determine whether the process goes correctly or whether something needs to be corrected. Besides, he can *see* whether the nail went straight in as he anticipated, or whether it went in askew in relation to what he anticipated. With the sight he reads this thumbnail sketch, which is a result of his extension, the tool's working up of the material, his "remark" to the material. If the nail has gone straight in, he can also, by interpreting the image, see if it has gone in as far as he expected. The *tac-*

tile sense makes out the resonance or recoil the hammer produces in the hand as a result of the blow. This recoil tells the ”sloydsman” how the working up of the material in the process has been – successful or insufficient. By reading, ”hearing” and feeling these reports, ”remarks”, from the material in the process, the ”sloydsman” obtains the knowledge he needs in order to proceed with the process. Then comes the next blow – the next remark from the ”sloydsman” – and once again the material ”answers” him in the working process itself. An answer, which can be read by means of the senses, and which the ”sloydsman” understands by virtue of his body-based experience. He reflects upon an answer and is then able to give his answer – that is to act. In this way the dialogue continues – what I call the dialogue of the process – until the nail has been completely hammered in. Often the process is concluded with an evaluation – a sense-like evaluation, where the ”sloydsman”, if he is right-handed, brushes over the head of the nail with the tips of his left-hand fingers, to feel – sense tactilely – whether the nail is all the way into the wood.

This way a dialogue arises between man + tool and material in the course of the sloyd process or handicraft process each time a tool works in a material.

The dialogue of the process is in the field within the triangle carried out between product/intention, man + tool and material.



Triangle model of the dialogue of the process: Figure 4 (Illum. 2004. P. 87)

In the course of developing the triangle model of the dialogue of the process, I was aware of the fact that the conception of a product did not cover all the areas, which could be the result of the dialogue of the process during a sloyd- or craftsmanship process. The dialogue of the process also occurs in, for instance, many practical working processes like it is to mend a bicycle puncture. Here it is more of an intention; a specific goal man has with the working process. It means that the practical working process can either have a specific product or a problem-solving intention as its goal.

The word intention made me think back to Otto Salomon, the Swede who came up with and defined the concept of "the pedagogical sloyd". He was already in the end of the 1800s working on finding the essential – in the modern Danish terminology the core of the field – in the sloyd itself. For many years he wondered, and discussed with many others – what should be considered to be truly central in the sloyd – in the handicraft? In the end he found the inspiration to be able to see the connection. He believed that his thought about "en övning" [a practise] was so clear that he called it his "Columbi egg". He formulated the fact of carrying out "en övning" or to "slöjda" in this way: "En övning är bearbetandet av ett material af en viss beskaffenhet med et visst verktyg för ett visst syfte" (Thorbjörnsson. 1990. p. 62). ["To work with sloyd is to work up a certain material with a certain tool with a certain intention" (Illum. 1999)]. Combined with my later research concerning the dialogue of the process, the result will be: To work with sloyd is to work up a certain material with a certain tool with a certain intention in a reflection supported by senses.

Model of Otto Salomon's Columbus egg and The dialogue of the process

This condition can be made into a model. Otto Salomon's thesis can, if it is made into a triangle model, be seen as an outer frame around the model for the dialogue of the process, or rather the dialogue of the process is a suggestion of what goes on deeper within the core of the sloyd as Otto Salomon described the overall with his Columbi egg about the sloyd. In this way Otto Salomon became aware of the core of the sloyd – the handicraft, while my later research about the dialogue of the process is a suggestion of how to uncover the core itself and its contents.

The Columbus egg and the dialogue of the process:

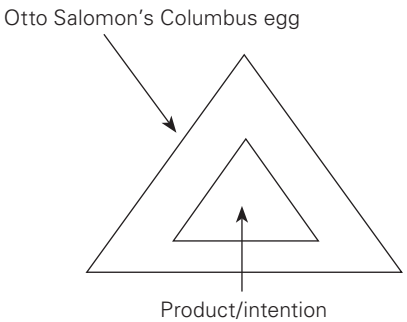
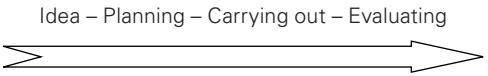


Figure 5 (Illum. 2004. p. 88)

Where in the sloyd- or handicraft process does the dialogue of the process occur?

I have already described the working process itself as the sloyd process or the handicraft process – here I use the Scandinavian meaning of the words. From other perspectives than that of the handicraft, this working process also has other designations, like the entire working process, the aesthetic practical process, practical work and the design process. These different, non-craftsmanlike perspectives on the working process are obviously suggestions of what could be the contents of the process. They can all be described in general terms by the following four sub-elements in the working process: idea, planning, carrying out and evaluating. This is illustrated in the model below as the linear progress of the ideal working process.



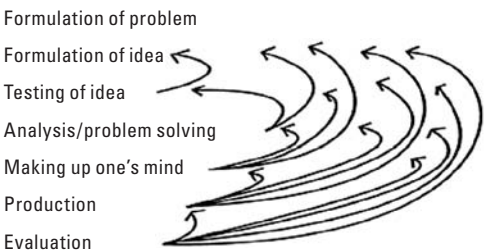
The linear progress in the sloyd/handicraft/design process

Figure 6 (Illum. 2004. p. 89)

Where in this progress is the dialogue of the process then? Considering that the dialogue of the process is defined as the field between man + tool, material and product or intention, it means that the dialogue is carried on during the implementation itself. But the learning-like results of the dialogue of the process – the experience, the awareness – partly the body-based experience and partly the knowledge of materials and tools, which are left and gathered in man (Illum. 2004), are used in a broader way in the sloyd- and handicraft process. This knowledge of materials and tools, which is gathered in man in the course of many process dialogues, contributes to form the basis of both planning and evaluating the final product/intention. To sum up, the dialogue of the process takes place in the execution of the practical work itself; but the learning and the formation of experience, which emerges as a result of the dialogue of the process, is also the reason for the process phases of planning and evaluating.

In the working practice of everyday life it often happens that the working process is not linear. There can be many reasons why a sub-process suddenly becomes problematic in the progress. Therefore it can be necessary to go back in the working process and change some conditions or techniques in order to proceed again. The described ideal linear process thereby often becomes more or less circular in practice. See the model of the design process below. The dialogue of

the process in this model also takes place in the execution- or production phase.



The circular progress of the sloyd-/handicraft-/design process
Figure 7 (Illum. I: Sløjd nr.5/2001. p. 159)

Communication in and around the dialogue of the process

The communication in the dialogue of the process is usually inaudible since it takes place inside the individual person in a more or less conscious form, or I could also in relation to Dreyfus' theory about intuitive expertise (Dreyfus & Dreyfus. 1991) call it in a more or less intuitive form. Regardless of how experienced the individual is, the dialogue in the dialogue of the process usually takes place as an inner dialogue. Exceptions from this, however, can according to my empiricism be observed, if the dialogue of the process' degree of difficulty exceeds the participant's simultaneous communicative capacity, Case examples can be observed, where the person uses either his body language or his spoken language as an underlining element in the dialogue (Illum. 2004). Examples of such occurrences, which are categorized as commenting verbalization, can be that the person throws the thing aside, or that he comments with "Wheeeee...." or "Ohhh....".

It looks different if the context surrounding the learning situation is contemplated. Here it might be expected that the normal verbal form of communication, the spoken language, will be used. In the institutionalized context, where my empiricism was gathered, it was to be expected that the normal spoken language would be used explanatory and descriptive, as it often is in institutional teaching situations. However, there were very few of this kind of occurrences in the educational course where I was present. The entire educational course was recorded on video, so there were picture- and sound coverage of the informants in a large part of the time they were present.

This picture- and sound coverage showed that the communication in this workshop-like practice field took place in a combination of linguistics and three-dimensional demonstration, where the three-dimensional demonstration

was the focus of the communication. In other words it was a kind of bodily-based communication (the three-dimensional demonstration) which was the center of the learning space. The direct speech, verbalization, which takes place communicatively in the learning space surrounding the bodily actions, is complex since it is often constructed differently from the everyday language. To me it looks like humans, when individuals work in the manual craftsmanlike field with learning and transferring of knowledge, they make use of a symbiosis of verbalization and bodily demonstration.

These conditions make me able, by means of my material, to categorize verbalization forms, which I call parallel verbalization, metaphorical verbalization and summing up verbalization (Illum. 2004). These are all verbalization forms which differ from the everyday language, since they usually in practice situations are very much tied to the context. Tied to the context in relation to a three-dimensional demonstration or a talk, examination or correction in relation to specific manual craftsmanlike conditions.

Memory conditions concerning bodily learning

What will become of these skills and this knowledge once the individual has learned? Most people know how difficult it has been to learn to ride a bicycle, to swim or to drive a car. Most people also know for themselves whether they have these skills, and if they are asked to do so, they can also show and perhaps explain the skills in question; but there is hardly anyone who can exclusively explain it.

This has to do with the way humans remember. We have different kinds of memory storages, for instance the short-term memory. Like, for example, a telephone number which has to be remembered in a short period of time, until we have dialed the mumber. The long-term memory has several memory registers (Vedfelt. 2002). The conditions or skills, which need to be learned, must first be processed in the reflexive register. When the learning as such has taken place, the skills and the knowledge must be stored in a memory register. The practical or the bodily skills and knowledge are stored in the procedural register (Illum. 2004, 2004b), which can be found in a person's unconscious mind. This might exactly be the explanation why these kinds of skills and knowledge are not usually phrased; but are precisely communica-

ted through three-dimensional demonstration – through bodily action. It is the body that possesses the learned knowledge!

Conclusion

In the beginning of this article I outlined the problem field concerning learning in practice, including the questions of where and how learning in practice takes place and how the learned skills and knowledge, the practical wisdom, is stored in the individual person. I also raised the question about communication forms in this learning field.

Learning in practice goes on everywhere where people use their hands and their body for working processes of different kinds and complexity. Based on this argumentation I have examined this learning space as it can be found in the sloyd workshop in the Danish Folkeskole.

In the article I have, based on my research, argued for the dialogue of the process as the crux of learning which takes place through practice, and for the fact that the skills and knowledge which occurs through the learning are being stored in the procedural register in the memory. I have pointed out that the communication, which takes place in the craftsmanlike learning space, is in two parts as there is both an inner dialogue within the individual and an outer interpersonal communication. The outer communication conditions are complex and to a great extent tied to and dependant on the context.

An additional clarification of the outer communicative conditions in the craftsmanlike learning space is desirable as it, together with knowledge of the dialogue of the process, could form the basis of a didactic understanding, which will cause a further qualification of the learning conditions in this field.

References

Beck, J. & Wellershoff, H. (2002). *Sanserne i undervisningen.* København. Gyldendal.

Bergström, M. (1998). *Neuropædagogik: en skole for hele hjernen.* København. Reitzel.

Borg, K. (2001). *Slöjdämnet intryck – uttryck – avtryck.* Linköping. Linköpings University, Department of behavoiral Science.

Danmarks Lærerhøjskole. (1993). Den pædagogiske kandidatuddannelse – studieordning ´90 – studieplan for pædagogisk hovedretning, faglig pædagogisk linie, musisk-æstetiske studieretninger Danmarks Lærerhøjskole. København.

Dreyfus, H & S. (1991). *Intuitiv ekspertise: Den bristede drøm om tænkende maskiner.*

Dreyfus, H. (2001). *On the Internet.* London. Routledge.

Gerlach, C. (1999). *The functional organization of knowledge and its implamentation in the brain.* Københavns Universitet.

Godal, J. B. (1999). *Skisser og fabuleringer kring handverkspedagogikk.* Tromsø/Lillehammer. De Sandvigske samlinger.

Gustavsson, B. (2000). *Kunskapsfilosofi.* Wahlström & Widstrand.

Hansen, M. m.fl. (red) (1998). *Psykologisk pædagogisk ordbog.* Gyldendal.København

Husen, M. (1984). *Arbejde og identitet.* København. Nyt Nordisk.

Illeris, K. (red.). (2002). *Udspil om læring i arbejdslivet.* Frederiksberg. Roskilde Universitets forlag.

Illum, B. (2001). Teorier bag design. I: *SLØJD nr. 5/2001. Tema: Design*. Århus. Danmarks Sløjdlærerforening.

Illum, Bent. (1999). *Otto Salomons didaktik og æstetik – set fra det 21. århundrede.* København. DLH. §3 opgave. Kandidatuddannelsen i sløjd, Danmarks Lærerhøjskole.

Illum. B. (2004). *Det manuelle håndværksmæssige og læring – processens dialog.* Danmarks Pædagogiske Universitet. København.

Illum. B. (2004b). Tavs viden eller .....praktisk klogskab – Et bidrag med henblik på at afdække og diskutere problematikker omkring begrebet tavs viden dels som begreb og dels som forekomst i håndværksmæssig læring. I: Nygren-Landgärds. C & Borg. K. (red.) (2004). *Slöjdforskning. Artiklar från forskerutbildningskursen Slöjd och bild i en vetenskapsfilosofisk och metodologisk kontext.* Publikation nr. 9/2004. Vasa: Pedagogiske fakulteten. Åbo Akademi.

Jacobsen, N. m. fl.(red.). (2001). *Fra undervisning til læring.* Svebølle. Kalundborgegnens produktionsskole.

Johannesen, K. (1999). *Noen aspekter ved taus kunnskap.* PLF-rapport nr. 2/99. Bergen. København. Munksgaard.

Lave, J & Wenger, E. (1991). *Situated learning: Legitimate peripheral partipitation.* Cambridge

Lave, J. & Wenger, E. (2003). *Situeret læring og andre tekster.* København. Hans Reitzel.

Lindfors, L. (1992). *På väg mot en slöjdpedagogisk teori: Paradigmutveckling och kunskaps behållning.* Selma. Fram Bokförlag.

xxxxlæringslandskab: At lære gennem at arbejde. København. Akademisk forlag.

Molander, B. (1993). *Kunskap i handling.* Göteborg. Daidalos.

Mollerup, P. (1998). *Design er ikke noget i sig selv.* København. Gyldendal.

Munk, M. (2002). *Mesterlære retur.* København. Unge Pædagoger.

Nielsen, K. & Kvale, S. (1999). *Mesterlære: Læring som social praksis.* København. Hans Reitzel.

Nygren-Landgärds, C. & Peltonen, P. (red) (2001). *Visioner om slöjd och slöjdpedagogik*. Techne serien.

Schön, D. A. (2001). *Den reflekterende praktiker.* Århus. Klim.

Sigurjonsson, G. (2003). *Fra mesterlære til skolastisk læring.* I: Nielsen og Kvale. Praktikkens

Sjögren, J. (1997). *Teknik – genomskinlig eller svart låda?* Linköping: Institutionen för Tema. Linköpings universitet.

Thorbjörnsson, H. (1990). *Nääs och Otto Salomon slöjden och leken.* OrdBildarna

Vedfelt, O. (2002). *Ubevidst intelligens: Du ved mere end du tror.* København. Gyldendal.

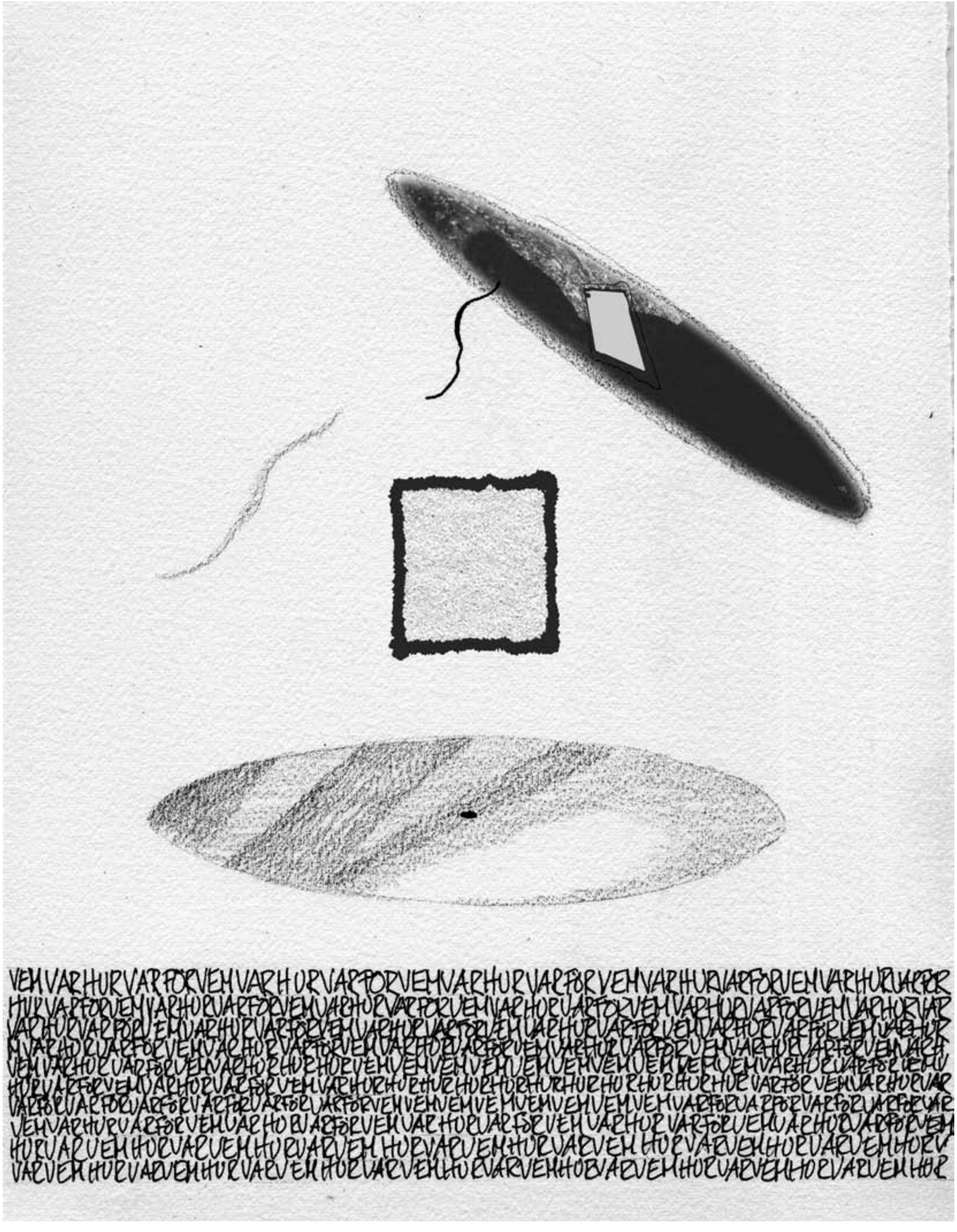
Footnotes

[1] Learning is "a more or less permanent change in behavior, which is the result of experiences, knowledge and exercises of one's own choice of activities, work and assignments" (Hansen. 1998)

[2] The concept of Expert in relation to Dreyfus (1991). Intuitive expertise

[3] An attic is an addition to a roof. The attic contains a window.

[4] The field of sloyd is the field which contains the activities where one by the means of one's hands and tools produces certain products. To work with sloyd is to use a certain tool to work on a certain material with a certain intention.



A Practical Mind as an Intellectual Virtue

Ragnar Ohlsson

Abstract

It is argued that 'intellectual virtues' would be a better goal for education than the now fashionable 'critical thinking'. A definition of "intellectual virtues" is offered. As an example of intellectual virtue "a practical mind" is chosen. This concept is illustrated with a discussion of the skills exhibited by an excellent carpenter. It is argued that a good carpenter must have many different features, desirable attitudes, habits, cognitive skills, and so forth, which must be integrated as firmly entrenched character traits. This justifies the appropriateness of talking about a practical mind ("craftsmanship", "technical skill") as a form of intellectual virtue.

Intellectual virtue defined

The goal of all education should be intellectual virtues. For a long time "critical thinking" has been a catch-word in education in many countries. To a lesser degree the same goes for "thinking skills". I believe that we would do better if we thought in terms of "intellectual virtues" instead. By "intellectual virtue" I mean a good character trait, a combination of desirable thinking habits and attitudes, integrated within the personality to the extent that it determines a great proportion of the individual's behaviour and thinking. In contrast to "critical thinking", "intellectual virtue" has a wider range than merely the ability to detect flaws in argument. Additionally, in contrast to "thinking skills" it also covers motivational elements. A skill can be used or neglected according to one's motivation; intellectual virtue includes elements of desirable motivation.

To say that education ought to aim at intellectual virtue might seem elitist. However, it is not.

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From ancient times there has been a consensus about defining virtues as personality traits that human beings need to flourish or to live well. Therefore, we all need virtues; we do not have to think of them as some very sublime goal. They are simply traits that we need in order to get around in our daily lives, and get a grip of reality. Of course, fully developed intellectual virtue, something like wisdom, can be a very distant goal for most of us. However, we all need to have some forms of intellectual virtue, since almost anything we do involves some kind of cognitive activity.

In ancient Greece a lot of attention was paid to defining and developing the virtues. The best worked out theory of virtue is found in the work of Aristotle, which up to now is a well of inspiration for those who are interested in virtues. Aristotle made a distinction between "intellectual" and "moral virtues". I believe that the line between these two categories is less sharp than he thought, as will be seen in what follows.

The intellectual virtue, to which Aristotle paid the least attention, was *techne*, "a practical mind" ("technical skill" or "craftsmanship"). That he did not work hard to analyze this virtue is certainly an effect of his class and gender position; a practical mind was something needed by artisans, slaves and women. He is much more detailed when it comes to analyzing practical wisdom *(phronesis)*, which is needed for becoming a successful politician or statesman, or for being a good citizen in general. He – most certainly a man – needed it to live a good life and to organise society in the best way possible. *Phronesis* is analysed in four different sub-virtues or components. *Techne* is much more unfairly treated. But we must give Aristotle credit for realising that a practical mind is a kind of intellectual virtue at all. At this point I will leave Aristotle, to speculate about what makes someone practically minded.

What is a practical mind?

If we characterise someone as having a practical mind (or possessing craftsmanship), which properties do we ascribe to him or her? It might be that we only mean that this is a person who is not very prone to intellectual enterprise: he does not like abstract speculations, is not very good at theoretical school subjects, finds himself more at ease with handicraft, painting, or household duties. However, this rather negative way of ascribing someone of a practical mind seems to me to be too easily won and also misleading. A person with a practical mind (a technically skilful person) has a well developed capacity for solving a wide variety of problems. There-

fore it is reasonable to consider it an intellectual virtue. Many of the problems involved are of a cognitive nature. Unhappily it is not the case that the properties we need for managing the different tasks we meet are so justly distributed that a person who has difficulties in dealing with certain forms of abstract thinking, thereby has been furnished with a splendid practical mind. On the contrary, in most cases a well developed capacity for solving intellectual problems is required to handle many practical problems.

The opposite might not always be the case: it is said that Alan Turing, the famous British mathematician and logician (first half of the 20th century), regularly lost the driving chain on his bicycle when cycling to work. Turing started thinking about the problem, counted the number of turns of the pedal between the occasions of losing the chain, counted cogs on the cog-wheel, etc. and after complicated calculations he found the solution – which a bicycle mechanic would have thought of in the first place – one of the cogs was warped. (The story is told in Ceci, S. J., *On Intelligence*, Harvard University Press, 1996, p 118 f.)

Working with wood – an example

A skilful carpenter differs from a less skilful one, by, for example, his greater imagination; he can see alternative ways of solving a given task. He must be able to interpret an architect's sketch (or the building engineer's drawings), and think of practical solutions to problems that the architect has not thought of. Naturally, he must also be good at mathematical calculations and solving geometrical problems. He must be able to manage mechanics of materials, know a lot about different materials and have a lot of experience. In addition, he must possess a well developed capacity for handling different tools; he must be careful both in doing the calculations and in using the tools. To build a well functioning stair-case is a task which presupposes that you solve quite a lot of geometrical and mathematical problems, but it also requires imagination and a sense of form and beauty.

To be a skilful wood-worker involves not just one kind of talent. There are great differences between the carpenter and the cabinet-maker. The former must be able to improvise, to solve problems as they show up while he builds the house. When standing there with the sketches from the architect (or the more detailed specifications from the engineer) the best way is probably not to sit down and calculate the exact quantity needed of building timber, or to try to foresee and solve every problem in advance. Instead he makes some rough estimates and

starts working on the framework. His experience comes in useful, as do the good habits he has learnt, to get a resulting stable construction. After a while it is clear that the architect has shown just what the finished house will look like, but paid less attention to the concrete work of reaching the goal. Now the carpenter must use his imagination, experience and curiosity to solve any problems that appear. It is often amazing to see how quickly the carpenter detects flaws in proposals that look good on paper but which turn out to be very difficult to realise in the real world. The carpenter solves each of these problems in turn. Eventually the house stands there, the work completed. In the best of worlds – if the carpenter has been careful, imaginative, responsible, experienced and skilful – the house will stand for many years and function well. Water will not come in through the roof, there will be no draught from the windows and no mould in the double floor.

An intricate interplay has taken place between different skills, well entrenched during many years of training, and attitudes such as carefulness, professional pride, perseverance, patience, integrity, self reliance, love for the material and work, humility and so forth. All this must be governed by good judgement that decides how much care is needed in different cases, when the self-reliance tends to be too great and some humility would suit better, and so forth. We can also observe the vagary of the boundary between intellectual and moral virtues. Some of these desirable properties are clearly moral traits.

The cabinet-maker's work process is different, and she needs partly different virtues and skills. She is far less able to improvise. Since her material is often quite expensive, the cabinet-maker, before she starts, must calculate very accurately how she is to use a certain piece of wood, to get as much as possible out of it. Every moment of work calls for conscientious preparations, and she must be quite certain of her calculations before she starts working on the wood. Naturally, she, too, needs carefulness, indeed in her case to much higher degree. To reach peak performance she must also possess a kind of honesty: if she fails when working with a drawer, she can choose between different options: glue on a missing flake, grind off the other drawers to match this one, or make a fresh start with a new piece of wood. The conscientious cabinet-maker will probably choose the last option. Among other things this is what marks the difference between the eminent cabinet-maker and the more mediocre one.

Acquiring craftsmanship

The skills possessed by the talented artisan, or the skilful professional in general, have for some time been discussed under the label of "silent knowledge". In my experience, a proficient boat-builder does not need to be silent about his art: he can be rather loquacious about how to proceed and how not to proceed. However, it is true that the skills needed cannot be taught by just telling someone how to do it, or by reading a book – you learn a handicraft not even by just observing someone showing you how. To acquire a practical skill you have to practice. This is in line with what Aristotle states about moral training: you get virtuous by performing virtuous actions. To become brave, you must behave bravely, to become just you have to act justly, and so forth.

It is curious that Aristotle states that only the moral virtues are acquired by training, and not the intellectual ones. This seems to be a mistake. No one will be a good logician if she does not practice her logical ability by performing valid deductions many times. It is true that we try to tell our students how to write a scholarly paper, we give them excellent papers to read, discuss strong and weak points of their papers at seminars and exhort them to read handbooks in the art of writing papers. However, no one will become proficient in writing such papers, unless she does a lot of practicing.

My aim with these reflections on the wood-worker's professional skills is to draw attention to the fact that many different kinds of skills and virtues are required to make a good craftsman. Thus, not even craftsmanship within a certain profession is one *techne* – it is a combination of several virtues. Some of these are skills, well entrenched habits that include both theoretical ones and handiness with tools. Others are desirable attitudes, and they must all be governed by sound judgement. The practical mind is much more intellectual than an academic will notice at first sight. This sketch of the wood-worker's practical skill shows how different elements – intellectual, practical, and moral traits – cooperate, so that they are difficult to separate from each other.

I am fully aware that what has been said about the carpenter's professional skills could easily be stretched out to cover a whole book without the subject being exhaustively treated. I have not been able to do them full justice, since I am not a practical man myself (indeed, I have done even less justice to the skills of the architect). It is also easy to understand that you could write many volumes in the same way on what marks the excellent plumber, sewer, or craftsman.

The value of a practical mind

The question about the value of a certain virtue, for instance, a practical mind, will of course have different answers in different circumstances: it depends upon the kind of society in which you live, what the labour market is like, and so forth. It is easy to understand that a settler in the wilderness needs a much greater amount of practical skill than someone living in a modern society with division of labour and very advanced specialisation. However, other considerations also play a role. In the 1970s, Ivan Illich was much discussed because of his critique of civilisation. He thought that specialisation had gone too far in modern society, and this was serious, because it curtailed people's autonomy. That people were no longer capable of building their own houses, but had to consult experts, was a serious flaw of modern society, since it limited freedom. We can differ in details about how important a certain practical skill is, but it is obvious that a complete lack of practical mind is a handicap. It is said that Herbert Tingsten, a famous editor of a leading Swedish newspaper, had to call a porter from the newspaper when a fuse broke in his house.

It is interesting to speculate about the conclusions that ought to be drawn for education at different levels and in different kinds of schools, if we stressed the importance of intellectual virtues. This is not the place to do that. It seems, however, reasonable to suppose that problem solving ought to be at the heart of such education. Certain well tested methods for dealing with standard problems can certainly also be taught. However, it is very important to try and preserve open-mindedness, curiosity and imaginativeness. Two problems are seldom exactly alike, and a new way of solving a problem could prove to be better.

Literature

Aristotle, *Nicomachean Ethics,* transl. Rowe, C., Oxford University Press, 2002

Ceci, S. J., *On Intelligence,* Harvard University Press, 1996

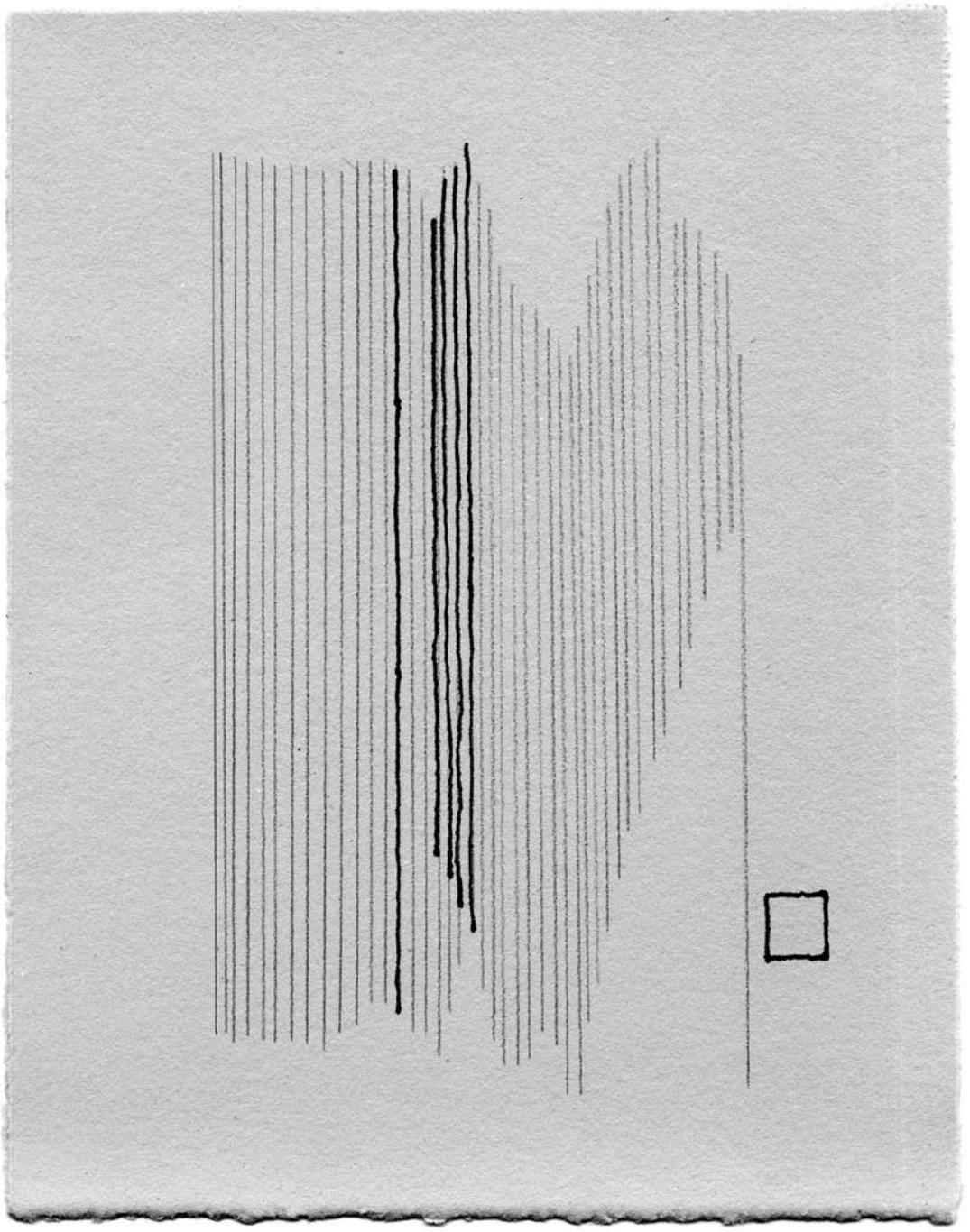
Illich, I., *Toward a History of Needs,* New York, 1978

Josefsson, I., *Från lärling till mästare: om kunskap i vården,* Lund 1988

– *Kunskapens former: det reflekterade yrkeskunnandet,* Stockholm 1991

Lipman, M., *Thinking in Education,* Cambridge University Press, (1991) 2003

Molander, B., *Kunskap i handling,* Göteborg 1996 (4:e tryckningen 2004)



Design and Digital Textile in higher Education:

The Impact of Digital Technology on Printed Textile and Surface Design

Kirsten Klæbo & Bodil Svaboe

Abstract

We write about possibilities and difficulties by uses of technology in textile design studies at The Oslo University College, Faculty of Art, Design and Drama. We are talking about the change in attitudes towards more use of technology as a tool and a medium in textile design studies. We have introduced uses of e-learning as a medium for the students to communicate, and evaluate the design process and product in the middle of the design process. We have experienced that the combination of digital and textile methods has resulted in new expressions and new attitudes towards textile design. The new focus on entrepreneurship can lead us into a more commercial and functional way of thinking about design. We mean that in our design studies in the teacher education we still want to combine artistic and design methods.

Digital technology in textile design education

The faculty of Art, Design and Drama at the Oslo University College, has a long tradition with textile education. We have worked with implementing digital technology for many years now, and it has become more common to use digital technology in all subjects at our faculty. In this article we are writing about how we have implemented uses of digital technology in textile design education in the third year of the Art and Design teacher education. "Digital imaging technology has provided textile practitioners with a medium that is changing and challenging the processes used in generation and production of printed textile artifact." (Treadaway, 2004) When we started examining the uses of ICT in the design study, we realized that many students mostly did not use ICT as a creative tool in their design process. The students mostly used ICT when it came to documentation and presentation of their art and de-

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sign process, in rapports afterwards. One of the reasons that it took so long for the students to use ICT as a tool in their art and design work, was at first the lack of computers in their working area and also the quality of the printers. We were disappointed by the high costs of printers and the low quality of the printed outcome. Before the computer paper was hard and plain, in mostly A4-fomat and the colors quickly faded, because of low tolerance to light. The quality of the digital expression with additive light colors was rather different than the printed outcome of subtractive color expression. We were experiencing many new image possibilities but we were lacking a physical outcome of the digital image making process. Because of the expenses, and the bad quality of the printers many teachers and students rather wanted to work with digital images in connection to web design on the internet.

We have arranged ICT courses for the students for some years now, but we had to do something to get the students to use ICT as an integrated tool in their art and design work. Therefore we started focusing on how the student could integrate computer technology as a tool and as a medium in the design process in the third year of the art and design teacher education at the Oslo University College.

We were two teachers, one textile design teacher and the other an ICT art and design teacher, who decided to collaborate and try to increase the uses of ICT in the design studies. We found that with joint effort we could explore the possibilities of using new technologies together with traditional textile design printing and material experimenting. We did not want to loose the textile qualities, but we wandered how we could benefit from combining textile technology and digital technology. We thought that in the meeting of two mediums, textile printing and digital image making, there would be possibilities that could benefit both the textile subject and the digital image making subject.

ICT and Design processes

In the design study we used an idea based design method, were the students attended different workshops were they learned different art and design technologies connected to textile material and printing experimenting. We focused especially on how to use ICT as an art tool in the textile design process.

> *"Design is usually described as the act of shaping man-made products. However, the English word design actually means to think out or plan. This dimension of the word distinguishes design from the subsidiary concept ex-*

pressed by the Norwegian word, formgiving. The word design is used in referring to the process and to the profession as well as to the finished product. While the concept of design technically covers all man-made products, the term usually doesn't include fine art and architecture. The word design is often used as a synonym for industrial design." (Friedman, 1993)

Because of the close link to industrial design, many were against the use of the term design at our faculty. Many teachers believed that "formgiving" was more related to didactical issues, which was used in the schools were our students would later work. Other teachers believed that they had used design methods in their teaching for years, but with a wider understanding than merely function and form. "Many wanted to use the term design just like an art scenario, where "art, craft and design" was used as a wider term, which included different angles and attitudes based on the idea in focus". (Hõgkvist, 2005) Formgiving refers to the physical forming or shaping of man-made products. It's a more subjective process, where the learning is in the process. But in design the process require a product that has to be of some use to somebody.

In the design history we have had many different interpretations about what design means, what sort of tasks it contains, what areas it contains and what the main focus is. (Hauffe, 1995)

Using a design approach has lead to a need to learn to communicate about the production and the product. This meant that we also had to focus on the communication as an element in the design process. We therefore tried to introduce uses of e-learning in the design process. We wanted to try out an interactive design database system with the opportunity to publish design images and write comments and discuss the outcome. We also wanted the students to use the e-learning application to evaluate each other products. We have tried out the design communication application, but we realised that using e-learning did not exclude verbal communication in the classroom. The importance of communication around design product in the classroom was that the student could see and feel the tactile expressions while discussing the objects.

"...it is difficult to reconcile the criteria for design-based artefact with the traditional aesthetic criteria applied to the arts. This is because the basis of the latter is the univer-

> *sality and non-utilitarian nature of beauty, whereas the basis of design is that the object in question is created for the benefit of some group of potential users, and is therefore aimed at satisfying some need, desire or economic demand."* (Palmer, 1996)

We agree that there is a difference between art process and design process. We wanted to use an *" idea based design method"*, but allow the student to design artistic expressions. We have for example participated in a Nordic network called "Grenseløse tekstiler" (Borderless textiles). In the work with borderless textiles we developed an approach, were we combined subject matters without the old rules. We did not want to make a new "design" study in the terms of "industrial design", but we wanted to change the attitude and approach of the students, to move from merely focusing on the process and making endless "beautiful" samples toward a focus on an object which could be of use to somebody. We wanted the process to be more related to craft processes than to industrial design processes. We wanted to use modern technology that they use in industrial textile industry today. But in the short period of time that our students have available, the students will not be able to produce industrial design products. But they will produce unique artefacts or design products for small scale businesses with focus on mixing traditional textile technology and using modern technology. Our problem is that large digital printing machines and digital cutting machines are expensive. It is important to note, however, that we did not only want to focus on the function of the object. We wanted a wider definition of function. It could function as an artefact. Or maybe it could not function at all!

> *After the official focus on Design as linked to the commercial industry, and focus on the intersection between form and function, it has grown out a Design that takes a stand against this. It has developed groups of designers and art and crafts people who look upon themselves as independent, in the sense that they don't create their products for sale ore any other commercial purposes. They see it as their products have a inner message contrary to the sale value. It can remind us about the slogan: 'Art for arts sake'. But what's interesting for this type of design is that it is Design for the Design's sake, ore art and craft for the art and craft's sake. Despite that their Design falls outside the "Design" criteria; they call each other designers, not artists. It is not about Design on the border to Art, but Design as forcing ore challenging its own traditions.* (Hõgkvist, 2005)

Interaction in Design with focus on tradition and innovation

Textile design practice has always been linked with production methods and tools, and each technological change has impacted on the visual outcome of the textile produced. (Treadaway, 2004) In the beginning the students thought it was interesting to work with ICT as a creative tool in the design process, but as soon as they started using other textile material in the design process they thought their ideas from experimenting with ICT did not connect easily with the physical materials they had chosen. The digital expression was interesting, but it lacked textile physical qualities.

The integration of digital processes, particularly digital inkjet printing technology, has changed the visual characteristics produced and stimulated to a renewed interest in physical interaction with the cloth. (Treadaway, 2004) When the students realized that they could combine digital printing methods with textile printing and material experimenting, their interest in using ICT as a creative tool expanded.

The possibilities arising from using digital inkjet printing coincided with textile printing, and modernized the process of printing. Inkjet printers have over the last years developed, and we can now print out digital images on variations of paper- with different qualities and format. Digital images can also be printed directly on a variety of mediums including canvas, vellum, or transparent film. (LeWinter, 1998) This has given us opportunities to develop more transfer techniques in textiles and to combine it with traditional textile methods and techniques. At our school we still do not have the technology to print larger format than A3, but we have contact with other institutions that can print out larger format. But the students have been able to make larger format by joining smaller format together.

> *"... There are certain basic characteristics exhibited by the digital medium. One of the most basic of them is that this medium allows for multiple kinds of manipulation and a seamless combination of art forms, which can lead to a blurring of the distinction between different media. Photography, film, and video have always entailed manipulation – for example, of time and place through montage – but in digital media, the potential for manipulation is always heightened to such a degree that the reality of 'what is' at any given point is constantly open to question."* (Paul, 2003)

The use of digital imaging processes has enabled the students to use photographic motives in their expressions. This has changed the motives of the design expressions. It has allowed the student to focus on different concepts with more details, and more colours. But when the students are using photographic images and are manipulating these images into new expressions, there is a question of when the image is no longer a copy!

> *"The use of a scanner can sometimes blur the distinction between an original print and a reproduction. The seamless incorporation of images from newspapers, magazines, comics, advertisements, and the Internet into the artist's digital composition pushes the limit of copyright considerations."* (Schminke, 2004)

The uses of scanners or digital images have made it more difficult for the teacher to see whether it is an original product from the student or just a found image from the internet. It was therefore important to emphasis that the students use their own photographic images. Photographic imagery has been integrated into surface pattern and textile designs for the last decade as the result of four-color process and heat transfer printing (Briggs, 1997; Treadaway, 2004) Briggs argues that the use of photography and digital imaging in the design of textiles is producing a "New visual language"." (Briggs, 1997; Treadaway, 2004) This has enabled us to produce colour prints on a variety of material surfaces. It has improved the textile printing process: where they before had to print one-by-one colour, they now, using digital printing methods, are able to print millions of colours.

> *"The complexity of image has been made possible as a direct result of the availability of a huge color palette provided by digital printing technology. Unlike analogue printing systems in which the printing of large numbers of colors is economically prohibitive, digital ink-jet printing facilitates the use of thousands in any one printed image. The level of detail, hue, and tonal range is also massively increased."* (Treadaway, 2004)

Many people without computer knowledge believe that it is very easy to make a digital image. One can merely scan in or photograph digital images and then manipulate the image with different filters and techniques. Copying photos, cutting and pasting images are not new in the art and design world. But the seamless combinations of images give new possibilities. By evaluating the results from the students we

noted a change in the variation of expressions. Previously, because of the limitations in the printing techniques the images would be simplified, but with the new digital printing possibilities and digital image making the creative products became more complicated with more details and colors. But the response from the student was that it took a long time to make digital good expressions. And the student found that they spent a lot of time in front of the computer trying out different color or other compositional variations in connection to the design process.

> *Compositional elements can be imported from a variety of sources, such as scans of real objects, drawings, photographs of nature, and other digital images. Additional manipulation of saturation or opacity, as well as the use of filters, enhances the artist's range of expressions.* (LeWinter, 1997)

The scanner can be of good use when it comes to scanning technical material experimenting samples direct in the scanner, and afterwards further manipulate it to a new expression. This inspired many interesting outcomes. The possibility to scan different found objects was a great inspiration in the idea-based inspiration process in the beginning of the design process. The development of the graphic pen and tablet has enabled us to interact with the computer just as we should draw with a pen or pencil on a peace of paper, but still it is the hand and the mind that does the drawing. By using the pen we will experience a similar tool approach as uses of traditional pen and pencils. But is it a goal to use computer technology as a traditional art pencil?

> *"New papers and inks have expanded the possibilities for rich surfaces, but the real potential of the medium lies in the successful marriage of technique and expression, so that qualities inherent to the medium are central to the concept of the work of art."* (Schminke, 2004)

The development of the printer so the student could print out expressions on different surfaces was also a reason that the students saw more possibilities in using ICT technology in their creative work. There is a never ending process to textile garment making which involve mixing media or mixing different materials on top of each other. There is no one way to perform a surface design process any longer. We have experimented with transferring the digital image into another medium either on paper, textile material ore even concrete materials. The possibilities of using textile technology on other

material have meant a new interest in the textile field, which has opened up for new expressions. We also experienced that the possibility of printing on alternative material made it more interesting for boys to work with "textile" techniques. It is even possible to transfer the image onto a screen through a video monitor. With the digital original saved on a disk, there are also possibilities to send the image through internet to a printing business to be printed out in different sizes and on different papers or on canvas. By combining digital imaging with print techniques there will be a different outlet depending on the size, color range and material it will be printed on. We use different ways of digital transfer methods and we combine them and have a textile perspective with a more multimedia approach.

> *Due to the availability with mixed-media, the image can be printed over, or even scanned, reworked on the computer, and printed again.* (LeWinter, 1997).

The students can also manipulate the fabric surface by using over-printing and laser cutting on the design of a product or garment. We saw that if the students repeated the printing process several times, painted or embroidered onto the design, they achieved a richer expression. This inspired the student to create a different image expression, were they continued working beyond just copying a photo or pattern directly from the computer image. This gave a richer surface design, with deeper artistic meaning. The possibilities of reprinting and mixing media have given the students many new ways of experimenting. A single work can be dyed, painted, pieced, rusted, fused, couched, appliquéd, stitched, burned, and then encrusted with beads, metallic powders, and found objects. (Kieffer, 2004) There are endless possibilities, and the outcome of the expressions has changed. Over the years the focus has moved more and more in the direction of surface design rather than textile design in the old sense of the sawing of perfect clothes or interior artefacts, so we are now talking about surface design rather than textile printing. The focus on surface design, digital printing and transfer techniques has made the course very attractive for young students.

Design communication

Working with design includes that the students have to learn to cooperate with other people, for example customers etc in order to be able to develop a design product. In a more real setting the design object is often made on order or in a hope of an order. Because of the time limit in our educational system, we were more focused

on the making and the aesthetical phenomena of the design process. We therefore have emphasized communication and collaboration between students in an evaluating and inspiration process. We introduced uses of e-learning in the design process. The students had to use an interactive design portal which Kirsten Klæbo had made in the senior lecture ship program at Oslo University College. Here we wanted the students to publish images of their design products. They had to publish at least four images from the process, and write about the images. We wanted the students to comment on each other images. We have just started trying out this possibility and we are hoping that this e-learning application can be a new communication tool for student design work.

We also hope that we can use this interactive e-learning application in further exchange program between students from different University Colleges. One experience we noticed was that in publishing these digital images we lost the tactile quality of the surface design. But we realized that this design portal could be a image registration tool in our research work. An interesting point was, that the possibility to write comments in connection with publishing images in the e-learning design-portal application, made us aware of the way the students used art and design terminology when discussing design problems. The students uses of art and design terminology, is an indicator of how the teacher has focused on art and design terminology in the design study. This is a focus area we will continue to work with in our further project.

Time as a problem?

Time is a problem, when it comes to learning new technology and also learning how to use the technology in art and design production. There is not enough time for the students to both learn the techniques and spend enough time on the aesthetical processes. Anne Breivik said once; "...You do not become a writer by just knowing a word processing program, neither do you become an artist by just knowing a graphical image program. You have to experiment with the aesthetical qualities in relation with content and the idea, in order to acquire certain qualities in relation to innovation." (Breivik, 2000)

The problem is that the students appear too reluctant to fully experiment with the possible techniques in the software. "All fine art, including digital art, is a creative exploration conceived in the mind and skillfully realized with the hand and eye." (LeWinter, 1997) Many use the program merely for cutting and pasting already found photo images into new images

without using the programs any further. Computer programs offer a vast amount of effects, but after a while "the public" will have seen it all. Although advancements in computer tools have made digital imaging more intuitive than ever, the fundamental task remains the same. It is the student who has to make the design expression.

Scanning or uses of digital photographic images can lead to an easy approach to image making. It ends up in copy and pasting techniques without thinking about whether it is an original approach to image making or just a copying approach. The students therefore have to use their own photographs, and if they have used the internet or other sources for inspiration or information connected to the process it was important that they used correct references. Ethics connected to digital image making became very important. The need for photographic manipulation caused a renewed interest in photographic image making. The students have bought digital photo equipment and started taking more pictures in connection to their assignments.

Technology and process working

The use of Photoshop has changed the very nature of the creative act, because the making of digital paintings is no longer confined to a linear process. (LeWinter, 1997). You can save your image, regret actions and start again at a later stage of the image making process. You can close layers and work in a new direction, later you can open or delete layers according to what you think the expression should be. The possibility of changing the direction of the work process, gives the students endless possibilities and it can be a problem as to deciding when the image is "finished". "Finished" becomes a question of choosing when to stop the process. The difficulty lies in seeing the endless possibilities hidden in the computer programs. It will be a question of choosing and evaluating what is the best. This is a new possibility available through uses of technology. It is easier to evaluate and discuss images, if you have different alternative solutions to the aesthetical problem. This is especially important when working with design were you can print out different examples with small variations either color, texture or compositional differences etc.

> *"The key to creating art, however, lies not in technological prowess, but in the power of the image and concept behind it. Digital printmaking works best for art that is idea and information based."* (Schminke, 2004)

The difference between design and concepts are now small. In promoting the concept of the artifact, we have based our educational approach on an idea-based method. Marianne Heske defines concept art as art based on an idea. The idea is then made out of feeling or intuition, which is to be made out of different materials and techniques. Content, idea, process, form and color have to coincide in a united whole. (Heske, 2000) The quality was judged from how the students had used color and form due to the concept of the design. The question was, how could we get the students to be more critical about the aesthetical expression, without loosing the satisfaction from the time spent experimenting and trying out different material and techniques. The student thought it was fun to experiment, but in the design process, the product has to be measured. The process is important but it is the product that stands alone with meaning and functions based on the idea in focus. The products varied from traditional prototypes as interior artefacts, towards more innovative artefacts where the expressions were more important that the function of the artefact. For example artefacts which belonged to a specific design concept.

> *It is clear that there is a tension here between the thrust of aesthetic judgement, at least according to traditional theories where it is always conceived as universalizing; and design judgment, which must articulate the functions of artefacts, where such functions are ultimately historically and sociologically determined."* (Palmer, 1996)

We are still at the level of being charmed by the photographic mixture of computer based images printed on different materials. We still have to examine the possibilities in the graphical program tools we have available. Just as the student make beautiful textile, texture effects, we see the same possibility of using technical effects in graphic computer programs.

Mixed attitudes

The design courses coincided with the mixed attitude towards design and technology, where the idea and the concept was the main focus, and the function could vary from a personal artifact to a functional object worth producing in a small number for sale. This was confirmed in 2005, when the whole class was invited to send in designed artifacts to the exhibition "Schtilig" at the The Museum of Decorative Arts in Oslo. A jury judged the different artifacts. The objects which were selected by the judges were those which were innovative, with good aesthetical, visual and technical qualities, plus good con-

nections between the idea and the product. The exhibition was a collaborative project between Oslo University College and National Museum for Art, Architecture and Design in Oslo. The students work got good revues because of the quality of the combination between artwork and the design work and the actuality of the design work. Several of the design objects had visual expressions which only could have been produced with the help of a computer. Because of this connection between art, technology and design focus, our faculty has been invited to join the exhibition: "Tingenes Tilstand" (The State of Things) 29/04–03/10 2006, in the National Museum of Art, Architecture and Design in Oslo.

Evaluate images

When we started using design instead of "formgiving", we wanted to change the "formgiving process" to a more design approach to gain a more professional approach to our surface and textile printing courses. In our design approach it was important to evaluate the design product up against the student idea. We thought it was easyer to evaluate the student products when we had a set of evaluation criteria's. The main criteria was not merely what function and purpose the design should serve. It did not matter whether it was" big business" or a small business artifact or a more expressional design idea. The function itself could be an expression. Design and Art today combine knowledge, materials and techniques from several areas. Design has therefore unlimited possibilities and effects. This is specially important when we are dealing with all the possibilities in using ICT, were there are endless expressions to choose between, but if the design is steered by the idea, the design chosen has to be measured up against the idea.

Conclusion

We have combined new technologies with old techniques and materials. This has opened up opportunities to new pattern and design productions. The students can try out the design on different virtual artefacts and evaluate the form, colour and texture and see if it fits the chosen object. The differences between the subject borders are less defined and the subject matter more integrated. We are working with mixed media and borderless textiles. Uses of new materials have changed the attitude from the idea of textile as a female subject. Using textile printing techniques onto different alternative material like concrete bricks and glass tiles has changed the attitude towards textile as a more interesting subject also for boys. One interesting phenomena was that combining digital and textile

image making led to an even greater technical effect making, which have led to new expressions. The qualities of these expressions are still to be evaluated.

Using a design approach has lead to a need to learn to communicate about the production and the product. We found that using an interactive design database system with the opportunity to write down comments and discussions enabled us to see and evaluate how we were using art and design terminology. This has became a problem arena we shall continue to work with. We have used learning management system and other e-learning applications, in which the students have communicated. This has lead to an expanding of the classroom border to include communication with other college universities. The students can cooperate and collaborate in art and design question together with students in other countries. They can learn about design issues related to cultural differences. They can gain knowledge, inspiration and evaluation from others with the whole world as an arena. We have started trying out student exchange program through internet in Denmark, and are seeking further university college cooperation partners.

We have worked with small digital formats, but with combination of different printing methods we have made larger products. We hope to cooperate with other institutions until we can buy our own machines, in order to print out larger artifacts. By working in art and design education, we have not focused on the size of artifacts but have tried to find out what qualities new technology could give and how we could break traditional borders. Uses of ICT have opened new technical and visual possibilities. But evaluating the digital image result from the students design products, we mean that we cannot take the technology for granted; we have to educate students in how to use the computer design programs and how to use the technology to produce art and design artefacts.

> *"What is clear though is that our twentiethcentury notions of the digital will be rapidly transformed by the development of technology we have not yet experienced."* (Farren, 2004)

The technology will not only be used as tools for image making which will be printed onto the artefacts. The technology will be integrated into the artefact; and we will talk about electronic or digital textiles. Digital clothes are already a reality. It is also possible to experiment with different digital display products. We have received a grant so we can contact the Oslo Uni-

versity of Engineering and see if we can cooperate in a further design and technology project. We see the future technology and design as a cooperative project between different faculties and subject arenas.

It has been interesting to see that the idea of introducing design as early as in the 1990s has become an attractive subject today, but we are still not seeing the next step in the development. We see that this is just the beginning of changes in the attitudes towards Design. Design has become an important issue in our life, and this also influences the curriculum in our schools. We are now in the middle of reorganizing the curriculum for the primary and the secondary schools in Norway. We are meeting terms like "Design and architecture" and entrepreneurship" in the new plans. The focus on entrepreneurship can lead us into a new focus on the production of products connected to economical functional purposes. We mean that in our education we still want to combine artistic and design methods. This means that we have to discuss and rearrange our curriculum.

Literature

Breivik, A. (2000) Grafiker, Atelier Nord

Bertelsen, O. W. (1999) Digital Sunshine: *From shading to scripting – From retouching to rendering.* Danmark, Viborg: Kunsthallen Brandts Klædefabrik

Bjørnstad, P., Håberg, K. R., Skjeggestad, E. B. & Øveraas, A.H. (2004). *Design og tekstil.* Vollen: Tell forlag

LeWinter, R. (1997) *Computer Artist;* Jun/Jul97, Vol. 6 Issue 4, p35, 3p, 4 diagrams, 12c

Farren, A. Hutchison, A. (2004). Digital Clothes: Active, Dynamic, and Virtual textiles and Garments, *Textile,* 2(3), (290–307)

Friedman, K. (1993) *Design i Norge.* Oslo: Norsk Form

Hauffe, T. (1996). *Design*. Oslo: J.W. Cappelen

Heske, Marianne (2000) http://www.kunstiskolen.no/heske2.html

Högkvist, S. (2005) *TingenesTilstand. (Evolution will not be televised – ProjectProgram, Nasjonalmuseet for kunst og Arkitektur og design)*

Kieffer, S. M. (2004) *Fiberarts Design Book 7*. New York: Lark Books

Koch, M. Aggebo, M. (2005). *Grænseløse tekstiler: En rapport om hvordan dansk, svensk og norsk tekstildesign er blevet knyttet tættere sammen.* Stagis a/s. Københavns. Norsk Form (6 desember, 2005) *Om Design uten grenser* http://www.norskform.no/default.asp?V_ITEM_ID=272

Oslo: Nasjonalmuset for kunst, arkitektur og design (25. januar, 2006) *"Scandinavian Design beyond the Myth"* http://www.nasjonalmuseet.no/index.php/content/view/full/128

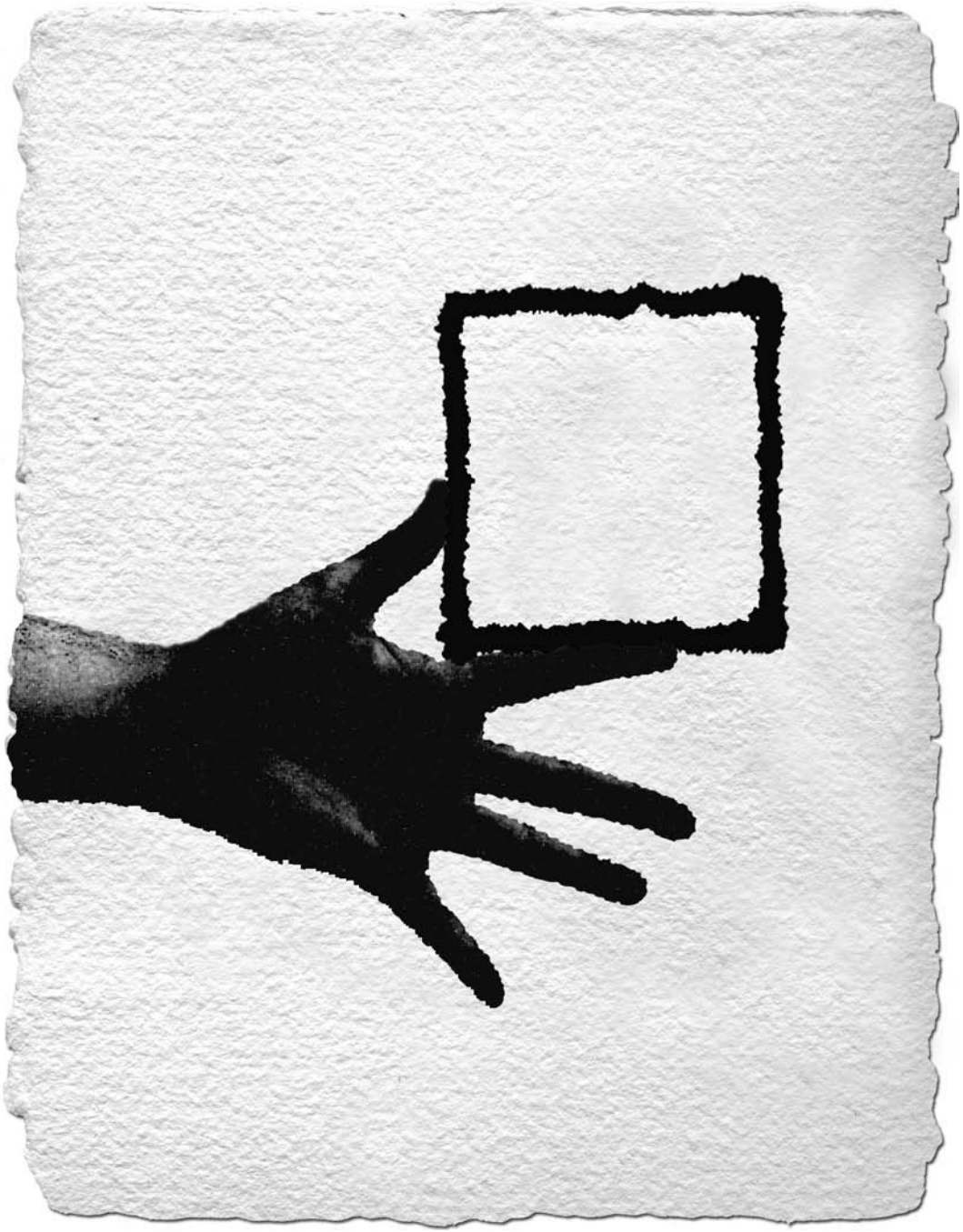
Palmer, J. & Dodson, M. (1996) *Design and Aesthetics: A reader.* London: Routledge

Paul, C. (2003) *Digital Art.* London: Thames & Hudson

Schminke, K., Krause, D. S. & Lhotka, B. P. (2004) *Digital Art Studio: Techniques for Combining, Inkjet*

Design and Digital Textile in higher Education *Printing with Traraditional Art Materials.* New York: Watson-Guptill Publication

Treadaway, C. (2004). *Digital Imagination: The Impact of Digital Imaging on Printed Textiles, Textile,* Volume 2, Issue 3, pp.256–273.



The work in the classroom for sloyd

Marléne Johansson

Abstract

The article takes as its starting point the practice of sloyd [slöjd] in the Swedish comprehensive school. There has been little scientific documentation of the work in the classroom for sloyd. The lack of research results contributes to loose assumptions and unfounded opinions about the subject. The issue of this article is firstly to give an account of how pupils, teachers and parents, within the Swedish Board of Education's national evaluation perceive sloyd work and the subject sloyd. Secondly, the issue is, based on research carried out in the classroom for sloyd, to provide an insight into what pupils to some extent do and thereby can learn in sloyd when they work in the classroom. Within the framework of this article – and by 'Opening the door to the classroom for sloyd' – I will describe the work in words will, hopefully, contribute to a greater insight into what learning is possible.

On Sloyd work in the Swedish comprehensive school

The Swedish Board of Education was responsible for a large evaluation of the comprehensive school, *NU-03* (Skolverket, 2004, 2005). The evaluation was carried out in 2003 for the 9th grade with a nationally representative selection of schools. The aim was to obtain knowledge of the comprehensive school's development in the 1990s until today and to give an overall picture of the goal attainment in the comprehensive school by subject and from an overall perspective. The evaluation instruments were largely similar to those used in the previous evaluation in 1992, NU-92 (Johansson, 1994, 1995; Skolverket, 1994). During the two evaluations of the subject Sloyd, a process study of the pupils' and teachers' diary entries was also carried out together with a follow-up pupil questionnaire (Hasselskog, 2004; Johansson, 1994, 1995; Skolverket, 1994, 2004, 2005). Below, is a summary of how pupils, teachers and parents,

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in their answers to questionnaires in NU-03, perceive the subject sloyd in comprehensive school and the work in the classroom for sloyd (Skolverket, 2005).

In NU-03, the pupils' opinion of the subject sloyd is by and large very positive. Sloyd is regarded as one of the most enjoyable subjects at school at the same time as both parents and pupils say that sloyd is one of the subjects they consider to be least useful. The pupils say that they are very committed, are very interested and feel that they have great influence. They like the lessons, take pleasure in the work and state that they have built up their self-esteem, they have developed *personal qualities* during the sloyd lessons. The teachers feel that their role as teacher is fun, developing and interesting, but at the same time they feel stressed. Sloyd is a subject where the pupils on the other hand seldom feel stressed. In sloyd, they can work at their own pace, they feel that they can work without being compared with each other, and that failure is permitted. The pupils try to do their best in sloyd and they think that they are allowed to show what they can do (Skolverket, 2005).

Compared with other subjects, the subject of sloyd has a unique position in the Swedish comprehensive school when it comes to *pupil influence*. They state that they are allowed to take their own initiatives and responsibility in sloyd. In the results for the subject sloyd in the previous evaluation (NU-92), the analyses showed that different levels of influence had an impact on the prerequisites of learning (Skolverket, 1994). Furthermore, pupils' influence of their sloyd work has increased in NU-03 (Skolverket, 2005).

In NU-03, the teachers state that they focus on *readiness to act* while the pupils disagree. On one hand society development have resulted in our increased dependence on other people's knowledge. We have become spectators, watching what other people do in magazines and TV. We have in stead developed a need for knowledge and the readiness to act is to a large extent a matter to be able to choose, value, evaluate different alternatives and reach a decision. On the other hand there is a greater interest in clothes, furnishing and do-it-yourself in the home. Then readiness to act is to be able to use tools and machines and materials and utilising one's own experience in new situations. Readiness to act is, of course, not only connected with the subject sloyd, it is also developed in the school as a whole and in the pupils' everyday life (Skolverket, 2005).

The evaluation shows that the focus in today's teaching of sloyd as regards *knowledge of sloyd* is on techniques, tools and materials. However, the pupils find it difficult to see the importance of knowledge in sloyd. The pupils state that sloyd is one of the subjects they consider to be least useful. One of the contributions of the subject is that the pupils can acquire knowledge of materials and tools and that they have to experience the whole production process during the work on transforming materials from ideas into finished sloyd objects. The pupils' work from idea to finished object can offer unique opportunities for discussion, understanding and concrete action based on environmental and resource management aspects (Skolverket, 2005).

NU-03 focuses less on areas such as equality, economic and environmental perspectives as well as aesthetic and functional values. The pupils' work from idea to finished object can offer unique opportunities for discussion, understanding and concrete action based on environmental and resource management aspects. *Gender questions* have a special position in sloyd as a subject. The teachers do not see any differences between girls and boys when it comes to the pupils' interest in sloyd. The pupils feel that the sloyd teacher treats boys and girls in the same way. The teachers feel that sloyd as a subject contributes to increased equality. The Sloyd subject is usually divided into two types of sloyd with only female teachers of textile Sloyd and only male teachers of wood- and metal work. In their teaching, the teachers meet pupils who, when they are allowed to influence the choice of type of sloyd, are mainly of the same sex as themselves. The pupils' state that the learning environment in sloyd is open and tolerant, irrespective of ethnicity, sex and cultural or social background (Skolverket, 2005).

In NU-03, considerable importance is attached to the sloyd process and the pupils' creative, independent work. The work starting from the pupil's own ideas arriving at finished objects through the whole production chain is a characteristic *way of working* for sloyd as a subject. The pupils state that they have developed when it comes to solving problems and that they have learnt to reflect on their own work. Problem solving in sloyd is based on problems that are unique to each pupil in every assignment. Sloyd is the subject where most pupils answered that they "work independently" (Skolverket, 2004, 2005). Pupils are allowed to talk while they are working together, and they can help each other. Analyses of the diaries in NU-92, NU-03 and results from video recordings made while the pupils are working in the sloyd classroom (e.g.

the video extract concerning laying out patterns in this article) show that considerable interaction takes place even though the pupils are working on their own sloyd objects (Hasselskog, 2004; Johansson, 1994, 1995, 1996, 1999, 2002, 2005; Skolverket, 1994, 2005).

However, despite these positive references to how pupils experience the sloyd subject, the legitimacy of the sloyd subject seems to be weak. In NU-03, when parents were asked to rank the five subjects most important for their childs development and learning, only 4,2 percent chose sloyd as one of these. Sloyd and chemistry are the school subjects least valued by the parents (Skolverket, 2004, 2005). The parents' answers in NU-03 can be compared with Johansson's study (Johansson, 2002), which also concerned parents' conceptions of their children's knowledge of sloyd. When the parents in the study were asked to comment on the usefulness of the knowledge their children had acquired in sloyd at comprehensive school, they answered e.g. "hopefully, purely practically useful", "good complement to more theoretical subjects" or "the practical teaching is important as it balances the theoretical teaching". A dominating conception of knowledge of sloyd held by the parents was that the knowledge was considered to be 'practical' and functioned as a compliment or counterbalance to 'theoretical' knowledge. Unfounded assumptions have been built into the words. In comparison with other school subjects, the parents said that what characterised sloyd was that the pupils learned to work with their hands. The parents in the study linked the use of knowledge of sloyd to specific professions such as pre-school teacher, sloyd teacher and carpenter, but not to other so-called 'practical' work such as in a dental practice, a kitchen or round an operating-table or in a car repair shop. According to the parents, the contexts for utilising the knowledge and experiences gained from sloyd lessons were mainly in the home and they said that the knowledge might *possibly* be useful later in life. In addition to the collective view in which the knowledge is emphasised as being 'practical' and a complement or counterbalance to 'theoretical' knowledge, the parents referred to their own opinions and experience from school and sloyd lessons.

Pupils and teachers write about work in the classroom for sloyd

When the pupils in NU-03 were asked to describe the subject sloyd in no more than three words to somebody else, they used words such as "free, nice, social", or "tough, fun, exciting" or "different, fun, not too easy or difficult" (Skolverket, 2005). In answers to open ended ques-

tion, the subject was described as being "a free subject where you don't just sit in front of the blackboard", or "I think it's a fun subject. You're allowed to decide what you want to work with. It's also fun working with one's hands".

In diary texts, written over a period of time, pupils and teachers describe in more detail the work done in the classroom. Writing a diary about the work done in the classroom during the sloyd lessons was introduced in conjunction with the Swedish Board of Education's evaluation of the comprehensive school in 1992. Today, writing a diary during the sloyd lessons is common in school and the method has also been used in research and in NU-03 (Hasselskog, 2004; Johansson, 1994, 1995, 1999, 2002; Skolverket, 1994, 2005).

Karin, 6th grade, who is going to woodwork and metal work lessons, writes in her diary during the lessons about her work on a pedestal for a flowering plant (Johansson, 2005, p. 104):

Lesson 1.

Today, I've been sanding my pedestal with sandpaper. I helped Regina to glue her pieces of plank for her stool. Regina put glue on the outside so we got very sticky but we managed in any case.

Lesson 2.

Today, I measured the legs for my pedestal. I'd thought of having it a bit higher, but it would have been wobbly. Malin wanted me to paint a bird on a piece of wood for her because she couldn't do it herself. So I did it for her. I also showed Regina how to plane her stool.

Lesson 3.

Today, I've been sanding my pedestal legs and drilling holes in the in the seat and I found screws. I helped some of the others with small things. I also didn't do it in the same as the teacher showed Linda. But it worked out OK too.

Lesson 4.

Today, I drilled large holes in the stool so I can push the legs into place. First, I glued the legs and then I screwed them. Since glue has dried on the top, I'll have to sand a bit more.

Lesson 5.

Today, I finished sanding the stool and it's finished. So now I'm thinking about what to do. While I was thinking, I helped Regina to sand her stool legs so that they fit in the holes drilled. By the way, I've sanded the legs for my stool smooth too.

Carl, who teaches woodwork and metal work, writes in his diary about the work in a sloyd group in the 6th grade (Johansson, 2002, p. 112):

> *Mattias took the shelf and set off for the painting room. He so wants to get it finished now. But I was forced to ask him to sand the back piece. The girls with the enamel are managing just fine now. Jonny got started with a CD rack after a short discussion. The two boys building a CD rack are really independent; today, they soldered and have begun to install the engine. ... The girls with the mirrors have been plugging the joints and have sawn the back piece. I discovered I didn't have enough mirror glass. Has to be fixed, without money. Must talk to the caretaker, they sometimes find some in the refuse storage room.*

Sandra, 6th grade, who is going to textile craft lessons, writes about her work on a "vest dress" in her diary (Johansson, 2002, p. 153).

> *Today, I started on a vest dress. We had to make it a bit shorter because otherwise it would have been too low-cut. I hope I'll get it finished next time. It wasn't specially difficult. I haven't anything learnt new, not that I've noticed.*

The above three diary excerpts are only examples of how pupils and teachers can describe sloyd work in their own words. Each situation is unique and each person writes about his or her experience. The first diary excerpt above shows that Karin's work on her own pedestal is accompanied by considerable interaction with other pupils. In the diary texts, we can follow the pupils' reflections about their work, although they seldom write about what they have learnt. In the third diary excerpt, Sandra writes: "I haven't learnt anything new, not that I've noticed", but even for a person familiar with patterns and sewing, the work on "making shorter" because of the low neckline using a paper pattern or part of a pattern involves the coordination of several abstraction processes. Sandra's comment, that she hasn't "learn anything new", is interesting in relation to both the results from the national evaluation and to the excerpts from the diaries above. It raises a question as to what is it that parents and pupils related to when they answered the questionnaire from NU-03. The issue of this article is to explore what it is that pupils do – and thereby are given opportunity to learn – in a school subject that is highly appreciated but not educationally valued by pupils and parents.

Video documentation of work in the classroom for sloyd

Diary entries give a rich picture of how pupils and teachers describe their work during sloyd lessons, but what the pupils write that they do does not necessarily correspond with what they in fact do. One goal of my research was to in greater detail study what pupils do and how they work during sloyd lessons (Johansson, 1996, 1999, 2002). With the help of video recordings of the work in the classroom for sloyd, the integration between both verbal and non-verbal activities such as eye contact, gestures, body language and movements can be documented and analysed (Atkinson & Heritage, 1996; Erickson, 1992; Goodwin, 2000; Silverman, 1995). Video recordings enable the complexity in interactions to be documented and utilised for repeated and detailed analyses.

Detailed analyses of video-recorded sloyd activities in school show that a large amount of verbal and non-verbal interaction (body language, gestures, facial expressions and joint actions) takes place during pupils' work in the classroom for sloyd. The pupils solve the problems by means of social interaction, even though they are working on their own projects. Several pupils participate and interact in sloyd activities, taking as their starting point their own and each other's knowledge and experience. The pupils talk, watch and show when they switch between helping and being helped. Sloyd activities offer unique opportunities for learning via participation with elements of the sort of communication that characterises master-apprentice situations. The master is not always the teacher, the pupils themselves take turns assuming the role of being knowledgeable. The activities are developed in interaction between persons, the situation and the surroundings both in and outside the school and between the lessons over time. To a large degree, the communicative aspects of sloyd share an unconscious form of knowledge, which both teachers and pupils can be made aware of (Johansson, 1999, 2002, 2005).

An example of pupils' work in the practice of sloyd is given here in the form of parts of an excerpt, *Laying out a pattern*, from a video recording in 8th grade (see Johansson, 1999, p. 103–108, and 2002, p. 79). The excerpt is taken from work in a textile craft group of 15 pupils. The activities taking place in the classroom for sloyd are intensive and varying. The pupils move about freely and talk a lot with each other. Nevertheless, the impression is one of a calm group of involved pupils. The pupils are working on varying assignments and are at different stages. Some of the pupils are sewing an article

of clothing such as a blouse, a skirt, a dress or a simple jacket. Other pupils are knitting and crocheting and one pupil is doing patchwork. During each sloyd lesson, all the pupils help in readying a common warp for a loom.

Malin, who, according to her diary, is going to "sew a dress in sloyd", has cut out her paper pattern (the pieces of the pattern for the front and back sections). Malin is standing at the back of the classroom at a large cutting-board and is going to fasten the pieces of the pattern to the fabric, which is folded in two, with pins before cutting. Another pupil, *Anna*, is cutting out her pattern for a skirt at her workplace at the front of the classroom. The teacher *(LÄR)* goes to the cutting-board. *Maria*, goes to the cutting-board and waits for help from the teacher. In the following two parts of the excerpt from *Laying out a pattern*, Malin's and the teacher's work are described in *Part 1 (a–b)* and Malin's and Anna's work in *Part 2 (a–d)*.

Excerpt: Laying out a pattern

PART 1:a

Who	***Does what***	***Says***	***Other***
1:1 Malin	Holds and pulls at her tape-measure	*How do I measure?* *Why do I have to measure?*	The teacher is standing on one side of the cutting-board
1:1 LÄR	Moves the box of pins (which consists of a weight with a magnet holding the pins)	*The thing to do now, this, getting things grain line*	
1:2 Malin	Pulls at the tape-measure	*So that ...* *What is it?*	
1:2 LÄR	Shows with her hand along the length of the fabric. Points along the grain line of the fabric	*Well. In this fabric, you have the grain line going like this. Like a warp, just like on that loom there*	Maria comes up
1:3 LÄR	Points with her hand across the fabric	*Then you have the weft, which goes like this, in the other direction*	

Who	*Does what*	*Says*	*Other*
1:3 Malin	Looks at the teacher's hand		
1:4 LÄR	Points at the arrow, printed on the piece of the pattern, show the direction of the grain of the fabric.	*Now we have to get this arrow you've drawn in the middle here.*	It's the arrow showing the grain of the fabric
1:4 Malin	Points with her finger along the fabric	*It must be the same as the grain line*	
1:5 LÄR		*Yes, exactly*	
1:6 LÄR	Shows with her hand over the arrow on the pattern showing the grain of the fabric	*So now this line has to ...*	
1:7 LÄR	Shows with her hand along the outside edge of the fabric	*... must be parallel with this line*	
1:5 Malin		*I see*	
1:8 LÄR	Keeps her hand on the outside edge of the fabric	*Do you know what parallel is?*	
1:6 Malin		*Yes, we do it in maths*	
1:9 LÄR		*You do it in maths?*	
1:7 Malin	Points at the arrow printed on the pattern. Takes a step backwards and waves her hands back and forth		A pupil is whistling in the background
1:10 LÄR	Shows, measuring with her thumb and forefinger, the beginning and end of the arrow printed on the piece of the pattern compared with the outside edge of the fabric.	*Same measurement there... ... as there*	

Who	*Does what*	*Says*	*Other*
1:8 Malin	Picks up the tape-measure	*Should I measure the seam allowance, or what?*	
1:11 LÄR	Place the palm of her hand on the pattern	*Yes. First, you fasten it with pins… and then …*	
1:12 LÄR	Lifts and places the weight with the pins on top of the pattern	*… you do the seam allowance*	Anna comes up and begins to work on the cutting-board
1:1 Anna	Stretches across and takes some pins from the weight with the pins		

Anna has moved from where she was working before to the cutting-board and is now standing there fastening the pieces of the pattern for her skirt to a piece of fabric; she is facing Anna on the other side of the cutting-board. A third pupil, Maria, is helping Anna to fasten the pieces of the pattern to the fabric while she is waiting for the teacher. The teacher and Malin continue:

PART 1:b

Who	***Does what***	***Says***	***Other***
1:13 LÄR	Places her hand on the piece of the pattern for the front	*The smart thing to do is to begin with this and place it first*	Malin holds the tape-measure while the teacher is talking
1:14 LÄR	Moves the piece of the pattern for the back	*But then we might have to move this later*	
1:9 Malin		*OK, so there's room for it*	
1:15 LÄR	Points to the arrow on the front section	*Start measuring there. Then you can take the second one*	
1:16 LÄR	Pushes and moves the piece of the pattern forwards	*Then you should have a seam allowance of 1 cm*	Another pupil is singing in the background
1:17 LÄR	Holds the pattern in place with her hand	*But you have to fasten it with pins here*	Maria and Anna are talking
1:10 Malin	Slides her fingers along the tape-measure. Takes a pin	*Should it be marked with chalk?*	
1:18 LÄR		*Yes ... you mark it*	
1:11 Malin	Takes a piece of tailor's chalk from the drawer in the cutting-board		
1:19 LÄR	Points to and moves the pieces of the pattern	*Although you'll have to fasten these with pins first*	Maria is helping Anna
1:12 Malin	Holds up the tailor's chalk and throws it onto the table	*Yeah, yeah ... I just ...*	

The teacher now leaves with Maria, who had been helping Anna while she was waiting for the teacher to help her. Malin begins to fasten the piece of the pattern for the back to the fabric with a pin on the bottom edge of the back section. Anna leaves the weight with pins on Malin's piece of the pattern, which means that she has to stretch across the table every time she wants to get a pin. Malin drops her tape-measure on the floor after the first pin and

continues to fasten the piece of the pattern, but without measuring. The fabric is folded double and placed lengthwise on the cutting-board, but not parallel with the edge of the table. Anna goes off to fetch a pair of tailor's scissors. When she returns with scissors, she begins to discuss the arrow showing the grain of the fabric with Malin. After Malin's and the teacher's work (part 1:a–b), Malin continues to work with Anna (part 2:a–d):

PART 2:a

Who	***Does what***	***Says***	***Other***
2:1 Anna	Points with the tailor's scissors at the grain line arrow on the pattern and points at a fold in the paper pattern	*That line ...?* *Or this line ...?*	
2:1 Malin	Laughs and points	*It's this one…* *No, it's which…*	Anna is about to begin cutting her fabric, but stops

Anna starts discussing with Malin again. Malin continues to measure at the bottom of the paper pattern for the back section. Anna starts to cut out the parts of her skirt. Malin talks to herself while measuring:

PART 2:b

Who	***Does what***	***Says***	***Other***
2:2 Malin	Measures at the bottom of the pattern for the back section with the tape-measure	*... 23 ...*	Anna is cutting
2:3 Malin	Measures at the top of the pattern for the back section with the tape-measure	*... 29 ...*	

Malin continues to talk to herself. Anna is cutting. Anna stops cutting, looks and interests herself in Malin's work once again:

PART 2:c

Who	***Does what***	***Says***	***Other***
2:4 Malin	Measures to the edge of the table	*... 33 and a half ...*	
2:5 Malin	"Gives up" and leans over and lies on the table, looking at the rest of the class		Anna is cutting
2:2 Anna	Stops cutting and takes the tape-measure from Malin. Measures at the bottom of the paper pattern with the tape-measure	*Is this the line?*	
2:6 Malin	Leans forward	*Uh ..., I think so ... Yes.*	
2:3 Anna	Points at the bottom of the paper pattern	*Is there supposed to be a seam allowance here?*	
2:7 Malin		*Yes, it should be 1 cm*	
2:4 Anna	Points at the bottom	*Is there supposed to be a hem here? ... It should probably be 4 cm ...*	
2:8 Malin	Covers her mouth with her hand	*Ah right ...*	
2:5 Anna	Looks at Malin	*There probably should be a hem at the bottom*	
2:9 Malin	Calls to the teacher	*Is there supposed to be a hem at the bottom?*	Anna and Malin look up at the teacher, who is standing some distance away
2:1 LÄR	Answers	*Yes, There should be a hem at the bottom*	

Malin is talking with some other classmates, but Anna pokes Malin's shoulder to get her attention. Anna sets out the paper pattern "in the right way", along the grain line allowing for a seam allowance of 1 cm from the edge and a seam allowance of 4 cm for the hem and measures:

PART 2:d

Who	***Does what***	***Says***	***Other***
2:6 Anna	Shows and measures with the tape-measure from the Trådriktnings arrow on the pattern to the edge of the fabric	*... 28 and a bit ...*	Malin is watching
2:10 Malin	Looks at Anna	*What? I measured all the way down to the table*	

They both stop what they are doing and look. They check the measurements and alter and finally, together, fasten the pieces of the pattern with pins.

Contributing, participating and creating meaning in the work

The activities involving how the different parts of the pattern are fastened along the grain line and with space for the seam allowance are accompanied by mutual interpretation. Pupils and teachers contribute and participate on the basis of their own experience, for example, by referring to maths lessons (1:8 Lär; 1:6 Malin). The teacher communicates both verbally and non-verbally by talking and, at the same time, instructing with her hands (1:3 Lär; 1:10 Lär). Gestures and actions are coordinated, for example, when the teacher uses the pincushion as a weight to hold the piece of the pattern in position so that it remains aligned with the grain line (1:1 Lär). The pupil Anna observes this action, with its built-in knowledge (that a magnetic weight with pins, in addition to storing pins, keeps the thin piece of the pattern aligned with the grain line by virtue of its weight). She then has to stretch with some discomfort across the table to get pins (1:1 Anna). Malin is partially aware that she has to take into account space for the seam allowance and she tests this with the teacher (1:8 Malin). Despite the teacher's talk and instructions as well as reference to the warp being set up in the loom in the classroom for sloyd (1:2 Lär), Malin begins to fasten the pattern haphazardly with pins and without considering the fabric's grain line and the grain line arrow on the pattern when the teacher has left. Malin finds it difficult to coordinate the grain line arrow on the paper pattern with the fabric's grain line, instructions to take seam allowance into account (1:16 Lär; 1:8 Malin

and 1:9 Malin) together with using the tape-measure as an aid to achieve this (2:2-5 Malin). Malin knows that there should be a 1 cm seam allowance (2:7 Malin), but Anna's question concerns a wider seam allowance for the hem [4 cm] (2:3 Anna; 2:4 Anna). The teacher is nearby and answers that there should be a hem at the bottom (2:1 Lär), but she does not say how many cm the hem should be. Not until Anna measures (2:7 Anna) does Malin realise that she has measured out to the edge of the table (2:10 Malin) instead of to the edge of the fabric and the problem is then solved together with Anna. The pupils help each other, Maria helps Anna (see the comments after part 1:a) who, in turn, helps Malin (part 2). Anna takes the initiative to involve herself in Malin's work (2:1 Anna), but Malin at the same time invites other pupils to contribute and participate when she, for example, leans over the table and lies looking out over the class (2:5 Malin). What is learnt, and who learns what in the work?

The pattern-laying situation is complex in several respects. The activity should be seen as a situation involving a group of 15 pupils and in a classroom for sloyd with its artefacts and language. It contains both physical and linguistic tools, resources that are mediated through interaction when the actors discuss, exchange experiences and create a collective understanding in the work. Experience is reproduced and recreated through verbal and non-verbal communication in the form of words and actions together with the physical tools, the situation and the surroundings (Johansson, 1996, 1999, 2002).

The transcribed video excerpts above serve solely as an example of what pupils do in in the practice of sloyd, which is one of the aspects focused when analysing social practices. This activity is only a small part of the work process – from idea to finished sloyd object – involving "sewing a dress in sloyd". Research on the practice of sloyd in the school (Johansson, 1996, 1999, 2002, 2005) shows that sloyd activities are characterised by the coordination of several abstraction processes and decisions. One example of this is when Anna helps Malin with the grain line and when laying out the pattern. In sloyd, there are several tool such as a pair of scissors, a plane, an iron or material as such, which I call physical tools; but when I use the word tool, I also mean mental, intellectual tools (Kozulin, 1998, 2003; Säljö, 2000, 2005). In my research, tools are all the tools, resources, utilised when pupils learn sloyd. Sloyd's physical tools mediate thoughts in acts and the pupils communicate with the help of tools when they share their

experiences. Contemplated work is altered and developed by virtue of the choice of material and tools and changed conditions. Ideas and imagination are formed in activities involving the material, in interaction with others and the situation that is created. Sloyd activities are characterised by complexity involving several activities when the pupils work on transforming a material into a sloyd object. Experiences in the manufacturing process and through the sloyd object, as an artefact, are given meaning in the relationship created between objects, situation and context and the individuals who interact (Johansson, 2002).

In my research, a sociocultural frame of reference is used as an aid in analysing and putting words to activities in sloyd lessons a sociocultural perspective of knowledge and skills means, among other things, that human activities, which include dialogues, different types of interaction, reasoning and the use of tools and artefacts, are focused on. The activities could be carried out in large or small groups or by individuals in social practices. A sociocultural approach is based on Vygotsky's ideas, which have been further developed by a large number of researchers (Chaiklin & Lave, 1993; Säljö, 2000, 2005; Vygotsky 1978, 1986; Wenger, 1998; Wertsch, 1998).

Reflection on the work in the classroom for sloyd

Although the above presented excerpts represent only a minimal part of the data, they still show that sloyd as a school subject offers rich situations for learning what various tools, techniques and methods that pupils are given opportunity to learn when working with the materials. The assignments given in school will result in objects or clothes that the pupils (or their family, friends etc.) will use themselves. In their work, the students communicate with each other about what they are doing. In these communicative situations, they become involved not only in their own work but also in other pupils' work. They become part of the resources afforded in solving each other's problems. Occasionally, they also substitute the teacher in supervising on how a work should be done. What is further important – within sloyd, it is not regarded as cheating when two or more pupils help each other in solving a problem. In fact, sloyd is a subject where the learning situations are very similar to such situations out of school.

Despite the largely positive picture of sloyd as a subject given in the national evaluation, the pupils find it difficult to see its usefulness as a school subject. The pupils are working towards goals that must be reached both in the syllabus

for sloyd and in the overall curriculum, but knowledge in sloyd as a subject is not regarded as important for development and learning. Nor are the pupils' knowledge and experience acquired in sloyd considered to be important for continued studies or a future working life. Qualities such as self-confidence and taking initiative and responsibility are described by the pupils as something covered by sloyd as a subject, but these qualities do not seem to be taken into account when the pupils answer questions about knowledge acquired in sloyd activities. Knowledge and skills are institutionalised in different activities, which develop their own ways of communicating and using physical tools (Wenger, 1998). The pupils are part of many social practices and learn how to act in them, as in the school's practice of sloyd (such as the extract about laying a pattern in this article). How and what pupils do and learn while working in the classroom for sloyd is, however, to a large extent hidden and unexpressed.

The attitude towards sloyd as a subject is cause for worry. The fact that the subject's knowledge qualities are not generally known is a problem that needs to be bridged before sloyd as a subject can become an important resource in the school's work as a whole. If this does not happen, sloyd risks becoming an auxiliary 'bric-à-brac' subject as activities at the comprehensive school become more multidisciplinary in nature. In order raise awareness, and make learning visible through doing, teachers and pupils need to set words to sloyd work in the classroom.

The scarcity of research results has contributed to reasoning about knowledge acquired in sloyd lesson being based on assumptions and experience of sloyd lessons rather than on research results concerning sloyd as a subject and learning. Existing research is relatively unknown and has difficulties in gaining acceptance and being applied in a practical context. The existing results of research on sloyd as a subject and work in the practice of sloyd can be utilised in a better way in order to clarify and bring out the contribution of sloyd as a subject in the Swedish comprehensive school. An important task facing researchers is to make known the results of research in this subject field. A newly started large research project, *Communication and learning in sloyd practices*, will enable continued investigation into the practice of sloyd (Borg, Johansson, Lindberg & Lindström, 2003). Documented results of more detailed studies of sloyd activities can contribute to the development of sloyd as a subject and to the role of the knowledge area in the comprehensive school.

References

Atkinson, J.M., & Heritage, J. (Red.). (1996). *Structures of social action. Studies in conversation analysis.* Cambridge, NY: Cambridge University Press.

Borg, K., Johansson, M., Lindberg, V. & Lindström, L. (2003). *Communication and learning in Sloyd practices.* Research programme funded by the Swedish Research Council, Committee for Educational Sciences.

Chaiklin, S., & Lave, J. (Red.). (1993). *Understanding practice. Perspectives on activity and context.* Cambridge, MA: Cambridge University Press.

Erickson, F. (1992). Ethnographic microanalysis of interaction. In M.D. LeCompte, W. L. Milloy & J. Preissle (Red.), *The handbook of qualitative research in education* (pp. 201–225). San Diego, CA: Academic Press.

Goodwin, C. (2000). Action and embodiment within situated human interaction. *Journal of Pragmatics, 32,* 1489–1522.

Hasselskog, P. (2004). Elevers dagböcker som empiriskt material vid utvärdering av slöjdämnet i grundskolan. [Using pupils' diary notes as empirical material in the evaluation of the sloyd subject]. In C. Nygren-Landgärds & K. Borg (Red.), *Slöjdforskning. Artiklar från forskarutbildningskursen Slöjd och bild i en vetenskapsfilosofisk och metodologisk kontext* (ss. 53–61). (Publikation från Pedagogiska fakulteten vid Åbo Akademi, Nr 9/2004). Vasa: Åbo Akademi, Institutionen för lärarutbildning.

Johansson, M. (1994). *Slöjdprocessen. Arbetet i slöjdsalen. Dagboksanteckningar [The work processes in sloyd. The work in the classroom for sloyd. Diary notes]* (Research report no 11). Göteborg: Göteborg university, Department of Hand Crafts and Home Economics.

Johansson, M. (1995). Dagboksmetod; kvalitativ analys och tolkning [The diary method; qualitative analysis and interpretation]. In L. Lindfors & J. Peltonen (Red.), *Slöjdkompetens i nordisk kultur. Del I* (Techne serien: Forskning i slöjdpedagogik B:1/1995, 104–111). Vasa: Åbo Akademi, Institutionen för lärarutbildning.

Johansson, M. (1996). Craft and design [Slöjd] – sociocultural reproduction and new creation. In L. Lindfors & J. Peltonen, Porko, M. (Eds.), *Sloyd Competence in Nordic Culture. Part III* (Techne series: Research in Sloyd Education and Crafts Science B:2/1996, 56–77). Vasa: Åbo Akademi University, Faculty of Education.

Johansson, M. (1999). Sociokulturella praktiker i slöjden [Sloyd as sociocultural practices]. *Nordisk Pedagogik [Journal of Nordic Educational Research]*, 19(2), 98–115.

Johansson, M. (2002). *Slöjdpraktik i skolan – hand, tanke, kommunikation och andra medierande redskap [Sloyd in school – hand, mind, communication and other mediating tools]* (Göteborg Studies in Educational Science, 183). Göteborg: Acta Universitatis Gothoburgensis.

Johansson, M. (2005). Kommunikation och konstruktion i slöjdverksamhet. [Communication and construction in the practice of sloyd]. In Kullas, S. & Pelkonen, M-L. (Red.), *The relationship of Nordic handicraft studies to product development and technology* (Techne series: Research in Sloyd Education and Crafts Science, B14/2005, 114–128). Rauma: University of Turku, Department of teacher education in Rauma.

Kozulin, A. (1998) *Psychological tools. A sociocultural approach to education.* Cambridge, Massachusetts: Harvard University Press.

Kozulin, A. (2003). *Vygotsky's educational theory in cultural context.* Cambridge, Massachusetts: Cambridge University Press.

Skolverket, [Swedish Board of Education], (1994). *Craft and Design, Slöjd. The work processes in craft and design – working methods and knowledge* (The Swedish Board of Education, report, 58). Stockholm: Liber. (Johansson, M., co-author)

Skolverket, [Swedish Board of Education] (2004). *Nationella utvärderingen av grundskolan 2003. Sammanfattande huvudrapport. [National Evaluation of the compulsory school in 2003. A summary main report]* (A summary of report 250, 2004). Stockholm: Fritzes.

Skolverket, [Swedish Board of Education] (2005). *Nationella utvärderingen av grundskolan 2003. Ämnesrapport Slöjd [National Evaluation of the compulsory school in 2003. A report on the sloyd subject (Slöjd)]*. (Ämnesrapport till rapport 253). Stockholm: Fritzes. (Johansson, M., & Hasselskog, P. authors)

Silverman, D. (1995). *Interpreting qualitative data. Methods for analysing talk, text and interaction.* London: SAGE Publications.

Säljö, R. (2000). *Lärande i praktiken. Ett sociokulturellt perspektiv. [Learning in practice]*. Stockholm: Prisma.

Säljö, R. (2005). *Lärande och kulturella redskap. Om lärprocesser och det kulturella minnet. [Learning and cultural tools. On learning processes and cultural memory]*. Stockholm: Norstedts Akademiska Förlag.

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press. (original 1930–1935)

Vygotsky, L. (1934/1986). *Thought and language* (A. Kozulin, Trans.). Cambridge, MA: MIT Press.

Wenger, E. (1998). *Communities of practice – Learning, meaning, and identity.* Cambridge, MA: Cambridge University Press.

Wertsch, J.V. (1998). *Mind as action.* Cambridge, MA: Harvard University Press.

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Tidskrift för lärarutbildning och forskning
Journal of Research in Teacher Education

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Genese, F., Tucker, G.R and Lambert, W.E. (1976) Communication skills of children. *Child Development* 46, 1010-14

John, V.P and Horner, V.M. (eds) (1971) *Early childhood Bilingual Education*. New York: Modern Language Association of America.

Jones, W.R. (1959) *Bilingualism and Intelligence*. Cardiff: University of Wales Press.

Karmiloff-Smith, A. (1986) Some fundamental aspects of language development after age five. In P Fletcher and M.Garman (eds) *Language Acquisition:Studies in First Language Development* (2nd edn). Cambridge: Cambridge University Press.

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Innehåll i nummer 2/2003

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Innehåll i nummer 3–4/2003

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Jenny Gunnarsson, Hanna Markusson Winkvist och Kerstin Munck: Vad är lesbian and Gay Studies? Rapport från en kurs i Umeå
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Innehåll i nummer 1-2 2005

Innehåll i nummer 3 2005

Innehåll i nummer 4 2005

Innehåll i nummer 1 2006

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CONTENTS

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