Educational Sloyd

The Early Roots of Manual Training

by Doug Stowe

Put a young man in a woodshop, his hands work to the advantage of his brain and he becomes a philosopher while thinking himself only a craftsman.—Jean Jacques Rousseau

In the fall of 2001, I was a brand new part-time woodshop teacher in a new private high school, where I was given the challenge and opportunity of creating a woodworking program. With so many shop programs closing throughout the United States, this was a rather unusual thing. Although I had some previous experience with woodworking clubs and at Arrowmont, a craft school in Gatlinburg, Tennessee, there is a difference between teaching a short specialized course and the sustained teaching of continuous semesters of related work. I also quickly found that there is a great deal of difference between teaching adults with a strong interest in the subject matter, and teaching high school students who really don't know yet whether or not they are interested.

In October of that year, Jack Grube, woodworking teacher at Pinkerton Academy in Derry, New Hampshire, invited me to attend the first meeting of the New England Association of Woodshop Teachers; at his suggestion, I arranged visits along the way with the North Bennet Street School (NBSS) in Boston and with Paul Ruhlman at the Buckingham, Browne and Nichols School in Cambridge, Massachusetts.

While at the North Bennet Street School, I was asked by Janet Collins, woodworking program director, "Do you know about Sloyd?" I had seen the word "sloyd" before, referring to knives sold in various woodworking catalogs. When I said, "No, not really," Janet took me downstairs to meet Walter McDonald, Associate Director at the school. He showed me an old book about Sloyd and informed me that NBSS was active in the late 1800s and early 1900s in promoting the Sloyd system of woodworking education over its rival, "the Russian System." Later in the day, when I visited

ALL PHOTOS COURTESY OF DOUG STOWE

Early books about Sloyd by authors Gustaf Larsson, Otto Salomon, B.B. Hoffman, and S. Barter.

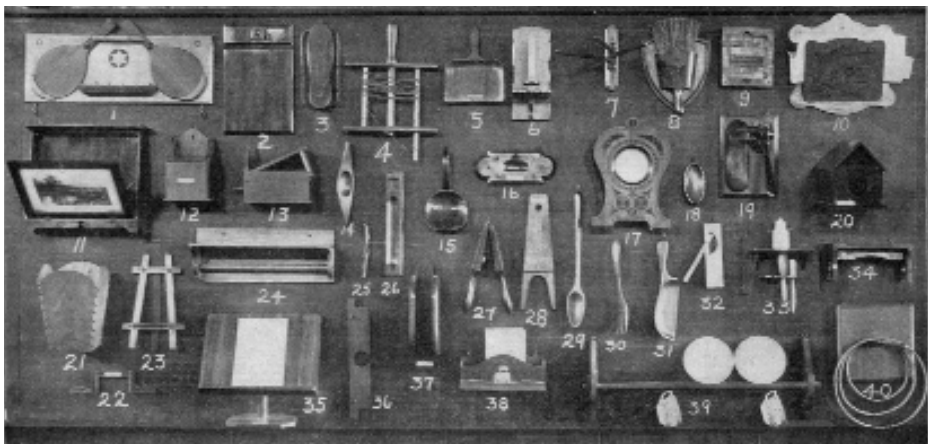
An early Sloyd class at the North Bennet Street School in Boston, Massachusetts. From *Sloyd for the Upper Grammar Grades* by Gustaf Larsson.

Paul Ruhlman at Buckingham, Browne and Nichols School in Cambridge, Paul informed me that his program was roughly based on the legacy of Sloyd and that even the old wooden building where he teaches is still called the "Sloyd Building." But what was Sloyd? My brief discussions with Paul and with Walter McDonald gave me a hunger for more information. When I returned home from the conference, I began research that has led me deep into the history and theory of woodworking education and, through a circuitous route back to my starting point, The North Bennet Street School.

During the Philadelphia Centennial Exposition of 1876, Victor Della Vos, director of the Moscow Imperial Technical School, exhibited a system of industrial training that was designed to move people rapidly from farm labor into jobs in industry. American educators were enthralled by what became known as the Russian System of Industrial Arts: a specialized course of instruction in which students learned various tasks based on the processes used in manufacturing. These included classes in woodworking, turning, metalworking, mechanics, and drafting, giving students brief training in the various tools and manufacturing techniques of each discipline.

Inspired by the exhibit of the Russian System at the Philadelphia Exposition, Calvin Woodward, often called "the father of manual training," founded the Manual Training School of Washington University in St. Louis in 1880. He had been a physics teacher and noticed that his students were having trouble thinking in three dimensions. He believed that working with the hands and actually making things would help. John D. Runkle, president of MIT in Cambridge, also attended the Philadelphia Centennial, and was inspired to establish The School of Mechanical Arts at MIT for those students who desired to enter industry rather than become scientific engineers. Runkle believed that the shop experience would give his engineering students an upper hand upon graduation. While Runkle and Woodward both saw manual training as having benefit to thinking skills, it was the promise of quick movement of people into industrial employment that led to a rapid expansion of woodworking programs throughout the United States over the next 50 years.

Also in the late 1800s, a rival system of manual training was brought to the United States and Great Britain and, again, the Boston area was an important locus for its introduction. Based on earlier work by Finnish educator Uno Cignaeus, Otto Salomon in Sweden developed a system of general education with woodworking at its core. He called it Educational Slöjd; derived from the adjective *slög* ("handy"), *slöjd* means "craft" or "manual skill." In the United States and England, the system became known as Sloyd. While the term can literally mean any type of handcraft, woodworking sloyd was seen as the form of craft most conducive to the desired mental, physical, and moral development in children. Educational Sloyd was much more that just the craft of working with wood. It was a well-designed system utilizing woodworking for specific educational purposes. Salomon created a training school for teachers of Sloyd in Nääs, Sweden in 1875,



Sloyd building at Buckingham, Browne and Nichols school in Cambridge, Massachusetts.

Advanced Models made by Sloyd students at the North Bennet Street School. From *Sloyd for the Upper Grammar Grades* by Gustaf Larsson.

and between 1880 and 1907 over 5500 teachers from more than 40 countries were trained in the system.

In 1885, Pauline Agassiz Shaw, a Boston philanthropist, founded the North Bennet Street School, and in 1889 Mrs. Shaw brought teachers from the Nääs School to begin a Sloyd program. Gustaf Larsson was named director of the Sloyd program at NBSS in 1891 and, with the help of Mrs. Shaw, established an American school for training teachers of Sloyd. By 1903, Larsson estimated that the hundreds of teachers by then trained through the program at NBSS had in turn taught 34,000 students. In addition, Larsson published a quarterly newsletter called "The Sloyd Record." In that publication Larsson gave his address for correspondence as 39 North Bennet Street, the address of today's school, and the Sloyd program continued there until 1909, when that location ran out of space and Mrs. Shaw raised money to build a new Sloyd School near the Museum of Fine Arts in Boston.

Gustaf Larsson also wrote a number of books about Sloyd for American publication, including *Sloyd* (1902), *Elementary Sloyd and Whittling* (1906), and *Sloyd for the Three Upper Grammar Grades* (1909). The Baron De Hirsch Trade School (1890-1935) in New York City was another strong advocate of Sloyd, and its superintendent, B.B. Hoffman wrote an important woodworking text, *The Sloyd System of Woodworking*, published in 1892. Books by both authors placed emphasis on clearly delineating the differences between Sloyd and the Russian System. Both systems used the making of "models" as the core of the curriculum. Models were designed to increase gradually in difficulty and complexity to correspond with the student's growth. Each level of model was intended to present a consistent degree of difficulty so that no individual model would be too difficult nor would it require assistance from teachers or others.

One of the differences between the two systems was in the choice of things to be made in the woodshop. In the Russian system, as in industry, parts of things were made that had no particular relevance to the student, were not necessarily useful in his personal life, and as in industry, most often represented only part of a working whole. In Sloyd, on the other hand, models were designed with the intent of being useful and relevant to the student and his family. According to Salomon, "Method in *slöjd* only becomes educationally sound when the pupil, by constructing objects which can be used in everyday life, acquires the dexterity in performing the exercises as they occur… In choosing a series of models the best plan is undoubtedly to consider local conditions and endeavor to make it exactly representative of articles which can be used in the homes of the pupils. By this means, interest in the instruction given is better aroused and maintained, not only in the pupils, but—and this is quite important—in the parents, and thus the bond between the school and the home is strengthened."

Unlike the Russian system, Sloyd had as its objective the overall education of the child rather than the preparation of individuals for the industrial labor force. The underlying idea was that the activities of the hands encouraged the development of the brain and led the child to the expression of higher values, greater confidence, self-esteem, and a general respect for all types of work, whether mental or physical. As stated by Salomon: "It is usual (for Sloyd) to bring forward: pleasure in bodily labor, and respect for it, habits of independence, order, accuracy, attention and industry, increase of physical strength, development of the power of observation in the eye and of execution in the hand."

And unlike the Russian system, in which students were introduced to craft skills after the basics of reading and writing were covered in school, Sloyd was often introduced at the elementary school level, where it was observed that the development of hand skills and mental capacity were concurrent and mutually reinforcing.

It was suggested that Sloyd should be taught by teachers rather than craftsmen so

that an understanding of the needs of the children would come first and foremost, but it was noted as well that proper execution and teaching of the models required some degree of training and skill in craftsmanship. In Great Britain, they had difficulty finding suitable instructors with both the skill of the artisan and the method of a trained teacher, and 14-year-old boys who had demonstrated a particular level of aptitude for Sloyd were chosen as teacher's aids.

Naturally, there were critics. In Great Britain, the use of knives in the classroom was deemed dangerous and therefore unacceptable. Some educators believed that some of the models were overly simplistic. Others believed that making models was oppressive and stifled personal creativity.

Eventually, the rivalry between the Russian System and Sloyd faded, and the differences in their origins and purposes were largely forgotten and blurred under the term "manual training." Manual training then became known as industrial arts, and now is referred to in many remaining school programs by the title Tech Ed, or Technology Education—giving many woodworking teachers, as a consequence, the additional responsibility of teaching new computer-based technology.

Otto Salomon, founder of Educational Sloyd, chose not to dwell on the differences between Sloyd and the Russian system, thinking, perhaps mistakenly, that the value of manual training for the overall development of the child was proven and widely accepted. Writing in 1903, he observed: "I see a system as a casting mould—necessary during the process of casting but that ought to be thrown away and dismantled when the work-of-art has been cast. I believe that the so-called Nääs 'system' has had its day; it is in the past, not in the present, still less in the future. While most of the principles have become so universal that they are stated to be self-evident, even by persons who certainly would not like to promote anything that comes out of Nääs, and there is no further need for a Nääs-system in the domain of manual training."

When school administrators could see jobs resulting from a course of study, manual training programs thrived in the United States. Today, as more and more manufacturing jobs are moved overseas to benefit from cheap labor, it has become harder to defend those programs based on the short term goals of delivering trained employees to waiting jobs.

Ironically, the North Bennet Street School was from its very inception focused on the same objective as the Russian System—preparing students for employment—and one of the very strong assurances it gives today's students is "Yes, you can make a living doing this!" The system of Sloyd, on the other hand, regarded woodworking in a broader light, as it fit with the needs of the growing child in matters well beyond the simple aim of employment.

One of the main points repeatedly stressed by advocates of Sloyd was that it was based on the sound educational theory from the very long line of educational theorists and the pioneers of early education. In his work *Slojdskola and Folkskola, Book V*, Otto Salomon outlined the full lineage of great minds and educational experience upon which Educational Sloyd was based. Among them, Amos Commenius, considered the father of pedagogy (the science of

Making wooden boxes in Paul Ruhlman's classroom at Buckingham, Browne and Nichols School in Cambridge, Massachusetts.

teaching), stressed the importance of manual training in general education. Jean Jacques Rousseau, French philosopher said, "the great secret of education is to combine mental and physical work so that one kind of exercise refreshes the other." Friedrich Froebel, originator of Kindergarten, placed manual work at the center of instruction and grouped all other studies around it.

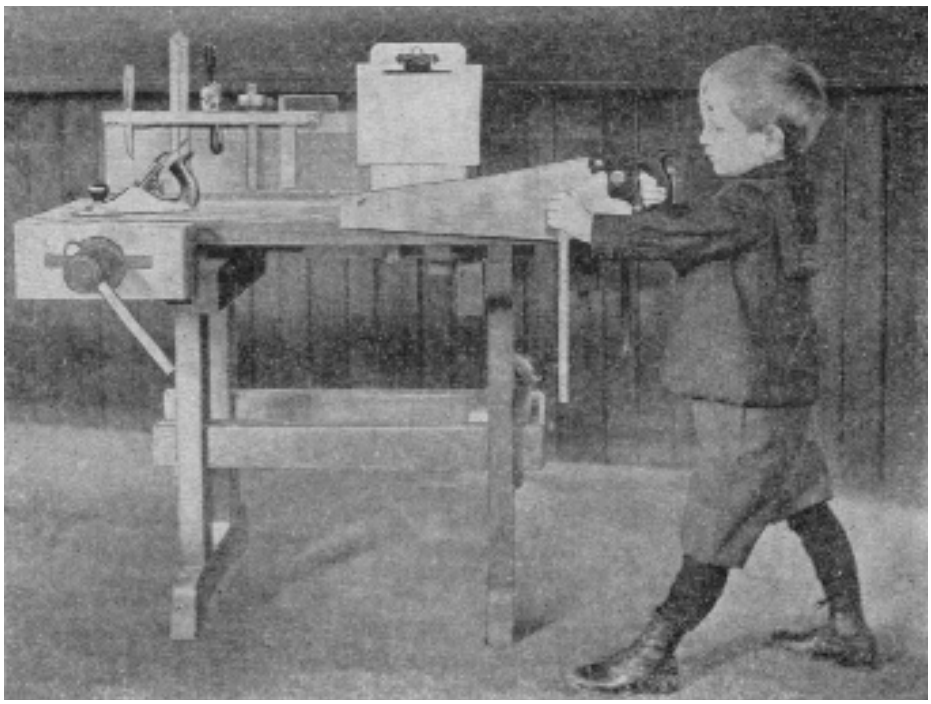
The observations and example of these early educators previewed the message of modern educators. John Dewey, one of the leading educators of the 20th century, was a strong advocate of manual training as a part of general education, not something to be taught in isolation or as a separate career track. He believed that using the hands helped students develop better mental abilities. More recently, Howard Gardner's theory of multiple intelligences has promoted the understanding that, for many of us, the use of the hands must be a part of the learning process. Current brain research shows that the brain continues to be flexible even into adulthood, responding through the allocation of cerebral cortex space to the sensing and expressive dimensions of the human hand, confirming what the early educators knew from personal experience and outlined in their educational theories.

It was generally believed by the promoters of Educational Sloyd that woodworking Sloyd was far superior to other forms of craft, and B.B. Hoffman of the Baron De Hirsch Trade School in New York City published a chart more than 100 years ago comparing and contrasting the benefits of various crafts, pointing out the clear advantages of woodworking Sloyd. Contemporary theories of context-based learning tells us that we learn best when we have direct application for what we learn. The measuring used in woodworking provides a foundation for the use of math, geometry, units of measure and fractions in a way that they are understood to have very practical applications becoming concrete rather than abstract learning. The use of wood, a natural material from many distinct species, invites a direct connection between the woodshop and the study of biology and the natural world.

At the present time, with woodworking programs being phased out in may public schools, it may be useful to look back at Sloyd to gain an understanding of how we have missed our course. While some private schools like Buckingham, Browne and Nichols School maintain woodworking programs in the spirit of Sloyd, secure in the knowledge that they meet the real needs of their students, the full potential of the woodshop in broad-based general education is often not understood either by the general public or by school boards and administrations. In many public schools, the limited opportunities in woodshop are reserved for the students not going to college, but Paul Ruhlman informed me that many of his woodworking students become engineers and architects. He further notes: "Here at Buckingham, Browne and Nichols School, the woodworking tradition goes back over 100 years. Woodworking education has been considered part of the Fine Arts Department. Design and mechanical problem solving are emphasized in the wood courses. The

The workbench area in the Sloyd Building at Buckingham, Browne and Nichols school.

Unlike most manual training systems, Sloyd was recommended for elementary school, where—it was recognized—students' brains were very actively developing. From *Elementary Sloyd and Whittling* by Gustaf Larsson.



Woodcarving at the North Bennet Street School.

courses are not about learning a trade but looking for ways to sense and explore the physical world with one's hands. A good word for this is the word 'haptic' from the Greek *haptikos*, which means to lay one's hands upon. It is the sense of the world one gets from one's hands."

From the beginnings of the manual training movement in the U.S., there has been confusion about the purpose and potential of the woodshop. Unlike most parts of the educational process, woodworking produces tangible objects as evidence of learning, but even in the days of Sloyd, Salomon warned not to confuse the object being made with the real purpose for which it was made: "The objects that the child makes are as useful as those made by the carpenter; but, unlike the work of the carpenter, the value of the child's work does not exist in *them*, but in the *child* that made them."

The real legacy of Otto Salomon's work may be yet to come, as woodshops reinvent themselves and integrate with other areas of curriculum, enabling the woodshop to step from the shadows of its industrial past into a clear understanding of how the use of the hands not only gives shape to wood, but shapes the character and purpose of the student as well.

In the meantime, every woodworking teacher in the country, whether in public or private schools, can point to his or her students' growth in both confidence and character. It happens every day. We see changes that will be charted in real life, in common sense, and in the willingness of our students to embrace the changes and challenges of their lives. Whether we are parents, teachers, administrators, or just regular everyday woodworkers who may remember woodworking with our fathers or the projects we made in 7th grade woodshop, it is good to know and be reminded that woodworking is not just about making things. Those who are in positions of power and authority in our communities' classrooms need to learn the real lessons taught in Educational Sloyd. If you have woodshops in your schools, keep them strong. If not, start one. If you are concerned about the expense, start small. The lessons taught by Sloyd suggest that elementary school is the best time to begin, and simple hand tools will provide the woodworking of choice.

We have just completed our third year of Woodworking at the Clear Spring School. We began classes at the high school level, but inspired by Educational Sloyd, we now have woodworking activities for all students, pre-school through 12th grade. The students of all ages take great pride and pleasure in their work.

Many, perhaps most, people never get an opportunity to do dovetailing, but every human being, man or woman, may acquire from it the habit of doing well whatever he/she is called upon to do.—Otto Salomon

The Nääs School, about 20 miles outside Göteborg, Sweden is currently a conference and retreat center and is no longer concerned specifically with the teaching of Sloyd. It does have a library containing the books and periodicals from Otto Salomon's original library, which are cataloged and available for research.

Doug Stowe is a contributing editor for Woodwork *magazine.*