Industry, school, government cooperate in model training for operators

Mills and workers benefit from specialized educational program.

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In Germany's Black Forest, in the village of Gernsbach, the German paper industry, in conjunction with the Government Education Ministry and the labor federations, have created a unique school to educate and train the hourly workers of the German paper industry. This school, the Papiermacherzentrum Gernsbach, fills a special niche in the education and training of skilled operators for paper mills.

The school provides the specialized theoretical and process training and education in conjunction with the work experience provided by the student's company. All students at the school are there because they have been hired by a paper manufacturer and are under contract with that employer. Students spend a portion of the year at Gernsbach and the rest at their company's mill.

Why the investment in worker training?

The Papermakers Center at Gernsbach was originally designed to meet the industry's need for better-trained operators and foremen. The industry had relied on traditional apprenticeships, on-the-job training, local trade schools, and some training from equipment suppliers and consultants. The increasing technical content of the papermaker's job, especially at the foreman level, prompted industry to seek more formalized training for its skilled operators.

Apprenticeships and on-the-job training were successful at teaching the basic operating skills needed for papermaking, but there was a need for an understanding of the processes involved (but not at the degreed engineering level) as well as a need for supervisory skill training for foremen if quality and productivity were to improve at German mills.

Based on these needs, the German paper industry, along with the German government and the Swiss paper industry, worked together with the existing technical school at Gernsbach to create the current organization.

History of the school

In the late 1940s, a technical class for papermakers of Baden-Württemberg was established at Gernsbach, which became the Papermaker School Gernsbach. The federations of the paper and pulp industry in Baden-Württemberg were separately grouped according to region and subjects, until they were unified in 1964 into a single body in order to create an effective organization as a modern service enterprise. Although started to increase worker competency, the school in recent years has begun management training.

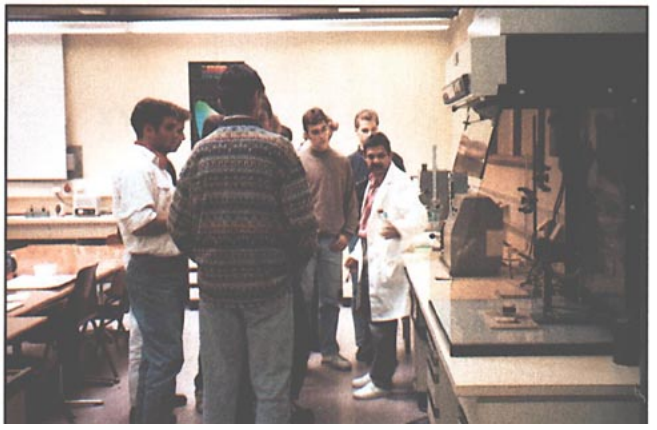
Wayne Gross, TAPPI director of international operations (l), and **Holger Stutzinger**, managing director of the Papiermacherzentrum (r), discuss the planned expansion of the school and the need for training.

The industry cooperatively owns Papiermacherhaus Gernsbach (Papermakers House of Gernsbach), which is the hostel for all students of the papermaker school. There is also a hotel for seminar participants, as well as housing for advanced students in production and maintenance.

Scope of operations

The Papiermacherzentrum provides ongoing, lifetime operator and supervisory education for companies which choose to participate in its program. In this system, a person enters the program at 17–19 years of age. Each student is an employee of a paper company, having formally entered into a contract with the company. The student begins with a three-year program spending 16 weeks per year at the school in Gernsbach. This portion of the

Theoretical training to supplement on-the-job mill training is provided to students at the Gernsbacher school.



Students in advanced courses work on process control simulation problems to improve their supervisory and management skills.

program is mandated and funded by the state. The other portion of the year is spent in on-the-job training at the employee's paper mill.

After this training, the students work for the mill specializing in whatever area the company needs. At approximately 25 years of age, good students return for an entire year of instruction. This portion of the curriculum is funded directly by industry. Courses during the year cover both advanced technical subjects as well as management/foreman training topics.

Between the ages of 25 and 35 years, students return to the school 1–2 weeks per year for seminars on specific topics. This portion of the program could roughly be compared to some of TAPPI's advanced seminars.

Finally, at approximately age 35, the better students return for a half-year of on-campus instruction to train them to be production managers. This represents a move from operator to line management and is totally paid for by the student's company.

An alumni association, Vereinigung Gernsbacher Papiermacher, helps graduates maintain their expertise through annual meetings which cover the latest developments in papermaking and mill operations. It also organizes tours of foreign papermaking operations.

Holger Stutzinger, managing director of the Papiermacherzentrum, estimated that the total cost to a paper company for educating an operator from entry level through the production manager level would be approximately US$ 150,000 in today's dollars. About 30% of the money would be for the initial three years of training, 40% for the year of foreman training, and 30% for supplemental seminars and production manager training.

The industry willingly pays this amount (spread over some 20 years of a person's career) because of the payback. The German mills have been able to create quality paper, with a high percentage of secondary furnish, and keep it competitive with the larger market. In addition, by tracking employees and providing the best and most talented with training, education, and job advancement, worker loyalty is high. The well-trained foreman can in turn provide superior training to the new employees during their on-the-job training periods.

Another way of looking at the payback is in terms of percentage of wages. Since the wages alone for a worker during the 20 years covered by the US$ 150,000 training costs are in excess of US$ 600,000 (not counting significant benefits), training costs for the highest level of employee (and this applies only to a few of the best workers) is only 25% of wages. Given that these workers at this level are the production managers and the in-house teachers and trainers for younger workers, the amount spent on training is quite reasonable.

In terms of production, since the trained worker will make fewer mistakes and will be able to make positive contributions from early in his career, the payback in revenue generated is estimated to be in excess of training costs within two years after completing the first three years of training. After that, funding for advanced training is seen as coming from the extra revenue generated by the initial training.

Observations

The German and Swiss paper industries, confronted with the problem of creating a pool of trained operators and foremen for their mills, have created a very specialized institution that delivers exactly what the industry wants in the way of education for their employees. While this is not fully compatible with other countries' education systems, notably those of the United States and Canada, it does provide a model which does work.

Two other European schools, in Stockholm, Sweden, and Steyrermuehl, Austria, do provide papermakers with training comparable to that offered at Gernsbach. The Swedish school is devoted more to engineering training, while the curriculum at the Austrian school more closely resembles that of Gernsbach. In addition, the Austrian school provides professional schooling for mill employees selected as potential supervisory personnel.

As the paper industry in North and South America begins to experience some of the same pressures that the German industry has during the past two decades, the creation of a centralized school for operators is at least a possibility. Its benefits would be consistency of training and thoroughness of training, combined with a focus on the operator knowledge needs. TJ

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