The Wyomissing Polytechnic Institute

(Forty-fourth in a series of informal reports on leading technical institutes)

When alumni returned to The Wyomissing Polytechnic Institute for its 25th anniversary celebration on November 8, 1952, they had several reasons to feel at home. They were in familiar surroundings. They greeted former classmates. President Emeritus Arthur C. Harper, who guided the school through 21 of its 25 years, was there to visit with them. In the president's office they found a fellow alumnus, T. Glenwood Stoudt, who has been WPI's president since Mr. Harper's retirement June 30, 1952. And, although the founders of the school are no longer alive, their sons and sons-in-law were on hand to take part in the celebration.

In talking about the homecoming later, President Stoudt said, "We think we had a remarkable turnout. More than 50 per cent of all WPI graduates were here, and they came from nine different states to help us celebrate."

A member of the school's first graduating class, Mr. Stoudt knows firsthand the details of its founding and development. He said, "Ferdinand Thun and Henry Janssen organized the school originally as the Educational Department of Textile Machine Works. Textile is one of three companies here that form what we call the Wyomissing industries. Textile Machine Works is the largest manufacturer of full-fashioned knitting machinery in America; Berkshire Knitting Mills, the world's largest manufacturer of full-fashioned hosiery; and Narrow Fabric Company, manufacturers of goods such as lacings, tape, and braid.

"For some time Textile had maintained an apprenticeship program, but Mr. Thun and Mr. Janssen felt that the industries needed a means of giving these men more technical training.

President Stoudt has been on the institute's staff since 1947 when he was appointed dean and assistant to the president.

The result was the start of a two-year course that covered both theory and practical training. Apprentices alternated between the school and the shop at two-week intervals."

Program Gradually Expanded

The first 32 students enrolled in the fall of 1927, meeting for classes in the basement of the industries' dispensary. A few months later night classes were started to serve all employees of the Wyomissing industries. Eventually, the public was invited to take advantage of this night school.

"This change in the nature of the school called for a more descriptive name," Mr. Stoudt said. "Soon after the night school opened, we became known as Wyomissing Trade School. By 1930 we had outgrown our quarters in the dispensary, and in August that year we moved to our present quarters here on Hill Avenue. When things became overcrowded again in 1934, we set up our laboratories in a separate building across the street."

The idea of the coordinated training for apprentices worked so well that in 1932 the school arranged to train apprentices for industries in nearby Reading and other neighboring communities. This service has built up steadily until at present more than 30 firms have taken part in the program.

In 1933 the State of Pennsylvania chartered the school as The Wyomis-

Under the guidance of Instructors Paul Gehris and Chauncey Kay, students learn to use the kind of drafting machines they will use later in industry.

Students in electricity study both theory and the operation of d-c and a-c machines.

sing Polytechnic Institute, and the program was gradually upgraded to one of the technical institute type. Although enrollment decreased considerably during World War II, the school continued to operate. Spiraling postwar enrollment reached its peak in 1947, then tapered off when veteran apprentices completed their training. Today enrollment in the regular cooperative course totals about 140.

Cooperative Program

WPI's present cooperative course, the real backbone of the school, has developed out of the original program set up in 1927.

"Under our present plan," Mr. Stoudt said, "students alternate between the shop and the classroom every four weeks. We find that a program of this kind has several advantages.

"If the student lives at home, as most of ours do, he earns enough during his work periods in industry to cover his board and clothing costs while in school. He pays only for his books and other school supplies. The sponsoring company pays his tuition at the institute.

"The apprentice gets first-hand experience that both helps him in his classwork and gives him a good start toward a permanent job. And he finds out while he is still in school if he has chosen the correct vocation."

Each apprentice, no matter what his specialty, pursues the same technical curriculum. It takes him four years to complete his training. During the first two and a half years he rotates between school and industry. The last year and a half he devotes entirely to industry, specializing in his particular field of apprenticeship.

"His school program," Mr. Stoudt explained, "consists of five terms of eleven weeks each. Classes are in session 35 hours a week, which gives our students a total of 1,925 hours of instruction."

An intensive course, WPI's cooperative program involves considerable work in mathematics, physics, chemistry, drawing, mechanics, kinematics, machine design, electricity, and materials of engineering. Because so many graduates work into supervisory positions, the course also includes units in English, economics, and industrial management.

"Textile Machine Works furnishes the majority of our day students," Mr. Stoudt said. "And we train for a variety of trades for them—machinist, both metal and wood patternmaker, sheetmetal worker, foundryman, electrician, toolmaker, draftsman, cabinetmaker, diemaker, and laboratory technician."

Cooperating companies usually concentrate on one or two trades. For instance, Carpenter Steel Company sends apprentices to the school to be trained as machinists and electricians. For the New Holland Machine Company, WPI trains machinists, draftsmen, toolmakers, and junior test engineers; for the Wilhelm Division of the Glidden Company, laboratory technicians in chemical and analytical research.

Facilities

WPI's facilities are carefully planned for the maximum efficiency in training all its students. The school itself, once a church building, has been remodeled to provide large, light classrooms with plenty of blackboard area.

Last fall, in time for the inspection of homecoming alumni, the institute remodeled and expanded its laboratory facilities, which now take care of work in physics, chemistry, electricity, drawing, and knitting machines.

In the knitting machine laboratory, Instructor John Rowe pointed out the 24-section machine for knitting full-

Wyomissing Polytechnic Institute

Technical Institute Curriculum

First year, first term	*Hours/week* Class	Lab
Inorganic chemistry	3	4
Engineering drawing	0	9
Algebra and trigonometry	5	0
Composition	5	0
Shop theory	4	0
	17	13
Second term		
Inorganic chemistry	2	4
Descriptive geometry	0	8
Trigonometry	4	0
Physics-mechanics	7	4
Shop theory	2	0
	15	16
Second year, first term		
Qualitative analysis	1	4
Engineering drawing	0	4
Heat, light, sound, electricity	7	4
Expository writing	4	0
Mechanics	4	0
Shop theory	2	0
	18	12
Second term		
Strength of materials	4	0
Principles of economics	4	0
Kinematics	3	8
D-C theory and machinery	3	4
Knitting machinery	0	4
	14	16
Third year, first term		
A-C theory and machinery	3	4
Business English	3	0
Industrial management	4	0
Machine design	3	6
Materials of engineering	3	0
Knitting machinery	0	4
	16	14

Students spend an additional four or five hours a week in study, bringing to 35 the total hours a week in school. Upon completion of the first term of the third year, students stay full time in industry for a year and a half of specialization to complete their apprenticeship.

fashioned hosiery. "Old-style machines did the leg and foot separately," he said. "This machine will knit 24 stockings at once, all in one operation. We keep one of the older machines here, too, so the boys will become familiar with any phase of the machine work that they may encounter later."

All work at WPI is made as practical as possible. For example, Paul W. E. Gehris, who teaches machine design, said, "Wherever we can, we utilize actual problems from Textile. Then when the boys go back to the plant, they can see the actual results of the work they have done here in the drafting room."

To supplement lectures and laboratory experience, the institute also makes considerable use of films and filmstrips. Nicholas J. Sheetz, instructor in physics, is in charge of this work. "When we remodeled the laboratories," he explained, "we set up this projection room so that regular showings can be scheduled. Often we set up a showing for the industries, and they can see the film here and discuss it without interrupting classes."

Both lecture and laboratory classes are kept small so that each student receives a great deal of individual attention. A feeling of personal interest develops between teacher and pupil. This close relationship is carried further by the "open house" every afternoon from 4:00 to 5:00. During this hour instructors are in their classrooms or laboratories ready to give extra help to any student who seeks it.

Other Courses

WPI still conducts a varied program of evening courses for both the Wyomissing industries and the general public. For the past three years a technical institute curriculum has been offered at night. Students also have a wide choice of unit courses in the fields of engineering, mathematics, drawing, chemistry, shop practice, textiles, metallurgy, traffic management, economics, and English. The 442 students enrolled in the last session were employed by 90 different companies.

"Another service we have extended to the community," said Mr. Stoudt,

One corner of WPI's spacious, light physics laboratory.

"is a program of refresher courses for men who want to obtain state licenses in engineering. Since the fall of 1950, we have run two of these courses in the electrical field, two in the mechanical field, and one in industrial engineering. We have had letters from several men who took the work, expressing appreciation for the service."

During the depression years, WPI also offered an accredited junior college program. This service enabled young men of the Wyomissing-Reading area to complete the first two years of college at relatively little cost while living at home. That program is no longer in operation, and the institute is now concentrating on its cooperative technical institute curriculum.

Effectiveness of Program

Although the cooperative curriculum is designed primarily as a terminal program, graduates who go on to a four-year college find that they usually receive from one to one and a half years' credit for work they did at WPI. As an incentive to those who do want to obtain more training, Textile Machine Works annually awards scholarships to outstanding graduates.

Each year a minimum of two graduates (last year the number was increased to four) receive $1,200 scholarships to be applied toward a year of training at a degree-granting engineering college. If a man does well during his first year at college, his scholarship is renewed for another two years. This enables him to obtain his degree because of the credit he has already received for his training at WPI.

President Stoudt can vouch for the benefit of this plan. He received one of the first two scholarships granted and used it to obtain his BS degree at The Pennsylvania State College. So far, a total of 27 graduate apprentices have obtained degrees or are currently working toward one on Textile scholarships.

By the time Wyomissing Polytechnic Institute celebrates its 50th anniversary, the sons of some of these men will be among the alumni who gather to mark the occasion. In conversations at the 25-year celebration, alumni

Both day and evening students make use of WPI's well-equipped chemistry lab.

fashioned hosiery. "Old-style machines did the leg and foot separately," he said. "This machine will knit 24 stockings at once, all in one operation. We keep one of the older machines here, too, so the boys will become familiar with any phase of the machine work that they may encounter later."

All work at WPI is made as practical as possible. For example, Paul W. E. Gehris, who teaches machine design, said, "Wherever we can, we utilize actual problems from Textile. Then when the boys go back to the plant, they can see the actual results of the work they have done here in the drafting room."

To supplement lectures and laboratory experience, the institute also makes considerable use of films and filmstrips. Nicholas J. Sheetz, instructor in physics, is in charge of this work. "When we remodeled the laboratories," he explained, "we set up this projection room so that regular showings can be scheduled. Often we set up a showing for the industries, and they can see the film here and discuss it without interrupting classes."

Both lecture and laboratory classes are kept small so that each student receives a great deal of individual attention. A feeling of personal interest develops between teacher and pupil. This close relationship is carried further by the "open house" every afternoon from 4:00 to 5:00. During this hour instructors are in their classrooms or laboratories ready to give extra help to any student who seeks it.

One corner of WPI's spacious, light physics laboratory.

Other Courses

WPI still
gram of even
Wyomissing in
public. For th
nical institute
fered at night
wide choice of
of engineering, mathematics, drawing, chemistry, shop practice, textiles, metallurgy, traffic management, economics, and English. The 442 students enrolled in the last session were employed by 90 different companies.

"Another service we have extended to the community," said Mr. Stoudt, "is a program of refresher courses for men who want to obtain state licenses in engineering. Since the fall of 1950, we have run two of these courses in the electrical field, two in the mechanical field, and one in industrial engineering. We have had letters from several men who took the work, expressing appreciation for the service."

During the depression years, WPI also offered an accredited junior college program. This service enabled young men of the Wyomissing-Reading area to complete the first two years of college at relatively little cost while living at home. That program is no longer in operation, and the institute is now concentrating on its cooperative technical institute curriculum.

Effectiveness of Program

THAT'S ME IN MR. LONG'S CHEM LAB. NOTE "ROLL-UP WRANGLERS" FASHION OF THE DAY!

ships to outstanding graduates.

Each year a minimum of two graduates (last year the number was increased to four) receive $1,200 scholarships to be applied toward a year of training at a degree-granting engineering college. If a man does well during his first year at college, his scholarship is renewed for another two years. This enables him to obtain his degree because of the credit he has already received for his training at WPI.

President Stoudt can vouch for the benefit of this plan. He received one of the first two scholarships granted and used it to obtain his BS degree at The Pennsylvania State College. So far, a total of 27 graduate apprentices have obtained degrees or are currently working toward one on Textile scholarships.

By the time Wyomissing Polytechnic Institute celebrates its 50th anniversary, the sons of some of these men will be among the alumni who gather to mark the occasion. In conversations at the 25-year celebration, alumni

Both day and evening students make use of WPI's well-equipped chemistry lab.

credited their WPI training for the success they have attained in their particular fields. Many men with growing sons expressed the hope that their sons could have the benefit of the same kind of training.

For Wyomissing Polytechnic Institute, founded originally to serve industry, serves well its students and graduates. The thorough and practical training has helped many men to obtain responsible and important positions. President Stoudt is an example. Another is Harry W. Swartz, who is now supervisor of apprentices for Textile Machine Works. And Douglas Beggs, the first apprentice admitted from a company outside the Wyomissing industries, is now personnel director for the Carpenter Steel Company.

While the institute's primary aim has always been to give men like these the practical training they need, it has also maintained high educational standards. The best evidence of that is the generous credit allowed the institute's graduates when they enter engineering colleges.

National Council Reelects Officers

During its tenth annual meeting in Washington, D.C., June 3–5, 1953, the National Council of Technical Schools reelected C. L. Foster to serve as president for another year. Mr. Foster is president of Central Radio and Television Schools, Kansas City, Mo. Also reelected for another term were Vice-President L. G. Morey, vice-president, Chicago Technical College; Secretary J. B. Hershman, president, Valparaiso Technical Institute; and Treasurer K. O. Werwath, president, Milwaukee School of Engineering.

Trustees elected this year for a three-year term were E. H. Rietzke, president, Capitol Radio Engineering Institute; W. M. Hartung, vice-president, Academy of Aeronautics; and C. L. Foster.

Chairmen of the council's standing committees are: research and educational standards, J. B. Hershman; business standards, E. H. Rietzke; legislation, C. S. Jones, president, Academy of Aeronautics; public relations, A. P. Coleman, president, Alliance Technical Institute; and membership, H. E. McCallick, School of Technology, University of Houston.

Two new schools were accepted for membership in the council—DeForest's Training, Inc., Chicago, and Indianapolis Technical School.

Highlights of the program for the Washington meeting were two forums —one on the life of the engineering technician and one on problems of non-tax-supported schools offering technical institute curriculums—and a discussion of new developments in technical institute type education in the United States by Henry H. Armsby, chief for engineering education, U.S. Office of Education.

A meeting of officers is planned for mid-November in Kansas City, Mo.

Work Books for French and Vierck's Engineering Drawing

Engineering Drawing Problems, Series II, is organized and designed specifically for use with the eighth edition of *Engineering Drawing,* by French and Vierck. The authors of this time-saving workbook, published in June, are Charles J. Vierck and Charles D. Cooper, Professors of Engineering Drawing, and Paul E. Machovina, Associate Professor of Engineering Drawing, all at The Ohio State University.

The revised book covers all phases of the subject normally taught in a one- or two-semester course. The arrangement of problems follows the logical arrangement of the eighth edition of the text. Much of the material has been redrawn to increase its effectiveness. New problems are included on subjects such as rotation and dimensioning.

The authors have also included new material on charts and graphs, and more sheets on freehand drawing than in the first workbook. Pictorial sketching is covered, along with several sheets on auxiliary views for either sketching or drawing. All materials in Series II agree with existing American standards. The use of instruments and applied geometry is taught along with orthographic drawing.

This 11 x 17 book contains three kinds of paper to give the proper surface for the variety of problems. The format of the sheets is a combination of 11 x 17 and 8½ x 11. In each case, just enough of the problem is laid out to save time for the student and still provide a challenge in the solution of the problem.

Engineering Drawing Problems, Series A, is a briefer edition of Series II, arranged for shorter courses. It covers all the elementary phases of the subject, but omits more difficult problems. Like Series II, Series A follows the arrangement of the eighth edition of the text by French and Vierck.

The problems are carefully graded from lettering and the use of instruments to working drawings, architectural drawing, and charts and graphs. This smaller book also uses three kinds of paper, but all sheets are 8½ x 11. Many of the 8½ x 11 plates that appear in Series II are also used in Series A.

Either of these workbooks, the textbook, and the series of Text-Films correlated with the book make a complete and well-integrated package for teaching a course in engineering drawing.