

The Knowledge Bank at The Ohio State University
Ohio State Engineer

Title: Technical High School Training

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Issue Date: Apr-1926

Publisher: Ohio State University, College of Engineering

Citation: Ohio State Engineer, vol. 9, no. 3 (April, 1926), 11.

URI: <http://hdl.handle.net/1811/33782>

Appears in Collections: [Ohio State Engineer: Volume 9, no. 3 \(April, 1926\)](#)

TECHNICAL HIGH SCHOOL TRAINING

By OTTO W. WINTER, '29

THE following treatise is an effort to show why a graduate of a technical, or trades, high school has the advantage over the graduate of a regular academic high school as an engineering student at college.

Much information was garnered from a bulletin published by "The Society for the Promotion of Engineering Education" on engineering students at the time of entrance to college. The rest was gained by the personal experience of the author, a graduate of a technical high school and now an engineering student at the Ohio State University.

Statistics show that slightly over eighty-seven per cent of engineering students are graduates of public schools. But how many of these are technical high school graduates? Comparatively few, judging from the fact that only thirteen per cent of freshman engineering students have a good idea of what engineering is, at the time of entrance to college. At the same time I am willing to wager that, with a possible exception of one in a hundred this thirteen per cent is composed of technical high school graduates.

But why should a technical high school graduate have a better conception of engineering? Primarily in a technical, or trades, high school the subjects taught are of an engineering nature and doubtless are of utmost value to the embryonic engineer. The method by which they are taught prepares a boy for a college engineering course. In many cases these two features will prove invaluable, both in study at college and in technical work outside of school.

Then too in a technical high school the instructors are usually men and of such caliber, knowledge, and experience that they can impart valuable knowledge, both theoretical, and practical, to our future engineers. The experience received in shopwork, in a technical school, will enable students to get jobs of a technical nature during the vacation periods. This I will attempt to illustrate in the following paragraph.

Compare the work done by different engineering students after school hours and during vacations. One will find that they hold jobs of many different kinds. One will also find however, two different classes of jobs are most popular. Clerical work, office boy work, messenger service, etc., all come under one class, while jobs of a technical nature, very elementary, as a rule, constitute the greater part of the other class. Once in a while however, one will find an engineering student holding a position that requires quite a bit of technical skill and a fair knowledge of the elements of engineering. Some jobs that come under this classification are: drafting, tool-making or machine shop work, carpentry, and ordinary electrical work. One cannot work at these occupations, and receive fairly good wages, unless he has had previous training of at least four years duration, and nine times out of ten this training was received in a trades, or technical, high school. I point again to my own experience as an example. During the vacation

period between my junior and senior years in high school and during the similar period between my graduation from high school and entrance to college, I was employed as a toolmaker in various local shops and factories. And since I was paid better wages, because of the training received in high school, than a majority of high school students, I was able to save quite a sum of money to help defray my college expenses.

Former graduates of the same and similar schools, it has been my fortune to observe, profited similarly by the training received while in school. At the same time we all were getting the required academic subjects for entrance into an engineering college.

Disregarding the financial side of the statement, the practical experience gained by being employed at jobs of this sort added twofold to their value to the prospective engineer, as well as paving the way probably, for a future position in the service of that same company.

It is noteworthy that over half of the graduates in last year's class of a local and typical trades high school are taking a college engineering course; most of them are attending Ohio State University. At present they are making a fine if not enviable record in their work. Graduates of similar schools usually have the same success. This certainly proves, beyond doubt, that the academic training received at technical high schools is far from deficient in its qualities.

It is a generally believed fact; and there is quite a bit of truth in it, I judge from some examples that graduates of public high schools, where coeducation is practiced, have a rather distinct failing for the weaker sex and often will neglect their studies for dates. This is perhaps explainable in the fact that they have become used to associations with girls and naturally feel a greater attraction for them than for their books. It is a recognized fact that engineering and girls mix about as well as oil and water, under normal conditions.

Even though a student may take his work earnestly to heart it may seem hard for him. This is especially true of his technical work. The result is often failure or discouragement, or both, and may be one of the causes of so many students dropping out of college each year. Graduates of technical high schools already have a fair knowledge of technical subjects, and their ardor for engineering is not so easily dampened. Also many technical high school graduates receive college credit for work of a technical nature that they have had in high school, usually by way of an examination.

However, it is wholly up to the student himself just to what extent his success as an engineering student, and then an engineer, will be. So do not think that a technical high school graduate merely has to easily skim through his college curricula and finish as a "top-notch." Although he has a great advantage, he must work just as hard as he can in order to keep that start in the race for distinction in engineering.