The purpose of the paper is to give a comprehensive view of the attitudes toward vocational education as it exists in Norway, Denmark, and Sweden. Norway has many one and two room schools on the primary level, but has a well-developed vocational school system. Training is provided before apprenticeship through workshop-schools or during apprenticeship in apprentice schools. Further instruction is available through technical trade schools and specialized trade schools in a great variety of vocational areas. Denmark provides tuition-free technical and vocational training aimed at definite occupational fields as well as community, daily living, and leisure time instruction. The technical, commercial, and other vocational schools are self-governing, under Ministry of Education supervision rather than under regional or local control. In Sweden, students attend a nine-year comprehensive compulsory school that includes craft instruction with no division into groups by sex. The student has three upper secondary school options including vocational school. Vocational training is provided in a large variety of trades in programs of one to several years. Many firms operate their own vocational schools. Recently, a new school unit combining the gymnasium continuation school and vocational school was created to form the gymnasial school. (MW)
At the present time in educational circles of the United States, a great deal of interest is being shown in vocational education. Many students are graduating from our universities with advanced degrees, but find themselves facing an over-supplied job market. In despair some of them decry the time, money and energy spent in attending college. Parents who have footed some or all of the bills also have doubts about something—either the state of the economy or the validity of a college education. As a result of this dilemma, many educators are taking a hard look at the long held belief that most, if not all, of our young people should attend college. One of the alternatives that is gaining in popular acceptance is that of career education. This infers that the schools are obligated to prepare students to launch a successful working career. Consequently, education at all levels must become more relevant to the real world of work. However, it must be kept in mind that all the benefits of a college education surely cannot be measured in terms of future financial gains, but such a discussion does not fall within the intent of this paper. The purposes of this particular writing is to give a comprehensive view of the attitudes toward vocational education as it exists in Scandinavia today.

First of all, let us consider the vocational education pattern followed in the country of Norway, whose population was only 3.7 million in 1969. The people in this country are
isolated because of a number of factors. Norway is easily the most sparsely populated country in Europe with less than 30 inhabitants per square mile. Also, the topography of the country is not conducive to communication since it is split by high mountains and numerous fjords and islands. Again, the climatic conditions in winter tend to form another barrier to travel and hence to education.

Since most rural school districts are so small in Norway, it has been impossible to establish the normal pattern of one class for each age group everywhere. A large number of 1-room schools with less than 12 pupils have always existed, and the two-room school with less than 30 pupils is even today the most common type in rural areas. In order to provide the best educational experiences under the circumstances, the pupils are divided in a younger group (grades 1-4) and an older group (grades 5-7). Usually only one teacher is employed for these schools, and the younger and the older group attend school on alternate days. The Ministry of Education is leading out in efforts to bridge the gap between these pupils and those in urban areas primarily through consolidation of school districts. But consolidation of school districts in a long and mountainous country like Norway is limited.

In 1969 the second law on compulsory education common to urban and rural schools was passed. This establishes in most cases the 6 year primary school and a 3 year comprehensive school that compares in some respects to our high schools. This
law tries to give education to all pupils according to their individual abilities and interests and to strengthen both practical and aesthetic skills. The pupils in the comprehensive school are divided into two separate "streams," one practical and one theoretical, but, educators are attempting to move away from a too rigid pattern towards a freer choice of study program.

Presently, the courses of study in the 7th and 8th classes usually find all the students studying the same subjects. Then in the 9th class a more marked differentiation occurs. Certain subjects still are mandatory, but elective subjects are added. These enable the students to direct their work toward a definite type of trade—agriculture, fisheries, navigation, shop and service work, repair work, and so on. The comprehensive school is the basis for admission to a whole host of vocational schools of different kinds as well as other schools of higher learning. Norway has a well developed vocational school system and the number of pupils in it has increased significantly, from 47,000 pupils in 1955 to 79,000 in 1968. Similar gains have been noted in their secondary schools offering more traditional subjects.

Let us take a closer look now at the wide variety of technical training opportunities offered in separate schools for students who wish to pursue a particular vocational education.

The vocational training schools for handicrafts and industry
train tradespeople and skilled workmen, technicians, engineers and other specialist personnel according to the needs of the industrial situation in Norway at any given time. This training may be provided before apprenticeship, through workshop-schools, or during the apprenticeship period in apprentice schools. The workshop-school course, lasting one year, familiarizes the students with tools, materials, machines and techniques, and may be extended for a second year if further training is desirable in certain crafts and skilled trades. If a pupil desires to obtain an apprenticeship through the school, the course lasts three years. In addition to technical training, the workshop-schools seek to extend their pupils' general knowledge, instill good work habits, diligence and discipline. Awareness of Norwegian society in which they live and the ethical principles upon which their culture is built is also included.

The schools for apprentice-training consist of those in teaching theory that is essential to particular trade and those schools of teaching practice in the specialized field. These schools usually last three years also. It is required that all apprentices in crafts and industry that must attend an apprentice school if there is one available.

Elementary technical schools provide technical training for workmen in the building trades, in factories, and in industrial concerns. Instruction is organized into the following divisions: car and motor engineering; building technology; high- and low-
voltage electrical engineering, mechanical engineering and
shipbuilding. This school lasts one year, and students must
be at least 17 years of age.

Technical trade schools train students for various posts
in industry over a two year period. Instruction is provided
for electrotechnics, machining, joinery, and car and motor-
engineering. Students must be at least 16 years of age.

Technical schools offer the highest qualification in the
handicrafts and industrial area. Pupils in these schools may
specialize in a works line, a building line, an electrical
line, a machine line and a shipbuilding line. Emphasis is
stressed on practical application of both practical application
of training in engineering working methods and understanding of
economic evaluation of technical problems.

Schools for home arts and crafts give instruction in
various male occupations in order to help him work in the house,
on the farm, in the woods and on boats. This lasts 7 to 10
months.

Schools for arts and crafts for women train in handicrafts
for personal home use, specializing in sewing and weaving.

Schools for housekeeping teach girls to be better qualified
wives and mothers. Some schools have a farm and garden and
child-care sections to give practical experience in such work.

Schools for commercial and clerical apprentices provide
for training in commerce and office-work.
Commercial gymnasia offer more advanced education in commercial subjects.

The schools of navigation train officers for the merchant navy, and men earn the coastal masters or mates' certificate, both first and second class. Also some schools train radio telegraphists. The marine engineering schools give instruction in theory for the marine engineers' examination and the chief engineers' examination. Schools for cooks and stewards give instruction and theory and practice in preparation for the cook's and steward's certificate. One of the requirements is two years experience of restaurant work, one of which must have been spent in the galley of a vessel carrying a qualified cook or steward.

Fishing trade schools provide training for work in the fishing industry, such as masters of fishing vessels, engineers and cooks.

Schools of agriculture give instruction in all branches of agriculture, such as nurserymen, forestry, dairying and Land Re-allotment. An important part of the training is actual work on a farm.

Other schools are those of nursing, working in close cooperation with hospitals', schools of midwifery', psychiatric nursing', children's nursing and district nursing. The list also includes schools of hotel management, school of journalism, school of theatre, academy of arts, schools of arts and crafts, singing and musical education, occupational therapy, physiotherapy,
social workers and a school of Librarianship. In addition certain public service organizations have their own schools for staff training, such as the Schools for Railway Employees, Postal Service and Telegraph Service and customs officials.

It would appear that no one has been left out. There are even schools of canning technology, timber schools and schools of refrigeration engineering and of mining.

The training of teachers for the vocational and technical educational schools has been established by certain standards to make sure that they are well qualified. The training takes place partly at schools and institutions that have the function of the particular trade of occupation and partly by means of special courses. Many also must have a teaching certificate examination from the training college plus additional training in their field of specialization. In some areas, such as seamen's schools, teachers usually are recruited from the appropriate profession. The teachers are usually highly qualified specialists.

Formerly, many of the vocational schools closely associated with particular branches of the economy have been administered by other ministries than the Ministry of Church and Education. Thus agriculture was assigned to the Ministry of Agriculture, nursing to the Ministry of Social Affairs, fishery to the Ministry of Fisheries, etc. However, since the war there has been a tendency to transfer more of these to the Department of
Education, in the Ministry of Church and Education.

The Department of Vocational Education covers professional-administrative matters relating to workshop schools, apprentice schools, trade schools, technical and specialized technical schools and schools for home arts and crafts, local administration and social service, nautical training schools and apprentices in handicrafts, industry, commerce, shops, warehouses and office work. Its work is divided among five divisions: Vocational Schools Division; Technical Schools; Apprentice and Commercial Schools; Home Economics and Domestic Arts and Seamen's Schools.

The ultimate supervision of Vocational Training in Handicrafts and Industry is provided for by a State Council under paragraph 17 of the Act of 1 March 1940 governing vocational schools for handicrafts and industry. This State Council is composed of experts in the fields of education and research and of the needs that exist in commerce and industry for training and instruction. At least one-half of the members are representatives of the trades and professions comprised by the training. They are recommended by the Norwegian Federation of Trade Unions, the Employers' Confederation, the Norwegian Association of Crafts and Industrial Enterprises and the Ministry of Labour and Municipal Affairs. The Council is instructed to keep abreast of current needs for vocational education in different areas and help to relate its relevance to other education. Special consultants for the various types of vocational
schools also are provided by the Ministry to insure that these subjects enjoy the same status as the traditional subjects and to keep these schools working at the highest level. Training qualifications for teachers and headmasters (principals) are specified by law and the status of all teachers in Norway is regarded highly. In general, the teacher in the special schools must have as a minimum the qualifications required for teaching at a corresponding level in an ordinary school and the headmaster must normally have 5 years school teaching experience, some of which must have been done in special schools.

In Denmark also we find that the purpose of instruction in the youth schools which offer leisure time instruction is to consolidate and deepen their knowledge, give them an understanding of and prepare them for their future vocation and community life and help them give their lives increased meaning. Vocational basic training is aimed at definite occupational fields. Organizations that cover a certain field of the labor market may require young people between 14 and 18 years of age, who are employed within the field in question, to attend basic vocational training, and employers may be required to grant the necessary leave to participate. Their loss of wages because of this required training will be refunded by the Treasury according to certain rules of the Minister of Education. Provisions are even made for leisure time instruction for seamen aboard ships who are unable to participate in actual classwork.
In all the evening schools in Denmark, a youth board from each municipality is required to appoint a youth school committee composed of representatives of the local branch of the Danish Employers' Association and the Danish Federation of Unskilled and Semi-Skilled Labourers to insure that the interests of the labor market in the education of the youth is cared for. Vocational guidance officers, home economics organizations and other educational councils are also represented, as well as agricultural educators.

As in the United States, Denmark's Workmen's Protection Acts of 1960 prohibits the employment of children of the legal school age, except for messenger service which shall not exceed 2 hours of after-school time. There are certain times when school age students may be used for agriculture, forestry and horticulture in such jobs as berry picking, harvesting and such seasonal work. Strict age limits of what and where such labor may be performed is carefully stated.

In the technical and vocational schools, tuition is free, as is the teaching materials and aids. The Ministry of Education administers all education below that of the university level. Exceptions to this are certain special fields of training which are under ministries considered more pertinent, such as the training of unskilled and skilled workers and continuation courses for skilled workers. These are under the authority of
of the Ministry of Labour and the training of navigators and seamen under the Ministry of Commerce.

In Denmark the technical, commercial and other vocational schools are self-governing, under direct supervision of the Ministry rather than under regional and local municipal administration. The Bestyrelse (School Board), composed of representatives of employers' organizations, trade unions and municipal authorities is in charge of the school. The technical colleges also are administered by representatives of local industry, labor unions, and municipal authorities.

Vocational training in construction and transport is offered in a 2 years' course to students 14 - 18. Provision also is made to train for 3 weeks employed non-skilled workers or skilled workers who are obliged to change over to other fields of employment. For young people at least 14 years old who have completed their compulsory education there is a system of apprenticeship with a private firm which has been recognized for the purpose of training in fields of commerce, office or retail trade, handicraft and industry in which the practical training is to take place. The length of this training varies according to the subject from 2-4 years. It includes practical training with theoretical instruction at technical schools. Similar schools exist for Landbruggskoler (Agriculture) and Husholdningskoler (Home Economics) and operate in the same manner.

In Sweden the students must attend a 9 year comprehensive
compulsory school and as early as the 2nd grade the students, boys and girls alike, are instructed in needle work, metal work and wood-work, with no division into groups by sex. By the time students have reached the senior level or 8th grade, handicrafts becomes a compulsory subject for all pupils. Domestic science and child theory also is compulsory in grades 8 and 9. During grade 9, a special feature in practical vocational guidance is added. All pupils participate for 3 weeks in a practical experience at an occupation of their choice at a place of work, with vocational orientation prepared by special study visits during grade 8.

At the end of the 9 year compulsory school, about 85 per cent of the 16 year olds chose to continue their studies in one of three forms of upper secondary schools of which the vocational school is one. These schools are located wherever the traditional gymnasium (similar to our high schools) is found. Training is provided for a large variety of trades in industry, handicraft, commerce and clerical work, nursing and welfare. The course may last from one year to several years. In addition many firms operate their own vocational schools. Swedish students also may chose to attend a Continuation School, a 2 year school found wherever there is a gymnasium. For students following the technical line, they must complete nine months' vocational practice between the two years of schooling unless they had done so before enrolling in the school. Twenty five per cent of
places in the continuation schools are reserved for older students who have either completed vocational school or have at least three years' vocational experience.

A new type of school unit was begun just last year in which the gymnasium, continuation school and vocational school are combined to form the gymnasial school. Vocational training will be revised and modernized. This reform has a social motive in that vocational training will now be on a level with studies in the other two types of school. Vocational students will receive a broader basic education in Swedish, civics and other courses which are relevant to their intended careers. Vocational teachers will give instruction in vocational work and in occupational theory. Such teachers receive their training at Institutes of Vocational Pedagogics where they receive theoretical and pedagogical training and serve as assistant teachers. Usually they have to have seven years' practical experience in the occupation concerned also. Their pay is roughly equivalent to those teachers in the primary schools.

It becomes evident that in Scandinavia the students are taught from the earliest grades that work with the hands is honorable and that it is vital to the welfare of their country.