

THE SANDWICH PROGRAM¹

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Sandwich courses are now an established part of the higher education scene in the U.K. — formerly mainly concerned with courses of science and technology, but now developed over a much wider field, as for example in business and social studies, administration and several of the professions. It has only spread into agriculture and horticulture in the past few years and it is certainly here to stay.

What is a sandwich course? It is a full-time course containing as an essential, integral part of that course one or more periods of full-time training with an employer; training which is supervised jointly by the employer and the educational establishment. And it must be emphasised that a full-time course with vocational employment is not a sandwich course — neither does a year before or after a course — nor any year between courses — provide the requirements for a sandwich course.

The pattern of sandwich courses can vary. It may be a “thick sandwich” in which case a long period of industrial work is inserted in the course, as for example a full-year in between two college years, making a 3 yr sandwich which is the normal pattern for technical training leading to the Ordinary National Diploma.

Alternatively, a “thin sandwich” can be designed so that periods not exceeding 6 months and sometimes shorter are interspersed at varying times throughout the length of the training. This is the more usual pattern at the higher technological or university levels.

In horticulture, the sandwich principle is now accepted as the normal course structure for training at sub-graduate level, producing the technician and technologist — for which nationally recognised, nationally moderated courses and examinations have been devised, leading to the Ordinary National Diploma and to the Higher National Diploma in various horticultural specialisms.

One English University (Bath) has devised a 4 year sandwich degree course in Horticultural Technology, which has been conspicuously successful in training personnel for both scientific and technical jobs on the one hand and for production management on the other.

Now horticulture is a subject which cannot be learned in its entirety from lectures or books — this is true whatever level of study is undertaken from university to vocational school or

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craftsman. Training must, whether for the research worker, extension officer, landscapist, nurseryman, manager, technician, foreman or skilled craftsman, include involvement in the growing situation; often it needs a wide range of technical or craftsmanship abilities. It certainly needs a large measure of that difficult-to-define quality "plantsmanship", which infers not only a knowledge of plants but an understanding and application of them, an observant eye to recognise instantly changes of conditions before it becomes obvious and often too late. Nor do we forget that horticulture is not only an art and a science and a craft, but also a business — and basic business sense and supervisory skills need to be inculcated at an early stage in a young person's training.

There is a limit to which all this practical involvement can be taught meaningfully at any college, however well equipped. There have been grumbles from growers that the produces of the colleges are woefully lacking in practical ability or commercial outlook (this is the "educational gap" — a term coined by the American Nurserymen, which I tried to analyse at the Western Region's Conference this year). Certainly if a young person is training for an industry it is advantageous to involve the industry itself in the actual training progress.

Some of this basic practical experience may best be done before the commencement of a full-time course, particularly at the lower academic level. In the U.K. most universities recommend and some insist on horticultural students undertaking 1 year of practical work before admission. On all non-university courses this period of practical work is an essential condition of entry, and during this time the student is encouraged to undertake part-time continuative education, perhaps being released by his employer for 1 day a week to attend their local college. Incidentally on the Continent this insistence upon pre-admission practical work is more marked even than in the U.K. Though colleges are prepared to give advice about this pre-entry year, they do not in any way control it, nor is the work done integrated in the subsequent course. It introduces the subject to the young person, helps to motivate him and generally provides a much more mature person at the college. The technical content of the year may be very variable.

However, this pre-admission practical training period, valuable though it is both in introducing the subject to and providing a maturing experience for the prospective student, does not provide the meaningful training that practical employment within the learning period can supply. A sandwich course requires the practical training period to be integrated into the education programme, not just interspersed amongst it. This requires the closest possible relationship between the employer, the college tutor and

the student, who of course remains under the tutorial guidance of the college throughout his employment. He is self-supporting, being paid the normal wage for the job and he must be worth it. He is in constant communication with his tutor and, if possible, visited by him. He has to complete (at least so far as Pershore students are concerned) a project agreed beforehand by the 3 parties, which forms part of his final course assessment.

One of the valuable spin-offs of the sandwich course is that it involves the grower in the educational process. There is a closer relationship between grower and college staff to the benefit of both parties. We ask for a detailed grading of the student from the employer, though we do not find it possible to quantify this in the final course assessment. Nevertheless this grading is taken into account in the final analysis, and certainly, if the practical period is patently unsatisfactory, the student would have to repeat the period with another employer or even be withdrawn from the course.

The selection of employers for the scheme is all important. They must be prepared to co-operate and to offer some facilities for training. In return they should get a well-motivated and more than averagely interested young person, whom the college has done their best to convince must be prepared to give that extra effort in order to receive in equally good measure.

Initially there were some difficulties in striking the right relationship between sandwich employer and college. Now we have more demand from employers than we have students to place. It is important to try to supply the employer with a student each year so that the establishment of a regular sandwich student can be built into the staffing requirements of the holding. And no new employer is brought into the scheme without a visit and most detailed discussions.

What do we feel are the advantages of the sandwich courses.

- 1) They provide for the student a meaningful practical experience as part of the educational course, giving opportunities to apply theoretical principles in a practical (and business) situation, so that this knowledge can be brought back into the academic situation.
- 2) They provide for the college and in particular for the tutorial staff, an invaluable and continuative link with industry.
- 3) Learning to work with people is itself an educational and maturing experience which sandwich students themselves appreciate.
- 4) They establish closer links with industry which is of equal importance to the college and to the student. They are not designed to tailor-make a person for a specialised job,

nevertheless they are most beneficial in helping the young person to choose a job. They provide a personal and social challenge as well as an educational one, which many young people appreciate. In a recent survey of sandwich students in Business Studies, sandwich students generally earned substantially more than their full-time colleagues. There are strong indications that this is equally true of growers.

MODERATOR HARAMAKI: Thank you, Mr. Martyr; I think you have an excellent approach to teaching horticulture in England and I was quite impressed with the facilities which are available at the colleges we visited on our tour last year. Our next speaker is going to talk about a field which is quite different. Dr. Tereshovich is going to tell us about horticultural therapy.

HORTICULTURAL THERAPISTS

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REVIEW OF LITERATURE

Horticulture, both a science and an art, has proven to be therapeutic to many people. Working with plants has a healing quality that is relaxing and satisfying. "There is nothing new about Horticultural Therapy; it is not proposed as a new therapy but merely as a supplement to the already recognized forms of occupational therapy" (19).

Man's early interest in plants was centered on their healing properties and many of our earliest horticulturists were physicians who sought to grow plants of medicinal value. This early work was initiated at Oxford University. Their Botanic Garden was the first of its kind in the British Isles, established in 1621 — primarily to strengthen the faculty of medicine (9). People have long practiced garden therapy as preventive medicine. Before the science of psychiatry, physicians prescribed work in the garden for ills of the mind and nervous system (17).

Progress during the 20th century centered around the development of horticultural activities in programs of many hospitals and institutions in the United States. Soon horticultural therapy gained sufficient approval for an effort to be made to plan special activities, many of which were not necessary for the institution's maintenance.