

A PRELIMINARY ANALYSIS OF THE EARNINGS OF SANDWICH COURSE STUDENTS

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The sandwich course system in the United Kingdom has much in common with cooperative education programmes in the USA, both involving a blend of academic study with extra-mural work experience, and a number of papers describing aspects of the British approach have already been published by the CEA. (1, 2, 3)

While the concept of sandwich courses was first proposed in the UK in the 19th century, the system was not adopted on any substantial scale in Britain until the mid-1950's, when it became closely associated with the development of the Colleges of Advanced Technology (now universities), established to help the country meet the demands of the "technological revolution." By 1973, the total number of sandwich course students in the country had risen to some 47,000 and a continuing increase is expected.(4) Such numbers are modest by comparison with those involved in the cooperative education programme in the USA, but the growth rate has been high and its attainment has called for considerable efforts on the part of both educational establishments and employers, particularly during the recession of the last few years.

At this stage in the development of the system, it is appropriate to examine whether it has achieved its objectives. There have been many attempts to define the latter in detail but the more important aspects may be summarized (3) as:

- i. To provide practical experience in the application of theoretical concepts covered in the academic part of the course.
- ii. To give a broader overall education than could be covered in an academic course, e.g., to provide engineers with an insight into management techniques and a social awareness of the impact of industry.
- iii. To encourage personal development and maturity.
- iv. To clarify and enhance career prospects.

It should be noted that there is no immediate financial objective since most UK students are in receipt of a government maintenance grant.

Some research has been conducted which questions how successful the scheme has been in achieving integration between the two parts of the course.(4) For the group of students investigated, the data showed some decrease in the students' own assessment of the relevance of the extra-mural experience (virtually all in industry) to their courses. Unfortunately, no comparable data are available on the extent to which conventional full-time courses match the initial expectations of students. A further study (5, 6) also involved an investigation of the attitudes of employers, carried out with the aid of questionnaires. This led to the conclusion that employers viewed sandwich course graduates favourably in their early years of employment but considered little difference from conventional graduates to be discernible after five years, the former possibly being somewhat inferior.

The results of the above work became available at a time when the sandwich course system was being questioned on the grounds of cost. Because of the extra duration of sandwich courses, most patterns of such courses are more expensive to operate than conventional courses and, for this to be justified, one must be able to point to some benefit. It is notoriously difficult to assess by means of subjective questionnaires addressed to employers matters such as the value placed on employees. It appeared to the writers that an alternative quantitative approach might be to estimate the esteem in which sandwich course graduates are held by their employers by

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examination of the figures on the monthly salary cheque. These figures could then be compared with national averages.

In order to explore this approach, a survey was conducted amongst students of chemical engineering at the University of Bradford who gained their bachelor's degree on a sandwich course between 1963 and 1973 (i.e., before imposition of the present UK statutory incomes policy. The results were compared (see Figure 1), age for age, with data obtained at approximately the same time by the Institution of Chemical Engineers in a national survey of members, the latter providing a convenient "norm" for the profession. (7) This showed sandwich course graduates from Bradford earning, on average, 15% more than the national norm at age 27 (£3,100 as against £2,700) and no less than 30% more at age 32 (£4,600 as against £3,500).

These data must be approached with some caution as the sample sizes were small, particularly in the older age groups of sandwich students. However, while there may be some doubt as to the precise salary differential, it seems quite clear that the sandwich course graduate was being paid more than the average for the profession, age for age, and that the gap appeared to widen with increasing years. The latter is not necessarily irreconcilable with the conventional view that university training becomes subordinate to other qualities and experiences after a few years. If the sandwich course graduate has demonstrated particular qualities in the early years of employment, these may have given him an earlier start on the promotional ladder and such a start could continue to have an influence on his subsequent career. This would not necessarily become apparent from subjective questionnaires.

While the data so far gained are limited, it is hoped that this communication may prompt other workers to consider the use of salary surveys to follow career progress when assessing the value of cooperative type programmes. It may not be without significance that a recent analysis of costs and benefits undertaken at the Detroit Institute of Technology (8) showed the starting salaries of co-op graduates to be 9% higher than for other college graduates. This does, however, leave open the question as to whether co-op graduates have gained the qualities needed to maintain this lead.

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FIGURE 1
Results of Study Survey

