

Sandwich Training: The Student Viewpoint Considered

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In a previous issue of *The Quantity Surveyor* (September 1980, Vol. 36 No. 9), I wrote at some length on the role played by sandwich training in the professional education of the modern quantity surveyor. On that occasion I discussed the nature of sandwich courses generally and commented, in particular, on some of the problems encountered by those responsible for the organisation, implementation and supervision of practical training of this type. While stressing the importance of supervised work experience to the student, I endeavoured, at the same time, to indicate the benefits which an employer might expect, both immediately and in future years.

Although my aim throughout was to make an objective assessment of the subject, the more discerning student might claim, with some justification, that the trainee's viewpoint was largely ignored, or at least given insufficient emphasis. This was perhaps inevitable in a general review. Nevertheless, if there is any validity in such an assertion, the criticism should not be disregarded.

The problem is not, however, an easy one. How does one gauge student opinion in such an individual matter? Most students in sandwich placement are engaged in professional work for the first time and each will react in his own way. As the Latin proverb reminds us "quot homines, tot sententiae"¹. Yet every effort should be made to appreciate the common problems, which face all students in this formative and challenging period of their career.

Sandwich placement is fraught with difficulties at the best of times and certainly conditions in the construction industry at the present moment can hardly be regarded as normal. Consequently, the student, if he is prudent, considers the various options open to him and decides, in good time, the type of work experience which will suit him best. The

sad fact is, however, that initial expectations are fully realised in only a modest proportion of cases.

On one particular degree course in quantity surveying, a survey is taken each year amongst those students who are about to enter sandwich training. They are asked *inter alia* to specify both the type of organisation they hope to join and the location in which they wish to work. Eventual placements of students confirmed that only 25% in session 1979/80 and 40% in session 1980/81 achieved both their initial preferences. Table 1 shows that 20%–30% of students were disappointed on both counts, while sizeable proportions were only partially successful.

The figures for session 1979/80 may be regarded as being more representative of previous years, since in the current session a considerably larger proportion of students were placed locally than is normally the case. Despite these somewhat gloomy statistics, however, students appear to settle down well in whatever post they ultimately obtain and generally make rapid and sustained progress.

Colleges, polytechnics and universities maintain formal contacts with students in sandwich placement. In this way their performance and progress can be monitored throughout the full period of their training. Students are normally required to submit reports, either at regular intervals or at the end of their training; these reports are invariably informative and often remarkably candid. In addition, academic staff meet students and their employers or practice supervisors during the course of routine visits to their place of work. While all these contacts are helpful and together provide a valuable impression of the student's attitude and progress, it is appreciated that there may be instances in which students, for one reason or another, prefer to maintain a discreet silence.

TABLE 1

Student performance in relation to sandwich placement	By percentage	
	Session 1979/80	Session 1980/81
Obtained preferred organisation and location	25	40
Obtained preferred organisation, but not location	20	24
Obtained preferred location, but not organisation	25	16
Obtained neither preferred organisation nor location	30	20
Total	100	100

It is my distinct impression that many students are initially apprehensive when faced with the prospect of embarking on a period of supervised work experience. It is with some relief that they discover, on taking up a post, that they can cope adequately with their new responsibilities. They are reassured to find that they are soon able to perform the professional tasks allocated to them with some degree of competence. With further experience comes confidence and sometimes a more critical attitude. One criticism commonly expressed concerns the lack of adequate detail drawings at the pre-tender stage, when bills of quantities are being prepared. There is nothing particularly new in this complaint, of course; the situation is one which every quantity surveyor faces daily to a greater or less degree, although the introduction of SMM 6 has helped to some extent. As a consequence, students come to realise how important it is that they should develop a sound and detailed knowledge of construction technology, especially when dealing with works of alteration or rehabilitation.

On the other hand, the majority are duly grateful for the help they receive, not only from more senior members of their own organisation, but from architects, engineers and other specialists, when queries are raised. Indeed, these contacts with other members of the professional team are genuinely welcomed and recognised as a vital part of the close co-operation which is essential nowadays for the successful completion of even the most modest project.

It is not always appreciated that procedures and techniques which the experienced practitioner takes for granted can create problems for the trainee. As modern buildings become ever more complex, students need hardly be reminded of the need for organisation and discipline in all aspects of their professional work. Nevertheless, they are often reassured by the variety of aids they

can call upon when carrying out routine quantity surveying tasks. Not only are bills of quantities from previous jobs usually readily available, but standard libraries of descriptions, trade catalogues, British Standard specifications and codes of practice, technical manuals and handbooks, etc. are all at hand in the majority of offices to ease the trainee's burden when faced with the daunting task of putting pen to taking-off paper. Moreover, students frequently prove to be surprisingly adaptable when introduced to the more sophisticated data processing and computing equipment increasingly used in present-day practices.

Design and Build —The QS Opportunity

The following article was compiled by the Committee of the East Midlands Branch from individual experience and notes taken at a Branch meeting on the subject.

Over the years there have been numerous attempts to find the alternative to what many consider to be the failure of the traditional building process and much has been publicised about the rise in popularity of the Design and Build or Package Deal system. This is not, of course, a new system but its use is certainly increasing as government departments and local authorities join private and commercial clients in looking for ways of cutting costs and speeding up the invariably lengthy design and tender periods of the traditional system. Added impetus has been given by pressure on the public bodies to reduce staff—refuse collectors are usually considered to be more essential than Architects in times of cut-back!—and the advent of SMM6 and JCT 80 have done nothing to simplify or shorten the pre-tender process.

So the package deal is in the ascendancy and with it comes further opportunities and challenges to the Quantity Surveyor no matter what his sphere of operation.

The Background of Tradition

Before the evolution of the Quantity Surveyor, and indeed of most building "professions", the builder usually provided the package (although it was perhaps not appreciated as being a package). Historically, the builder was invariably also the architect, commissioned to erect a structure to fulfil a client's requirements. Even with independent architects the builder was still a dominant party, influencing construction and design decisions.

The gradual takeover of the design and tender process by the professions, and the consequential relegation of the builder to an uninvolved bystander, is often looked upon with regret, and not only by the builder. The complexities of modern building, and perhaps the failure of the historic system to cope with these complexities, led to the creation of the modern building professions. However, the science and infinite detail of modern pre-contract procedures can be almost self-perpetuating and has not necessarily been to the benefit of the industry nor indeed the client. The early involvement of the Contractor in building schemes nowadays is rare and in fact almost impossible in our now traditional tendering process, but it has been seen to be of great benefit when such early involvement has been possible. The revival of the package deal, a return to history almost, enables this early involvement to be revived. Of course, some areas of the building industry have not moved out of history and still work with the package. This applies particularly to agricultural buildings and to minor works of house extensions and alterations. Some would say this is due to the need for "practical" solutions to building requirements although a cynic would suggest

that it is either a lack of education on the client's part or perhaps his desire to avoid the expense of professional fees! The increasing number of disputes and legal actions in this area of work perhaps speaks for itself and also highlights the biggest criticism of the package deal.

The Design and Build Concept

Today's package deal, or Design and Build as it is now more respectably known, still offers the historic advantages but with modern refinements. Today, several large contractors have "in house" design teams who are familiar with their company's methods of working and particular specialities. They can, therefore, design to the best and most economical forms of construction, a significant advantage over builders who employ outside consultants. Design and Build projects should provide the optimum in design, price, construction and time because:

1. The Contractor is normally involved from the start, thus being completely aware of the client's requirements and conditions and offering the benefit of specialised knowledge and methods.
2. By eliminating traditional tendering procedure the time from inception to completion is reduced to a minimum.
3. There is direct contact between contractor and client.
4. A functional building at (usually) reasonable cost should result.
5. Initial tendering and pre-tender design costs can be substantially reduced.
6. The cost of the work is known and agreed prior to commencement.
7. The Contractor has control of all trades, nominated sub-contractors being eliminated except in rare circumstances.
8. There can be no claim for delays due to lack of information as the Contractor has full responsibility for design.

However, it must be accepted that several disadvantages exist, particularly:

1. Because only a performance brief is normally given to the Contractor(s) alternative solutions to specific design problems may be lost. The Contractor's solutions are likely to be decided by cost rather than by client benefit.
2. The number of contractors able to offer "in house" design facilities and support considerably larger tender overheads are limited and the choice of Contractor(s) correspondingly reduced.
3. The environmental quality, both internally and externally, may well be sacrificed in favour of cheaper prices and simpler building. Architectural flair will inevitably suffer although it must be accepted that it suffers in the majority of projects anyway!



"I'M ALL IN FAVOUR FOR THOSE WHO WANT THEIR FUTURE BREAD WELL BUTTERED!"

Students seem to experience little difficulty when working on construction sites and quickly become adept at handling measuring rod and tape. They also appear to appreciate the opportunities afforded by site visits to study buildings under construction and to inspect and measure work at various stages of completion. Female students recognise too that site work is an essential part of their training, while building trade operatives apparently regard their presence as something in the nature of a non-pecuniary bonus!

Most of the "feedback" of information which comes my way indicates that the majority of students look upon their period of sandwich training as being essentially worthwhile. It is reassuring to know that this is the case. Nevertheless, if complacency is to be avoided, it is imperative that we strive at all times to maintain the right balance of academic education and practical training, so that the profession may continue to develop educationally along healthy and progressive lines.

¹ "so many men, so many opinions"