

# Estimator Training

**The Why**  
and the How

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Estimating is often said to be more of an art than science. In some ways, such as labor pricing, and the fee one puts on the estimate, that may well be true. But it is also true that estimating is perhaps more experience than either art or science. Experience is said to be a dear teacher, and this is nowhere true as in estimate preparation. Experience often is to be equated with the mistakes made by the estimator, of commission and omission, and most experienced estimators will say that they have learned as much from their mistakes as they have from the things they have done properly.

Why this is so is not such a mystery, if one looks at the nature of the profession and the training of most of its practitioners. The profession is perhaps the only one in which the training of its members is almost entirely on the job. There are no bachelor's degrees in estimating, no associate degrees, no diplomas, and very few even certificate programs.

While most construction management curricula include estimating, it is most often one semester or year course and of necessity is an overview rather than an in depth hands on approach. Coupled with the typical collegiate (justifiable) fascination with computer applications and the mass of other information necessary to produce a graduate who has a basic background in project management, it is understandable why estimating is given relatively little attention.

In addition, the industry itself has failed to provide both the direction and the resources to the academic community necessary to develop estimating curriculum materials adequate to teach in depth discipline specific estimating.

Within individual companies, except perhaps the largest, the situation is the same. Estimator training occurs in an almost medieval apprenticeship system in which the would be estimator is apprentice estimator is assigned to an experienced one and the latter teaches the former how to estimate.

Why this should remain so is curious. Some companies feel that there is not enough time to train because there is so much pressure to do. Some complain that there are no materials available to use in training, that they are not staffed to develop them, and anyway if they provided comprehensive estimator training the estimator would only carry the training with them when they left for a better job. Some feel that group or area training courses developed through trade organizations would of necessity require them to reveal some of their estimating secrets and this they are unwilling to do.

Whatever the reasons, training outside the company for which the estimator is not widely available, and is not likely to become so in the near future.

In spite of the current status, almost all construction company owners, and the majority of estimators recognize the need for more and better training of estimators. Why this is so is quite readily apparent in many cases. A major cause of construction company failures is poor estimating. Estimators make mistakes and the mistakes can be very costly. The

mistakes most often are a result of inadequate training before placing the estimator in a situation where mistakes can be made. They may also result from clerical errors in which there were inadequate checks to prevent the mistake, or from errors of judgement on the part of the inexperienced estimator.

Nor is it difficult to see why on the job training may be a poor method of training. Most estimators are by nature somewhat reclusive, a necessary characteristic to performing many of the tasks required to complete an estimate. They may not be good at explaining what they do and why they do it as well as they are at doing it. They may not be good at writing and so are poorly prepared to outline or describe their work. And finally, they may not have the time to devote to "formal" training, even if they have the other skills to do so.

Well, then what are we to do about estimator training?

The first thing we can do and indeed must do is change our attitude about training. We must come to view training as a true investment in the future of our companies, as much an investment as a new crane, truck, coil line, or transit. It is an investment which can pay back every bit as much as other investments we make. We must also rid ourselves of the notion that estimator training on a wider basis than intra-company will result in somehow revealing estimating secrets. Whatever can be said to be truly secret in estimating, it is minute when compared to the areas of common need that have nothing to do with secrets. For example, all estimators should know how to prepare a complete and comprehensive quantity survey. Training them to do this properly is something which we should be interested in not only for our own employees but also for those of our competitors. We do not want to compete with firms whose estimators have been low on a job because they omitted part of the work. It is in this case in our own best interest to help educate our competition.

Similarly, we should have no objection to estimators, ours and our competitors, learning pricing concepts to apply to the quantities they generate. In like fashion, they should be introduced to bid day concepts, to concepts of relations with other construction industry firms, etc. When one thinks about it, there is a great deal that estimators could learn in formal classroom settings which would aid the industry.

Having recognized this, it behooves construction company management to press for just such formal instruction. The courses could be developed by a local university with the aid of self-enlightened owners, and all could benefit. Subcontractors have a vested interest in promoting courses which deal with their specialties and general contractors have a vested interest in developing courses in all disciplines because better estimating means better bids. In addition, the performance of members of their own staffs can be enhanced.

This solution is the best for estimator training in the long run. It will take time, even given the commitment of management to implement it. In the meantime, we must have

some short term solutions that can help us. This means upgrading our on the job training. How can we do this?

First, management can be committed to in house training. It can then be willing to devote some time to developing in house capability to train, usually in the form of the most senior estimator available. We can develop an outline of the topics we want to cover, and set aside a regular time to go over them. The time may be one hour or two hours per week and it may involve nothing more than a sharing of ideas about what is important in the topic with only an outline provided the participants. The training might be integrated with the effort to upgrade our estimating system as discussed in another section of this manual, in that the examination of the various elements of our system will naturally lead to consideration of topics for education. If there are several experienced members of the estimating staff, they may be given assignments for presentation to the more junior members, which would naturally lead to the development of a written description of the topic. Estimators will balk, not at talking about a subject of their craft, but at writing about it. This writing need not be scholarly, it need be only accurate. A company can hire editing of its written material done very economically and quickly. High school english teachers, for example, can be employed to put the finishing touches on the written part of the topic.

In the company in which there are not many estimators, the training need not fall exclusively on the shoulders of the most senior estimator. Junior estimators can be given the task of preparing and presenting a topic, and the exercise itself will bring rewards.

In both situations, outside resources may also be tapped. Instructors of estimating may be encouraged to present a short course (say one day, or the like) on a particular estimating topic in house. This may be done more economically than one might suppose, given the fact that the instructor only has to modify material he has available to present it, and is often disposed to perform the service for a reasonable fee.

Another source of training is the material supply and subcontract estimating community. Qualified representatives of such firms can and quite often will present topics on their disciplines to firms with which they do business and do it for no fee.

You may also find estimating training help in the form of your own field forces such as your superintendents. Having installed much of the work the estimators price, they bring their own unique perspective to the table, and asked in the right spirit, will often be more than willing to help.

One might also consider the novel approach of asking a larger firm in the same business as yours to provide some estimating training assistance. This is not as far-fetched as it may sound. The larger firm has a vested interest in its competitors and potential competitors performing as competently as possible, because competence levels the playing field while incompetence tilts it, at least in the short run, toward the incompetent. The information provided will of course be devoted to those areas which all estimators have in common and will not delve into matters of pricing history or

philosophy. Fertile topics for exploration include quantity survey, the mechanics of pricing, subbidder's quote analysis, labor burden calculation, insurance cost determination, etc.

Finally, an overlooked resource in many companies is the boss. Most construction company owners have had much experience with estimating in their careers, and are not unused to talking in front of a group. The owner who views the task of estimator education as an investment may well be willing to invest some time in preparation for and conducting an estimator training session.

Estimator training programs, viewed as a long term investment, are not the proverbial white elephant they may seem. Like eating the elephant, one does estimator training one mouthful at a time. Over a period of time a great deal can be ingested and even digested.

To carry the analogy one step further, we may be compelled to begin to chew on the elephant, even if in small bites. If we do not, the elephant may trample us under foot.