



# Assisted, Interactive Online Training

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In response to the changing needs of students, and an increasingly demanding industrial workplace, colleges and universities have not only updated the content of their curriculum, but also their method of delivery. Students in technically-based programs no longer study on a purely theoretical basis. Rather, courses often adopt a project-based approach, complemented by hands-on case studies and liaisons with experts in the field. Increasingly, students are also being presented with the option to combine classroom studies with online learning. In general, post-secondary education in the technical fields has become a more flexible, hands-on and self-directed process, combining the expertise of instructors experienced in their field with a variety of learning techniques. The benefits of this combination of theory and application are obvious for students with special learning needs. Mature students who are struggling to balance family and work commitments with their education also benefit from this new model, as it isn't always feasible to radically alter one's lifestyle in order to upgrade qualifications. However, any learner may profit from the variety and flexibility of this approach, as it produces graduates who are not only well-versed in current technology, but also able to adapt to new products and methods of production.

Within the scope of the Automation and Test/Measurement Industries, programmers stand to benefit in many of the same ways as post-secondary students. Employers who choose to train employees using online methods can expect to see profit as well. This paper will define a new approach to training, similar to the model used in college and university education, as well as illustrate the benefits to both programmer and employer.

## What's Missing in Conventional Training Methods.

In general, training is viewed as a product. Usually, a fixed number of training hours is sold as a discrete deliverable. Further interactivity or support is not provided once the course or lesson has been completed. Moreover, it often subscribes to a "one size fits all" philosophy, without adequate flexibility for learners of different needs and backgrounds.

The industrial analogy of this approach is the system integrator who delivers a complete turnkey system, retaining ownership of all designs and source code. In this analogy, any further modifications require that the end user return to the same system integrator.

Although this is both a common and valid practice in many industries, the quality and effectiveness of training suffers from such an approach. In essence, traditional training models do not privilege the needs of the learner, and do not focus on promoting self-sufficiency.

## A New Model of Training: Assisted, Interactive Online Training

In order to address these issues, training should be approached as a service, or an on-going dialogue that includes a degree of flexibility and personalized support and has as its goal the independence of learners. This form of industrial training should offer a combination of theory and practice similar to that offered to post-secondary students. **Assisted, interactive online learning** describes a system of training which is flexible, learner-centred, example-based, and backed by varying degrees of short-term expert consultation. The end result is not only a richer, communal learning environment, but one that also produces learners who become efficient and self-sufficient. From a business perspective, this approach is also beneficial because of its economic feasibility and efficiency.

## Time Management and Productivity

The first advantage of this model lies in the time saved. The Automation and Test/Measurement Industries are extremely competitive and fast-paced, and the most obvious savings come from removing unnecessary downtime related to training activities.

Assisted, interactive online learning provides programmers with an opportunity to learn at their own pace, and the ability to fit training in and around their existing schedule. Lessons may be completed at work, or after hours. Moreover, this model enables users to apply what they've learned as they venture through specific projects, without interruption or time lags.

In addition to reduction in cost, this method is highly effective because learners are also less likely to forget the material when given the opportunity to make an immediate and timely link between theory and application.

### **Economic Benefits**

More importantly, this model of training is cost-effective. In addition to lost time and productivity, the transportation and accommodation involved in off-site training can be prohibitively expensive, particularly to a small company. Contracting an expert trainer come to one's facility may also be economically impractical. In contrast, interactive, assisted online training may potentially be tailored to the individual needs of the company and the projects involved. Courses may be designed in increments to suit various levels of expertise. This model may also incorporate **on-demand consulting services**, in order to help users tailor their studies and ensure that they enrol only in the courses that will best suit their needs.

Although any learner new to developing code must devote time to developing a solid understanding of the basics, those already comfortable with them may seek the advice of a consultant in enrolling in the appropriate intermediate or advanced classes. In essence, assisted online training may help to ensure that programmers receive and pay for only what they require, without the additional financial burden of travel expenses or on-site instruction, and without sacrificing the interactivity and guidance of an expert instructor.

### **Additional Benefits**

A third benefit to the assisted online learning model is the potential for a number of "extras". Learners may elect to seek assistance in the form of short-term consulting, before, during and after the training courses are completed. A small company with a limited budget for outsourcing may find this particularly attractive.

For many companies, there are greater funds available for training than there are for outsourcing or consulting. Also, consulting would often come from a separate budget than training, and one which is much more difficult to cost-justify to management.

Programmers faced with new and challenging projects may make use of these services in order to better define their needs outside of training. Additional benefits include a greater degree of confidentiality and security, as this model enables a company to be self-sufficient, with limited outsourcing.

In general, assisted, interactive online learning encourages self-sufficiency, and provides an opportunity for continuous training that is neither financially draining nor demanding of excessive time and travel. This model provides much more than the typical classroom-based training, but is fundamentally an application-based system of learning that does not sacrifice learner-instructor interaction. Most importantly, this model of training is learner-centred, keenly tuned to the needs of users, and to the companies that employ them.