9 Questions Help You Evaluate Fiber Optic Training

1. Does the training program cover the subjects needed?

The first step in considering a fiber optic training program is defining the knowledge and skills required by the trainee. Without such a definitions, evaluation of a training program cannot ensure that the training will have the desired results.

For example, the information required can include knowledge on:

- ✓ Links
- ✓ Networks
- ✓ Fiber
- ✓ Cable
- ✓ Connectors
- ✓ Splices
- ✓ Passive devices
- ✓ Optoelectronics
- ✓ Hardware
- ✓ Insertion loss testing
- ✓ OTDR testing
- ✓ Reflectance testing
- ✓ Dispersion testing

Definition of the subjects of most interest ensures the lectures provide the knowledge that will be required and used by the trainees. The prime benefit of lectures is improved compliance with the rules of installation. With knowledge of 1) the reasons for the rules and 2) the consequences of failure to follow the rules, the trainee experiences improved retention of the installation instructions.

In summary, the Pearson Technologies' training and manual includes coverage of all these subjects.

As a second example, skill development with hands-on installation activities can include the following:

- ✓ End preparation for cable installation
- ✓ End preparation of loose tube cable for connection
- ✓ End preparation of tight tube cable for connection
- ✓ Connector installation with polishing
- ✓ Connector installation without polishing
- ✓ Connector inspection
- ✓ Connector evaluation
- ✓ Mid-span fusion splicing
- ✓ Pigtail fusion splicing
- ✓ Mid-span mechanical splicing
- ✓ Multimode insertion loss testing
- ✓ Multimode EF insertion loss testing
- ✓ Singlemode insertion loss testing
- ✓ OTDR testing and interpretation
- ✓ Reflectance testing
- ✓ Link troubleshooting
- ✓ Network certification

In summary, the Pearson Technologies' training manual includes step-by-step instructions for of all these activities. Various programs include all these hands-on activities.

Definition of the skills to be required of the trainees ensures the hands-on activities will provide and/develop the skills that the trainees will need.

A training program is useful only if it covers the subjects and develops the skills needed. Most training programs have a fixed agenda and pre-determined activities with pre-determined products.

In summary, the Pearson Technologies' training covers the required knowledge and hands-on training in all the installation activities of a typical installation.

2. Does the training program develop the levels of skills needed?

The second step in considering a fiber optic training program is defining the skill level that is to result from the training. Obviously, a one or two repetitions of an activity will not result in the same skill level as multiple repetitions of the same activity. Equally obviously, multiple repetitions of an activity in a training program supervised by a highly experienced trainer will be less expensive than on-the-job learning in the field, since OJT learning by an untrained technician often involves errors, sometimes repeated, in the field. Such errors can, and often do, result in significantly increased installation cost and reduced reliability.

The prime objective of skill development is taking the trainee 'up the learning curve'. Another way to state this is: repetition in training minimizes the cost of errors in the field. 'Climbing the learning curve' in training significantly reduces the cost of learning in the field.

Pearson Technologies' training provides two basic skill levels, basic and advanced. FiberPro™ 1 develops basic skills levels in all the activities listed in the prior question. FiberPro™ 2 develops advanced skills in:

- ✓ Installation of connectors by two methods
- ✓ Inspection and evaluation of connectors by two methods
- ✓ Insertion loss testing of links

FiberPro™3 develops advanced skills in testing of:

- ✓ Insertion loss
- ✓ OTDR
- ✓ Reflectance

FiberPro™ 4 develops advanced skills in:

- ✓ Cable end preparation
- ✓ Mid span fusion splicing
- ✓ Mechanical splicing
- ✓ Pigtails splicing
- ✓ OTDR testing
- ✓ Enclosure set up and dressing

Other Pearson Technologies programs offer basic or advanced development of the skills required for FTTH, fiber in outside plant, passive optical LANs, fiber to the antenna, fiber in distributed antenna systems, fiber characterization, and fiber in data centers.

In summary, clients can achieve both basic and advanced skill development in all the activities required by fiber optic installation from Pearson Technologies' training programs.

3. Is training customizable?

Your training requirements may not include those listed in Questions 1 and 2. In that case, you can request those activities and levels the appropriate to your needs.

34 years of providing many different training agendas has resulted in creation of many custom modules. For most requests, Pearson Technologies can provide a custom training program for a modest modification fee. In some cases, there is no modification fee, as we replace one product for another without an increase in cost.

In summary, clients can receive a customized training program with a minimal, or perhaps no, modification fee.

4. Is the training unbiased?

Does the training organization sell fiber optic products? If so, will be biased towards those products.

In addition, the time spent in training will be reduced by the time spent presenting the benefits of the products being sold. Finally, the training based on products being sold may not be appropriate or directly applicable to the products the trainee will use. As such, some of the training may be useless.

Pearson Technologies does not sell products. Unless Pearson Technologies has experience with a specific product, Pearson Technologies will not recommend use. Without experience with a product, the best Pearson Technologies can say is: we are aware of no significant disadvantages from use of a specific product. All Pearson

Technologies' training is from a training manual, and none from a catalog.

In summary, the Pearson Technologies' training is unbiased and applicable to the widest possible range of products.

5. What is the <u>trainer's</u> level of experience?

Note that the question is <u>not</u>: what is the level of experience of the training organization? As is obvious, the trainer's experience is more important than the organization's training experience. An experienced trainer will provide more effective training than will a relatively inexperienced trainer from an experienced training organization.

You can evaluate training experience with three characteristics:

- ✓ Years in training
- ✓ Number of trainees
- ✓ Professional recognitions

With more than 554 presentations to more than 8900 trainees during the last 34 years, Eric R Pearson, who trains for Pearson Technologies, is a highly experienced trainer. Thus, both Pearson Technologies Inc. and Eric R Pearson have the significant training experience that results in excellent training. (link to 126083505.pdf, previously submitted. Title is 'Client Comments') (link to 'benefits.html')

The Fiber Optic Association recognized Mr. Pearson as a Master Instructor.

BICSI recognized Mr. Pearson as a Master Instructor.

In summary, the Pearson Technologies' training meets the three characteristics for a highly experienced trainer.

6. Does the trainer have well-developed communication skills?

Well-developed communication skills are essential to effective training. You can evaluate such skills with five characteristics:

- ✓ The number of presentations
- ✓ The number of trainees
- ✓ Industry recognition
- ✓ Written articles and books
- ✓ Repeat training requests

The large number of presentations, trainees, and industry recognition are provided in Question 4. Our trainer has written more than 20 training books and more than 50 articles. In addition, our trainer has delivered more than 207 repeat presentations. Such repeated presentations occur only if the trainer has excellent communication skills.

In summary, the Pearson Technologies' training meets the five characteristics for well-developed and excellent communication skills.

7. Does the training organization provide sufficient equipment?

'Sufficient' equipment means equipment sufficient to minimize the amount of time spent waiting for shared equipment. Time spent waiting is time wasted.

All trainers provide equipment for hands-on activities. However, some trainers provide a minimum of equipment, which results in time spent waiting for shared equipment.

Pearson Technologies provides equipment sufficient to minimize waiting. For those activities that require trainees to perform the same activity at the same time, each trainee has his own set of tools. For those activities performed in teams, Pearson Technologies provides tools for each team. During such team activities, each trainee performs each activity both individually and as a team member.

In summary, the Pearson Technologies' provides training equipment sufficient to maximize learning and minimize time wasted by waiting for shared equipment.

8. Does the training organization provide a well-developed training manual?

A well-developed training manual provides at least four benefits. First, it simplifies the training activities. Second, it reduces the need to take notes. Instead of note-taking, the trainee relaxes and focuses on understanding the lecture and instructions. Third, the manual provides a reference for activities after training. As a reference after completion of the training, the manual enables the trainee to refresh his memory prior to an activity. Fourth, the manual can be used to train an additional individual.

Pearson Technologies provides manuals for all of its training programs. For its installation programs, it provides three manuals:[1] Professional Fiber Optic Installation, v10 (494 pages), PowerPoint Slides for Professional Fiber Optic Installation (276 pages), and Certification And Troubleshooting Fiber Optic Networks (54 pages). These three manuals are in their tenth, ninth, and

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[1] All three manuals are available at Amazon.com

fourteenth versions, respectively. The first predecessor to Professional Fiber Optic Installation was published in 1996. This means that Professional Fiber Optic Installation, v10 has 22 years of development. As recognition of its benefits, other training organizations use Professional Fiber Optic Installation, v10.

Most of Pearson Technologies' programs are based on Professional Fiber Optic Installation, v10. The PowerPoint slide book improves the trainees' ability to follow the lecture materials. Following slides in the slide book is much easier than finding the relevant words or sections in the text. The Troubleshooting book consists of review exercises and forms for recording the results of various activities.

In summary, the Pearson Technologies' training manuals are well developed and continue to be revised to reflect improvements in the manual and changes in the technology.

9. Is Fiber Optic Association certification offered?

Fiber Optic Association[i] (FOA) certification is the most highly recognized fiber optic certification in the world. Since 1995, the FOA has certified more than 79,000 personnel in more than 40 countries.

FOA certification verifies the individual's knowledge and skills by training and examination.

**FOA certification provides two important indications that:
the certified technician's work results in high reliability and low
cost, because he performs the work correctly, the first time.**

FOA certification provides a sales and marketing advantage: clients may prefer an installation firm with certified personnel rather than a firm without certified personnel.

Certification is by examination and requires training by an FOA-approved school with FOA-certified instructors.

FOA certifies personnel at both basic and advanced levels. Basic certification results in the designation 'Certified Fiber Optic Technician' (CFOT). Advanced certification results in the designation 'Certified Fiber Optic Specialist/x' (CFOS/x).

There are four advanced activity certifications and seven advanced application certifications[ii]. The activity certifications are in:

- ✓ Connector installation, CFOS/C
- ✓ Testing, CFOS/T
- ✓ Splicing, CFOS/S
- ✓ Instructing, CFOS/I

The application certifications are in:

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- ✓ Outside plant, CFOS/O
- ✓ Fiber to the antenna, CFOS/A
- ✓ Distributed antenna systems, CFOS/DAS
- ✓ Fiber characterization, CFOS/FC
- ✓ Fiber to the home, CFOS/H
- ✓ Passive optical LANs, CFOS/L
- ✓ Data centers, CFOS/DC

With FiberPro™ 1 through FiberPro™4, Pearson Technologies provides training for FOA basic and advanced activity certifications. With custom programs, Pearson Technologies provides training for the seven advanced application certifications.

Professional Fiber Optic Installation, v10 includes the knowledge necessary to pass the basic certification examination, the three activity certification examinations, and the seven application certification examinations.

For 12 years, Mr. Pearson was a Founder and Director of the FOA. During that time, he coordinated and helped create the examinations for the basic certification and the three activity examinations. He has received five certifications (CFOT, CFOS/C, CFOS/T, CFOS/S, CFOS/I). This experience enables Pearson Technologies to deliver programs that enable trainees to pass the certification examinations.

In summary, the Pearson Technologies' provides fiber optic training with a tight focus on enabling trainees to pass the FOA certification examinations.

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[i] www.thefoa.org

[ii] Not relevant herein is an additional advanced certification, CFOS/D, for design.