



**International Institute for Software Testing**  
*Promoting Disciplined Software Testing Practices*

# Tester Professionalism: Rewarding Route to Cost-Effective Software Success

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## **EXECUTIVE SUMMARY**

Promoting professionalism can be a very powerful yet economical way to make Testing emerge as a valuable contributor to delivering successful software in less time at lower cost. This whitepaper explains why professionalism can have such impact and describes how external manifestations of professionalism, such as certification and industry participation, guide a tester's internal excellence development.

### **What Is a Professional?**

The Olympics remind us that in sports there is (or at least used to be) a clear definition of what it means to be a professional. Quite simply, professional athletes are paid to play their sport. Performance leads to professional status. That is, they are paid because they're the best; and the best of the best are in the major leagues, where pay and status are highest. Moreover, being paid to play enables and encourages them to devote all their attention to maintaining and enhancing their already formidable skills.

In contrast, amateurs play without pay. They have to support themselves in some other way, which means they have less time and fewer resources for developing their skills. While some amateurs indeed excel, especially in the highest-level amateur leagues and in sports that don't yet have the crowd appeal to afford paying their best, amateurs in general can't match the status or performance of professionals. Consequently, it's usually considered unfair, and sometimes unseemly, for professionals to play with amateurs.

Software has some striking similarities to sports in this regard. Until the past decade or so, testing was essentially an amateur-like activity, generally performed by people being paid to do something else, such as programming, tech support, help desk, or performing some business functions. Although these days testing increasingly is performed by people paid primarily to do testing, which in the sports sense makes them *professional testers*, aspects of amateurism still abound. For instance, testers often don't get to "play in the same league" with developers and others who are treated more like "pros" or major leaguers. In many organizations, testers earn less, become involved later, and are listened to less. Consequently, testers' contributions to value often are impeded.

Unlike sports, in software just being paid to do a job like testing doesn't indicate high performance or automatically accord status. Rather, testers have multiple challenges of convincing their organizations that:

1. Testing warrants professional status.
2. Their testing performance merits major league treatment.
3. Testing should not be the last thing in a project manager's mind
4. Testing is a process that takes time and can not be done as an ad hoc activity
5. Test team members deserve to be involved with the project early enough

## **How do we achieve professionalism in Software Testing?**

The most obvious answer to this question is: Education. Yes, without formal education, we can not expect people to treat us as professionals in our fields. Although education can be obtained in many ways such as reading books or attending conferences and professional meeting, class room instruction conducted by qualified instructors is the most widely accepted means of achieving formal education. This is especially true when individuals attending the training are required to pass a test in the topics covered by the training.

We deem someone a professional, not only because they are *recognized as performing very proficiently*, in fact often at a level of excellence, but more importantly *because of the way they conduct themselves*.

***Professionals take personal pride in and responsibility for accomplishing, promoting, and recognizing their own and their profession's performance excellence.***

Certification is certainly a way of demonstrating that a person has completed a course of study that qualifies them as a professional in their own field.

## **How do Certifications Achieve Professionalism**

A certification is essentially a statement by a certifier that the certified party has satisfied the certifier's criteria for demonstrating some capability or achievement. Testers who develop capabilities sufficient for certification should be able to perform more effectively and provide greater value than those who lack such capabilities. Moreover, people who demonstrate motivation to achieve a significant certification tend to apply the same energy, perseverance, and focus to their work. Since individual capabilities and motivation are by far the biggest determinants of software productivity, the relatively small cost of enhancing those capabilities can yield extremely high payoff.

Earning certification also helps increase recognition of those capabilities, which not only increases the employer's taking advantage of the capabilities but also produces rewards for the certified person.

Testing truly has become a recognized and clearly identifiable job; and there are many professional testers who are prospective candidates for certification. Gaining certification is an important part of professionalism. One can be a professional without being certified and be certified without being a professional. The value of certification increases geometrically when it's part of an overall professionalism.

## **How to Evaluate the Value of Certification**

There are a number of organizations who offer certifications in software testing. When selecting a certification scheme, a person has to ask the following essential question: *Will the certification make me a better test professional?*

A number of factors about a certification scheme can help answer this question. These factors can also be used to evaluate the value of the certification. Some of these factors are:

- How comprehensive is the program? Does it truly represent a distinct significant course of educational accomplishment, or is it essentially a certificate of attendance for a typical three-day seminar?
- What do I have to do to earn the certification, is it merely passing an exam or will I receive education on how to do my job better?
- Is the program based on providing substantial coverage of each of the areas of a Body of Knowledge?
- Can students choose from among a variety of instructors and courses satisfying each of the Body of Knowledge education requirements or is it one-size-fits-all?
- Do students gain benefit of multiple instructors' perspectives and specialized expertise?
- In addition to a proof of completing the certification, will I receive any evidence of completing the course of study?
- Has there been any history of the certification be awarded to individuals without qualifying them? This can adversely affect how the software community perceives the value of the certification.

## **International Institute for Software Testing and the CSTP Certification**

The International Institute for Software Testing (IIST) is an educational and professional development organization that was founded to promote formal education in software testing through education-based certification. Candidates must complete a course of study consisting of at least one day in each of seven areas of the Body of knowledge listed below. A minimum of 10 days of education is required to complete the education requirement. The formal education requirement of the certification was designed to provide some flexibility for candidates in designing their own courses of study.

Candidates may select any of the public and in-house courses offered by IIST that are marked as (CSTP) or any of the one-day tutorials offered in conjunction with PSQT/PSTT that are marked as (CSTP). However, the course of study must cover all seven areas below.

Candidates are required to attend a written exam for each course and pass with a level of performance no less than 80%. At this time, there is only one second chance to re-take the exam without having to re-take the course.

CSTP candidates can choose their 10 days of qualifying courses from dozens of courses taught by a number of different experts in various aspects of testing.

In addition to the formal education requirement, CSTP also requires candidates to have experience in software testing. To satisfy this requirement, a candidate must demonstrate that he or she has been working in a software test related job for at least one year and have had the opportunity to apply the formal training to their job.

### **Demonstrating Professionalism on the Job**

After receiving the formal education, whether supported by a certification or not, test professionals must continuously demonstrate professionalism on the job. Here are some ways to demonstrate professionalism:

- ❑ Be familiar with technologies used in the work place to be able to communicate intelligently with other members of the project team.
- ❑ Learn analytical techniques to be able to analyze, review and question some artifacts such as requirements and design
- ❑ Be prepared to attend design and code reviews to enhance your understanding of the system behavior to perform more effective testing
- ❑ Make sure to always contribute and add value to meetings such as requirements and design reviews
- ❑ Provide useful, complete, and precise bug reports
- ❑ Provide accurate, complete and informative status reports using data and statistics

The list can go on and on. All these practices and behaviors are discussed in courses offered by IIST.

### **Commitment to Lifetime Learning**

True professionals continually invest their own time and energy to enhance their ability to perform proficiently. Would you ever return to a physician who hadn't read anything about medicine since graduating from medical school? Of course not. We expect professionals not only to have taken necessary formal education in their field, but also to keep up with its changes and related information. For instance, we'd expect our physician to be aware of current knowledge about a variety of health issues, not just those in his/her area of medical specialization.

But, aren't software testers different? Frankly, many testers are put into a testing position, rather than pursuing it. Very few people attend formal schooling with the intent of becoming software testers. It's a pretty good guess that most students aren't even aware of testing as a job, let alone as a profession. Besides, where would one find a

program oriented toward becoming a tester? Relatively few institutions offer formal academic courses on testing, and practically none have degree programs in software testing. No doubt lack of awareness of testing as a profession extends to and in turn therefore is partly caused by college faculty members.

Since testers are unlikely to start with much formal academic training, they must depend to a far greater extent on other sources of learning. A popular source are professional testing seminars, such as IIST presents in-house, at the PSQT Conference, and during public Software Professional Test Weeks. Certification and the Testing Body of Knowledge published by IIST can provide guidance concerning areas for developing one's capabilities.

Professionals commit to ongoing learning, which also entails making sure they continually find out what specific topics and sources of information they need to be familiar with. Some of the best additional ways professionals learn, including learning what they need to learn about, are:

- Reading printed and electronic books, articles, and newsletters.
- Attending formal education, both degree programs and continuing education.
- Participating in professional associations and conferences.
- Doing research, writing, and speaking.
- Helping colleagues.

### Promoting the Profession

Professionals give as well as take. They contribute to their profession. Contribution starts by identifying themselves as members of the profession and comporting themselves in a professional manner. In that way, being part of the profession adds recognition and prestige to the individual professional; and the profession in turn gains recognition and prestige from participation of such highly capable exemplary professionals.

One perhaps surprising characteristic is that professionals share with other professionals. That's why it is so important for professionals to attend meetings, seminars, and conferences where they can interact face-to-face with other testers. Similarly, professionals not only keep up with the literature of their industry, but they also create it. Capturing and communicating one's own ideas and experiences helps all members of the profession, while at the same time establishing the profession itself.

### Summary

Developing one's testing professionalism is a most powerful and economical way to markedly improve software systems. One's contribution and value are determined partly by what one actually does and partly by how one is perceived. A professional not only performs personally at a higher level of capability, but also is given greater influence and opportunity to perform.

Professionals promote and contribute to their profession, attending, interacting with other leading testers, and presenting ideas and experiences at conferences such as PSQT. Professionals take personal responsibility for ongoing learning, both on their own and in more formal settings. Earning a certification, especially one like the Certified Software Testing Professional (CSTP) that represents much more accomplishment than merely attending a basic testing class, prepares a tester to perform as a professional while at the same time providing recognition of their professionalism.