



Consultants



Great software testers: Born or Bred?





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Successful software testing outcomes are highly dependent on the skill and commitment of the testers. Clearly, having great testers will significantly improve the odds of project success and the delivery of higher quality outcomes. Before committing to specific human resources strategies or funding, however, it would be wise to consider the question whether the best testers are born or nurtured. How you answer and what your experience has been will have a major impact on your firm's ability to maximize its human capital and how it is allocated. This analytical exercise may require managers to challenge their own biases as well as the assumptions within their recruiting, management and training practices.

As an outsourced testing firm, we have been studying this issue since we opened for business in 1994. We have looked at the performance reviews of thousands of testers who have delivered thousands of projects for over hundred clients. We have come to the conclusion that our success has been inexorably linked to the quality of our people (both testers, consultants and partners) and the management systems (workflows, reporting schemes, recruiting strategies etc.) that support them. The findings also lead us to a simple conclusion that can be challenging to implement without sufficient time and investment: great software testers have certain innate traits and are regularly stimulated by powerful training schemes and skill-building projects. The execution challenges are self-evident: attracting and identifying testers with the 'right stuff', developing performance management and training systems that leverage and extend these attributes through periodically filling in skills/technical gaps and; most obviously, keeping your best testers happy by providing a mix of interesting work, competitive compensation and a supportive organizational culture.

Below is our formula for recruiting and cultivating high performance testers:

Hire Right

Without possessing the 'right stuff,' it will be difficult for many people to become effective testers over the long term. Not everyone in the testing industry let alone recent graduates possess the traits to be an effective tester. As an example, programmers do not usually make ideal testers. Programmers tend to be optimistic and positive in the outlook (not critical, skeptical for bug-hunting). As Developers they have an innate bias, which limits the objectivity they bring to evaluating the code they have written.



We have found some personality attributes and habits – our ‘right stuff’ – correlated with a tester’s success and the outcomes of their projects. Some of these characteristics are below:

Analytical – An analytical tester can break up complex software systems into smaller pieces to gain a better understanding of the task and create corresponding test cases.

Critical thinker – A critical thinking personality will judge and appraise each test case objectively, systematically and in detail, documenting the bugs but also the quality enhancements around the code or process. They will also be technically comfortable to use different kinds of technology and tools.

Curious – A curious individual regularly goes beyond the test case to ask ‘what if’ or ‘out of the box’ questions that would reflect different use cases and a holistic view of the application. These people also regularly look to upgrade their own skills and take ownership of a task with minimal supervision.

Attitude – Many factors – grouped under the umbrella of attitude – will play a major role in a tester’s productivity, quality of their work and job satisfaction. Some of these factors include conscientiousness, takes initiative, and work ethic.

Of course, this list of characteristics is not exhaustive or definitive but it should be used as a starting point. Identifying the target traits is merely part one; attracting and culling the candidates is the time consuming and expensive part of the process. We select for these behaviors through a rigorous hiring process which features a comprehensive and precise job definition, resume vetting, aptitude tests, and multiple cross-functional interviews. We also regularly go back to the IT schools and job placement sites that have yielded the best talent.

Once hired, our performance measurement systems tracks the employee’s work against the above behaviors and attributes – as well as project and personal goals. Hiring well, and properly managing the employee’s progress gives companies a great start. However, it will not deliver superior results over the long run because of turnover, client evolution and the dynamic nature of the testing role and the technologies that are a part of it. To maximize performance, organizations need to also look at training.



Train well

Every new employee will require on-boarding to be testing and client-ready. We have found that sending new hires through a comprehensive orientation program fills in skills and technical gaps, brings them to a baseline level of professional familiarity and identifies opportunity areas for further personal growth.

Changing technology, tool and industry dynamics compels testers to improve their technical and soft skills through training schemes on a regular basis. Not only does this further build technical mastery but it also (through cross training) leads to enhanced team flexibility, scalability and employee engagement. The challenge for firms is to regularly deliver practical training programs that testers want to take and benefit from. Training schemes should be regularly scheduled; mandatory for all testers and; followed up to ensure the knowledge is retained and leveraged. One ideal time to train is during a project debrief, and/or right after its completion. New learnings and best practices are best captured and shared when the project remains fresh in people's minds'.

Our research has shown that effective training begins with a curriculum that considers technical subjects but also touches upon vital soft skills and industry developments (of the company's client sectors).

Technical

Testing practices and tools evolve on a regular basis due to changes in the applications, infrastructures and platforms. Relevant and hands-on training programs should update these changes as required. Furthermore, training initiatives should apprise testers on the latest testing best practices and methodologies. If possible firms should expand technical training to bridge complementary areas (e.g. user experience and functionality testing) in order to enhance a tester's overall experience set and system understanding.

Soft skills

Testing projects often occur under tight time constraints, budgets and organizational challenges. A project's success is highly dependent on the employee's level of 'soft skills.' In fact, some testing projects are made or broken by the ability of the tester to mesh tightly with the client's teams, culture



and workflows as well as professionally deliver their services. Soft skills training areas to consider include collaboration, time management and effective communications.

Industry knowledge

While many testing practices are (relatively) generic, the industry and business contexts in which they are deployed can vary significantly. For example, delivering security testing for a new video game is not the same as providing similar security services for a wealth management application at a Bank. Some areas to explore in industry training (driven by industry targets) include the role of the customer & user in the transactional experience, major industry trends and the role of stakeholders on IT requirements and performance.

When looking at any training initiatives, special consideration should be paid to the way the courses are delivered (e.g., classroom versus online, lecture versus experiential learning) and when they are offered throughout an employee's career path. It is also important to note that running impactful training programs can be an expensive and challenging undertaking, especially when your workforce is off-site, customized materials are needed or your business needs change quickly.

Many of the points mentioned show that maximizing tester quality and productivity is a journey, with equal parts selective recruitment and timely training. Naturally, the right balance between all these tactics will depend on the organization's management systems & strategies, their culture and employee pool.

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