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## Testing & People



## Result-driven testing

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By Derk-Jan de Grood

### Result-driven testing: Start adding value to your organization

Within the test scene there is a vivid discussion about the necessity and use of a certification model for test experts. The population of testers can be roughly divided into two groups: Firstly, a group that states that it will not do a better job when certified, because the current certifications like ISTQB and ISEB focus on methods and terminology, but fail to look at the practical testing skills of the tester [Bolton, 2007]. Secondly, a group which is pro certification and regards the testing industry as a young yet not fully grown profession that lacks certification models that other professions have been using for ages [Windsor 2007]. Meanwhile, voices are heard that the test profession is accepted in the IT industry and that it has actually grown into a mature profession. The website of the last EuroSTAR conference stated that a mature profession has clearly-defined standards, codes of conduct, and a number of levels of professional competence. Having all those, we might conclude that the testing profession has indeed earned its place

among the IT professions.

Have you ever been in a situation where testing time was compromised? Where someone suggested that a lot of time could be gained by expanding the test team with other resources, such as users or administrators that happened to be available? I think most of us have, which shows that there is still some work that needs to be done. The testing community still has difficulty in explaining what the added value of testing is for management, customers and developers [Clermont, 2006]. Many business managers perceive IT as “too little, too late, too costly.” There is a gap between business and IT, and on both sides reign incomprehension and a lack of knowledge about the other discipline [Ommeren, 2006]. This is why business management often has wrong expectations of software development and testing. As a result, testing is frequently pushed into a subordinate role and cannot fully contribute to the development process.

Although the discussion about certification is mainly a discussion between testers, it is a rather interesting one. A good certification model will help a tester to prove he masters his profession. A certified tester is knowledgeable on one or more methods, tools and techniques. But that alone will not solve the problems management has with IT. Rather than waiting for the outcome of the discussion about certification, I think action is required today. We need to align the expectations that business management has on IT with the output it delivers. Testing can help bridge the gap since it leads to better software quality and shorter time to market [Grood, 2008]. But this will only happen when the tester is aware of the business needs and acts in conformance with these in order to make the added value of software testing visible in its full colors (see also text-box 1). That’s what result-driven testing is about.

#### Box 1: The added value of testing

- Provided testing is carried out well, it makes a positive contribution to the software development process. Testing leads to better software quality and a shorter time to market by:
- Contributing to the development of “fit-for-purpose” systems that work according to the requirements, quality attributes and expectations (implicit or other). It achieves the goal.
- Preventing damage while the system is live because errors will have been detected during testing and solved on time. This takes away the cause.
- Preventing damage while the system is live because the errors are known and their consequences have been anticipated. This reduces the impact.

- Providing insight into the quality of the test object, which instills confidence in the test object.
- Providing insight into the quality of the test object and its progress, making effective project coordination possible [Black, 2002].

## Result-driven testing

Testing is commonly carried out according to a test methodology. The test methodology ensures that testers and other stakeholders use the same terminology and definitions, and that the work is done in a controlled process flow. The methodology also contains best practices so that the knowledge and experience of others can be used. This contributes to the efficiency and quality of the test project. Result-driven testing is more than just applying a methodology. The suc-

cess of a project is not determined by the methodology, but by the way the methodology is applied. Result-driven testing, therefore, encompasses several aspects:

- A result-driven mindset
- Testing knowledge
- A result-driven approach that supports the application of result-driven testing

A number of good methodologies have already been developed and written about. But like any other profession, testing encompasses more than the simple application of a methodology. After all, strict adherence to a specific methodology is no guarantee for success. Success stems from the mindset, enthusiasm, knowledge and skill of the tester. These factors determine whether a methodology is applied successfully and whether testing is result-driven.

## A result-driven mindset -Test principles

Since each project is by definition unique, any method being used will need to be tuned to the situation. Which parts of the method will be used to their full extent? Which steps that are described are not relevant for my situation? Which remarks are relevant but are going to be used in an altered form? Applying the method involves making choices.

What's important to understand are the elements that influence those choices. For one thing it is of course the knowledge and experience we have. We are inclined to choose the options that worked the last time. We are often a little reluctant to choose the options that we have little knowledge of. Another aspect that has significant influence on our decisions is our mindset.



Figure: The success of a project is not determined by the methodology, but by the way the methodology is applied.

## Box 2: The mindset determines the decision

The textbook says: "There are 2 ways of doing this. The first gives the best result, but is complicated. It will take great effort but yields reliable output. The second method is quick and easy to explain. However the results are rough estimates".

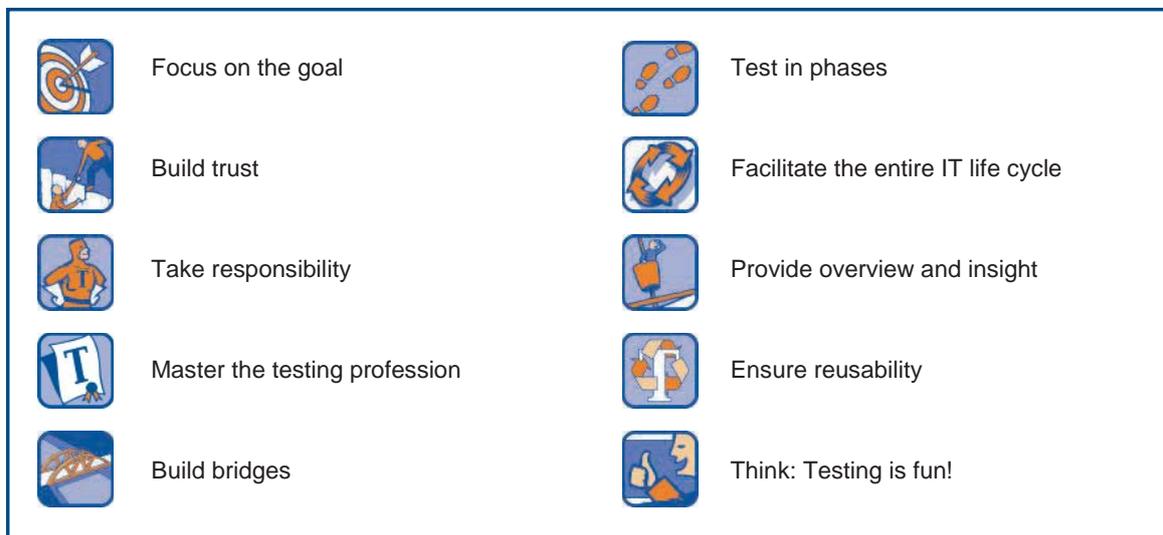
Your manager says: "There is little time! We're behind schedule already!" What option do you choose?

The correct application of the methodology depends on the mindset and the expertise of the tester, who has to be able to stress the right things and make the right choices. Ten test principles help result-driven testers to put this into practice. The test principles are a short and strong formulation of the tester's

desired mindset, knowledge and working method. They indicate how the tester can create added value and how s/he can make it visible to the organization.

The test principles enable testers to focus on the anticipated goal without external assis-

tance. By thinking and acting according to the ten test principles, testers assume a result-driven mindset. They make sure that they apply the test methodology in such a way that it achieves optimal added value for the organization.



*The TestGoal test principles*

The ten test principles are not autonomous; they are correlated. Take for example ‘Build trust’. This principle aims at creating trust in the product and the test team. Trust in the project will smoothen the go-live decision and is an important motivation for the user to want to work with the new system. This confidence can be created in several ways. One is by showing the organization that certain parts of the system have been realized and are of sufficient quality; that certain risks have been mitigated (provide overview). This leads to a stepwise test approach with distinctive test phases. The go-live decision is also smoothened if all necessary know-how is transferred to the maintenance organi-

zation. The principle “Facilitate the entire IT life cycle” has in its origin the understanding that the purpose of a project is not just getting software on the production environment, but support doing business. Building bridges to the ICT Operations department is part of that.

Another way of building trust is providing transparency. By giving insight into the work approach, the stakeholders can judge for themselves how well the team masters the test profession and if it takes its responsibilities serious. This insight is crucial. Otherwise what’s the value of a given release advice to stakeholders if they do not know how it has

been established? Insight is also given in the way the activities of test team contribute to the set goals of the business and project. One of them could be the delivery of a regression test set, thus ensuring reusability, and once more building bridges to the maintenance department and facilitating the IT life cycle.

The above description is provided as an example of how test principles work in practice. However, we can add more meaning to them by applying them in practice. The reader is therefore challenged to use these test principles and add to them with their own personal experience.

## Applying the test principles

The principles can be used as a checklist or as driving force behind the tester’s actions.

In the first way, the user regularly checks whether he has given each of the principles enough attention. This will keep him on his toes and focused on providing added value. Too often, certain aspects are forgotten in the heat of the moment. Provided with this self-check the tester has an instrument to evaluate his work. “It was hard work delivering the test scripts in time, but unintentionally we compromised the reusability. Maybe we should put some effort in setting this right, next week?”

Using the test principles as a driving force enables the tester to explain his actions. “Your mind is a black box, it takes skill to explain your testing, and what you are accountable for” [Bach, 2007]. The principles are easily understood by non-testers and help to gain commitment for the testers activities. Imagine the situation were you explain that you plan to deliver a test report by the end of the week. The customer responds a little disappointed. “Err..., I don’t like reports that much. Besides we only have limited time, so I prefer you use the time for executing tests. That is why we did hire you in the first place, remember?” Explain why you think trust in the system is a requirement for acceptance.

In order to gain this trust you’ll provide him with an overview and insight. Insight in the quality of the system and the progress of the test process. The principles help communicate (to the stakeholders) why certain activities are important and how they contribute to the anticipated goal.

Either way, a tester who does not apply the principles is doing neither himself nor his customer a favor. It is therefore necessary to regularly check that all of the testers are paying enough attention to all of the test principles. Together, the test principles are the foundation for result-driven testing.

## Wanted: result-driven testers

The fast developments in IT make the daily life of the business manager more challenging day by day. The dependency on IT is ever growing. Software can be found in most consumer goods and is increasing in com-

plexity. Most companies earn their money by supplying IT-related services and products, or use IT systems to run their business. The life cycle of software has sharply declined over the past decades. Due to the rapid suc-

cession of technological developments and changing markets, systems are constantly adapted. The business manager is dealing with larger uncertainties and has more difficulties to preserve the overview. There is a

demand for people who can help the business manager with easy digestible but accurate information on the status of the project and the risk involved with the new or adapted systems.

Software testers can provide this information and have the power to choose the mode in which his manager operates. We can stick to our complicated test-things and leave the worries to our manager. Or we can adopt a result-driven attitude. We'll take the responsibility to provide and assist the development process and the manager by providing accurate and understandable information. Result-driven testing will lead to happy managers that show appreciation for the test contribution.

If they were not enough arguments for applying the test principles, here's another:

The figure below shows a recent, random picked job-description for a senior test manager. The description contains many references to the TestGoal test principles. It also shows that as part of the bigger concept, certification can be useful as proof of mastering your test profession. Most of all, it tells us that organizations have a strong need for testers who know how to contribute to the business goals. Result-driven testers are wanted!

<b>Position</b>	Senior Testing Manager
<b>Location</b>	Various locations, including 3-4 days per week directly at customer's office
<b>Key Responsibilities</b>	<ul style="list-style-type: none"> <li>• <u>Leadership</u> and management of one or more testing teams towards attitude to add value to the client, where testing is more than just IT functionality.</li> <li>• Intense client interaction to <u>manage expectations</u> and scope of testing</li> <li>• Set-up test environment and infrastructure to ensure <u>business functionality rather than pure IT check</u>. This covers planning and ensure availability of technical infrastructure at client's side, quality standards as well as <u>intelligent test case set-up</u> and <u>reporting</u> on quality of the tested systems.</li> <li>• Create <u>collaboration</u> model and exploit synergies across all necessary organizational units necessary to deliver seamless services. <u>Planning and organization</u> of all test activities and for delivering test plan, status reports, end reports and execution of test process</li> <li>• Budget responsibility to ensure profitability as return for <u>added value to the customer</u>.</li> <li>• Transformation of current teams and testing offer from time &amp; material to service</li> </ul>

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## Biography

Derk-Jan de Groot has worked as a tester since 1997. As an ISTQB/ISEB practitioner certified test manager he advises companies on how to set up their test projects. Industries he is familiar with are among others, banking, transport, logistics and telecom.

He is a regular speaker at national and international conferences. Which include: STARwest 2007 (Anaheim, USA), EuroSTAR 2005 (Munich) and 2007 (Stockholm), SQS conference 2007 (Düsseldorf), QA&Testing (Bilbao, Spain, 2007). Derk-Jan is passionate about his profession and gives lectures at various Dutch universities and provides training sessions for fellow professionals in the trade.

In 2007 Derk-Jan published the Book 'TestGoal result driven testing', the English edition will be available in June 2008. Within Collis he is responsible for coaching test experts working at Collis. He uses the principles and result driven test philosophy that are described in the book as a daily practice.