The Software Quality Advisor Online

Rice Consulting Services, Inc.
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July 2001 Newsletter

Building a Test Tool Evaluation Card

by Randy Rice, CQA, CSTE

One of the major causes of test tool abandonment is failing to buy the right tool for the job. In theory, the tool should handle most of the types of testing you perform in the environments in which you perform them. I mean, after all, the sales rep did say that the tools would do everything you need it to do, right?

In searching for the right tools for your needs, I use a weighted scorecard to review and evaluate candidate test tools. Using this approach gives you an objective source of information that can be used to compare multiple tool sets. Of course, you always need to balance the numbers with your intuition about the candidate tools. However, without an objective approach it's hard to make comparisons when tradeoffs are involved.

The Process

Step 1 – Identify your test requirements

This includes identifying:

- The types of defects you want to find
- The types of testing that you perform
- Which tests are the most critical
- Which tests are the most mundane
- The technical environment(s) to be supported
- The user profiles of the people that will be using the tools (developers, testers, end-users, etc.)
- The time requirements for performing testing
- The test coverage levels required

Step 2 – Create a scorecard

The scorecard is used for the side-by-side comparison of test tools of a similar category. For example, you would use the scorecard to compare capture/playback tools, test case generation tools, code coverage tools, etc., each within the same tool category.

On the scorecard, include all of the criteria that will be important to your organization. There are some items that are generic in nature, such as ease of use, vendor support, etc., while others will be specific to your organization, such as specific tests for specific applications.

Step 3 – Prioritize the test tool evaluation criteria

Give each criteria on the scorecard a weight from 1 to 5, with five being the most critical and 1 being the least important. You can use the following as an example:

- 1 – nice to have, but not essential
- 2 – strongly desired, but not essential
- 3 – need occasionally
- 4 – need often
- 5 – an absolute "must have" in the tool

Step 4 – Evaluate and score the test tool performance

As you evaluate the tools against the criteria, score each criteria as:

- N/A – does not apply
- 0 – does not meet criteria in any way
- 1 – minimal support (inadequate)
- 2 – partial support (inadequate)
- 3 – adequate support
- 4 – good support
- 5 – outstanding support

Multiply each score against the weighting factor to arrive at the weighted score. Sum the scores to arrive a total score for each tool. If you like, you can sub-total each criteria category to help identify strengths and weaknesses between tools. This can be valuable, as our experience is that tool acquisitions often involve tradeoffs between cost, usability, support and functionality.

An example of such a scorecard is found at the end of this newsletter.

Summary

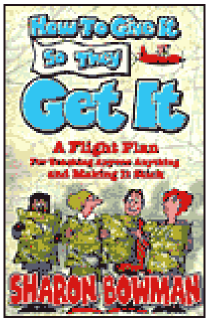
The more objective you make the test tool evaluation, the better. In making any type of purchase, emotions can get in the way of making the right choice. The weighted scorecard is a simple, common sense way to identify and sorting out your needs to get the best fit possible in buying a test tool. Test tools can be a huge investment, (with some license fees in the neighborhood of $5,000 per user) so it is due diligence to spend time on the front end to get the right tool!

Book Review

by Suzanne Chandler, RCS Courseware Coordinator

How to Give It So They Get It
by Sharon Bowman
★★★★★

Format: Paperback, 225pp.
ISBN: 0-9656851-2-8
Publisher: Bowperson Publishing
Pub. Date: December 1998
Price: $17.95



Overview

How To Give It So They Get It is a book oriented toward instructors and teachers at all levels of education, although I found the information to be helpful in all aspects of training including as a manager of an information technology group and as a mother of two. Sharon Bowman has written this book at a very understandable level and gives practical examples and useful and adaptable activities for anyone who gives information.

What I Like About This Book

Bowman explains in an easy to understand language how each of us learns and how to apply that knowledge so that our students learn better and remember more. I liked the simplicity and practicality of this book. More importantly I liked the thought provoking presentation of her materials. She put in to practice the information she presented and made the learning experience enjoyable and meaningful. The best test for any book - Did I learn anything I could take away with me and apply to my job? You bet! Look for those things we have learned when attending one of our training sessions!

Who Will Benefit From This Book

- Trainers
- IT Management
- Test Team Leaders

Scoring

Readability - 5
Breadth of coverage – 5
Depth of discussion – 4 (Bowman provides a list of resources for those who wish to dig deeper)
Accuracy - 5
Credibility - 5
Organization - 5
Overall Score – 5

Topics Covered

I. SOMETIMES YOU DON'T NEED TO FOLLOW THE ROADS

1. Seven myths about learning.
2. Designing a learning experience.

II. GET A NEW MAP

3. Letting go of old ways of teaching and learning.

III. WHERE DO YOU PARK YOUR CAR?

4. Four major ways of learning and their characteristics so you can recognize your students' preferred learning styles.
5. Creating a styles map based on the needs of all four types of learners.

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IV. RESET YOUR COMPASS OFTEN

6. Monitoring and adjusting learning activities and the direction of your teaching so that the four learning styles are honored.
7. Style Stretching – using other ways of giving information that may not be the ones you’re the most comfortable with.

V. THE MAP IS NOT THE TERRITORY

8. Styles Map – sequential steps designed to meet the needs of all four learning styles.

VI. GETTING CONNECTED

9. Building a learning community

VII. SHARING THE WEALTH

10. Giving and receiving information in a reciprocal manner.

VIII. MAKING IT HAPPEN

11. Practice, skill-building, and using what has been learned.

IX. CELEBRATING SUCCESS

12. Celebrating and remembering, coming full circle, wrapping it up, bringing it home.

X. BRINGING IT HOME

13. Wrap up of four steps in the style map.
14. Utilization of the style map.

XI. THE JOY IS IN THE JOURNEY

15. Four steps – four aspects of living.

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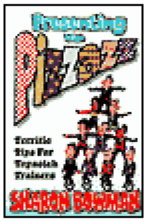
Summary

This was a great book for anyone who has to explain something or teach something to another person. Bowman does a great job of explaining how people learn new information and how, as people giving that information, we can use different teaching methods to reach each individual.

Other great books written by Sharon Bowman:



Reviewer

Suzanne Chandler

Frequently Asked Questions

by Randy Rice, CQA, CSTE

Q: Please help me define the word “practice” from a QA point of view.

A: "Best Practice" is simply using techniques that are generally accepted and used by the best organizations to achieve software quality.

Q: I am in the process of developing a decision table that will remove the subjectivity out of the perpetual "bug" versus "enhancement" debate (i.e. is it under warranty or do I have to pay to fix it?). I have gotten through the obvious ones, and the questions I'm using so far will work 99% of the time. I'm stuck on the “misfeature", "design improvement", whatever you want to call it. No matter how I phrase a question, from the customers perspective if something never worked like it should from the day they bought it, then it's a bug to them -- there is no logic in the system that is broken. Should we classify it as an enhancement? The problem with these as you know is that to change something like this, you have to get through the sheetrock and into the wiring, plumbing, so to speak. It's not an easy thing to do. Do you have an answer for this? A strong argument I can use to classify something as an enhancement, when based on my own gut feeling, I agree with them that it is a bug, but it's really not, according to the true definition of a bug?

A: Well, you have essentially the Y2K problem applied to a specific field. This specific issue actually happens quite a bit as businesses and industries grow. I have seen this particular occurrence happen in several other situations. This is where you really get into the customer vs. producer view of defects and quality. Although this is not a spec deviation, it is still a problem to the customer and will remain to be one until the problem is fixed. For this specific kind of defect, I categorize it as a "rollover defect." In fact, in past years, stress testing included testing the limits of these kinds of fields.

So, the upshot of what I am saying is that in my opinion, this type of problem goes beyond an enhancement to a true problem in that it can cause workarounds, even in a limited number of cases.

There is a risk/value equation that comes into play here that balances how much money is at risk, how much time is spent manually handling this one case, etc., vs. the cost of fixing the problem. One of the risks here is truncation, and if the truncated field is the 10 million dollar one and that impacts an interest calculation somewhere down the line, then that's a BIG problem. Of course, there are other questions that the customer should answer, such as "why would someone have over the insured amount in any one account?" "Could they split the account into smaller ones?", etc. So, the easiest solution might be to solve it on the customer side, although I'm sure I'm not the first person to make that observation.

Q: I am totally new in this field and have a chance to work in QA in our company. Please tell me how I can start – good books, free software for web-based products.

A: The first book I would recommend is *Software Testing* by Ron Patton, then *Surviving the Top Ten Challenges of Software Testing* by myself, Randall W. Rice, and William E. Perry.

Finally, as you need deeper materials, get a copy of William E. Perry's book, *Effective Methods for Software Testing*, 2nd ed. and/or Cem Kaner's book, *Testing Computer Software, 2nd ed.*

For the tool, get an evaluation version of e-valid at www.soft.com.

Structured User Acceptance

by Carl Chandler

To validate that a system will support the business needs of a company it is important to involve users in testing. Structured User Acceptance testing is designed to help users design and test systems from a functional or black box perspective based on their business not on system requirements.

Using a structured process the user can break down a complex system into manageable pieces that are easy to understand.

Acceptance testing is testing the system from end to end. This should include software, hardware, documentation, and the people using the system.

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The user's role in testing is to make sure that all aspects of the system work in the business. This includes:

- Designing test scenarios and cases
- Documenting test results
- Observing how other users interact with the system
- Giving final system acceptance

In our training courses we teach "the main value that the user brings to the testing effort is the ability to understand the business or day-to-day operations. Other people can test details such as edits or software structure. The primary focus on the user should be to ensure the system will support the business in the real world."

There are five methods of User Acceptance Testing that we teach in our User Acceptance Testing module:

- **"Try to break it" (Monkey testing)**

In this approach, a group of people are assembled in a room and told to try and break the system for an hour or so. The theory is that random testing is a good way to find defects. The fact is that you can find the easy defects, but the tougher defects will remain hidden.

- **Test cases informally documented with no pre-defined results and little advance planning**

A step up from random testing, there is thought given to what will be tested, but the expected results are not defined. This can lead to doubts and disputes as to what the outcome should actually be.

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- **An attempt at duplicating unit or system testing, except performed by users**

  In this method, the users follow the same trail as the developers and might find a few defects, but will miss testing to validate that the system will work in the real world.

- **"Pilot" tests (Production test or beta testing)**

  There is a saying that Every system is eventually tested – by the developers or by the customer. In this method, there is no user-oriented test before production. Defects are found in the real world where the costs to fix them are the highest.

- **Well-prepared test scripts with pre-defined results, based on business need**

  This is the essence of structured user acceptance testing. You know what will be tested and you have a high degree of confidence that the business processes and cases will be supported in the real world by the system. This approach takes more time and costs more, but it balances the risk of a system or project failure.

Attitudes are an important part of acceptance testing and must be managed carefully.

Long workdays, finding many defects, and a lack of recognition can lead to a user feeling discouraged. If the system is less (or different) than they expected or if reactions to their defect reports are negative users can sometimes feel insulted and angry. Stress can be a result of the user feeling the pressure of performing their regular job duties in addition to the testing.

When addressing user attitudes:

- **Stress the importance of acceptance testing**

  If a defect is found, the effort was successful.

- **Keep praising the effort**

  Point out they will know the system better than anyone else and will be valuable to the organization.

- **Point out their extensive system knowledge**

  Encourage upper management to keep praising their people.

- **Remind them the developers are also under pressure**

  Developers and users should be working toward the same goal.

- **This is not the time to redesign the system**

  Make sure users understand why the system is designed as it is before logging a perceived design flaw as a defect.

- **Stay positive and constructive**

  Remember, this too, will pass.

Rice Consulting Services' Consulting Offerings:

Testing Assessments

Rice Consulting Services' testing assessment is a quick and effective way for an organization to determine where they are in terms of software testing maturity. The assessment looks at three areas that are critical to testing:

• **Test organization** - Who performs testing, what levels of experience are present, and when testing is performed in the development/maintenance life cycle.

• **Test process maturity** - How well-defined, well-deployed, and repeatable the test process is, and whether it incorporates good testing management, practices, tools, and techniques.

• **Readiness** - An assessment of the organization's readiness to improve the testing process. This involves an assessment of the staff's testing awareness, testing skills, and motivation to change current practices.
The deliverable is a report detailing the assessment's findings, a recommended quality improvement strategy, and a plan for addressing the improvement needs identified. If the assessment uncovers the need for in-house skills training and consulting, we will include proposed training and consulting plans in the report. The report is typically about 15 pages in length.

Rice Consulting Services' Course Offerings:

If you would like to learn more about the information covered in Carl's article we at Rice Consulting Services, Inc. offer an excellent course that will enhance your companies software quality process.

Structured User Acceptance Training – 3 days

This is a practical hands-on seminar to convey effective methods to plan and conduct user acceptance testing. This is one of the few courses available that teaches a non-technical and easily learned process for testing computer systems from a business process perspective. This course deals with testing issues from both the process and human perspectives. You will learn the terminology, the unique issues, and the process for performing user acceptance testing. As a result of attending this seminar, you should have a good working knowledge of what it takes to plan and conduct a very effective user acceptance test in your own organization.

Structured User Acceptance Testing will help you become more comfortable and confident in designing and performing a test that models how an organization will use a particular application to conduct business. You will emerge from this two-day session knowing how to develop test scenarios, test scripts and test cases. You will also have a working knowledge of how to coordinate all of the aspects of a user acceptance test into a smoothly flowing test.

Whether you are planning to test a vendor-developed or in-house developed applications, the process and techniques covered in this course can enable you to identify the most effective tests and maintain a high level of test coverage.

User acceptance testing does not need to be overwhelming and intimidating. Learn the issues and processes for effectively testing business processes by attending this hands-on course.

For more information on this course or one of our many other offerings please contact Carl Chandler at (405) 414-6759

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Notable Quotes…

"It is good to dream, but it is better to dream and work. Faith is mighty, but action with faith is mightier. Desiring is helpful, but work and desire are invincible."
- Thomas Robert Gain

"We must dare to think 'unthinkable' thoughts. We must learn to explore all the options and possibilities that confront us in a complex and rapidly changing world. We must learn to welcome and not to fear the voices of dissent. We must dare to think about 'unthinkable things' because when things become unthinkable, thinking stops and action becomes mindless."
- James William Fulbright

"Those who know how to win are much more numerous than those who know how to make proper use of their victories."
- Polybius

"There is nothing so weak, for working purposes, as this enormous importance attached to immediate victory. There is nothing that fails like success."
- G. K. Chesterton

“There is one who pretends to be rich, but has nothing; another pretends to be poor, but has great wealth.”
- The Bible (Proverbs 13:7)

August 2001 Issue:

- **Risks and Challenges in Interoperability Testing**
  By Randy Rice

- **Where is QA in the Structure of the Business**
  by Carl Chandler

This certificate worth 1 CPE credit* towards Certified Software Test Engineer (CSTE) and Certified Quality Analyst (CQA) Continuing Professional Education through the Quality Assurance Institute. All CPE credits must be approved by the certification authority. You must read the newsletter and spend the actual estimated time in self-study.

*Category E - Self-Study Courses Activities designed to improve your proficiency in CSTE skill areas as defined in the *Common Body of Knowledge* may qualify for CPE credit up to a **maximum of 20 credits per yea**r. Qualifying activities include: Professional memberships that offer self-study education regarding quality assurance within information technology. It’s not the membership that earns the credit, but the study materials provided by the membership.

To redeem complete the following information and submit to the Quality Assurance Institute.

Name: ____

CSTE/CQA Certification Number: ________________________
(circle one)

Email Address: ____

Credits available to members of The Software Quality Advisor only. To become a member of The Software Quality Advisor sign-up at http://www.riceconsulting.com/SQAdvisornew.htm

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Sample Test Tool Scorecard

#	Criteria	Weighting Factor	Tool A	Tool B	Tool C	Tool D
1.	**Ease of Use**					
	Creating Scripts					
	Running Scripts					
	Evaluating Results					
	Modifying Scripts					
	Managing Scripts					
	Learning curve					
2.	**Advanced Features**					
	Object-oriented capture/playback					
	Proprietary Object-support					
	Non-intrusive operation					
	Graphical reporting features					
3.	**Vendor Support**					
	Phone support availability					
	Web support availability					
	Vendor stability					
	Vendor training availability					
4.	**Pricing**					
	Product licensing					
	Maintenance costs					
	Training costs					
5.	**Compatibility**					
	O/S					
	DBMS					
	Hardware					
	Other test tools					
	Pervious versions of same tool/vendor					
6.	**Vendor Practices**					
	Does the vendor use this tool to test their own tools?					
	Frequency of upgrades					
	Quality of customer references					
	Existing business relationship with vendor					
7.	**Test Environment Support**					
	Web-based GUI					
	- Java					
	- JavaBeans					
	- XML					
	Client/Server GUI					
	Character-based					

#	Criteria	Weighting Factor	Tool A	Tool B	Tool C	Tool D
	- PC					
	- Terminal emulation					
	Windows environment					
	Non-windows environment					
	X-Windows environment					
	Unix					
	Mainframe					
	AS/400					
	DEC					
	Others (Specify)					
8.	**Tool Functionality**					
	Integrated tool suite					
	- Test management					
	- Defect reporting					
	- Defect tracking					
	- Test process facilitation					
	- Load testing					
9.	**Test Types Supported**					
	Regression					
	Load & stress					
	Structural					
10.	**Specific Tests Supported**					
	Application A					
	Test 1					
	Test 2					
	Test N					
	Application B					
	Test 1					
	Test 2					
	Test N					
	Application N					
	Test 1					
	Test 2					
	Test N					
	Total Score					