TESTING ACTIVITIES SELF-ASSESSMENT

PRACTICE OBJECTIVE

The first step in improving the testing process is to establish a baseline of test performance. The objective of this self-assessment process is to create that baseline for your information organization's testing activities. Testing is defined as the totality of activities utilized to evaluate information systems prior to placing those systems in a production status. It includes both static analysis of documentation, and dynamic analysis of executing code.

PRACTICE TUTORIAL

There are three important components to improvement. These three components are knowing where you are, knowing where you want to be, and knowing how to get there. Self-assessments address knowing where you are.

In the construction of products and services, the process should meet standards/requirements; and the constructed products and services must satisfy the end user. Thus, you must know where you are from two perspectives—the producer perspective and the end user perspective. Examining where you are from a producer perspective, we'll call a self-assessment.
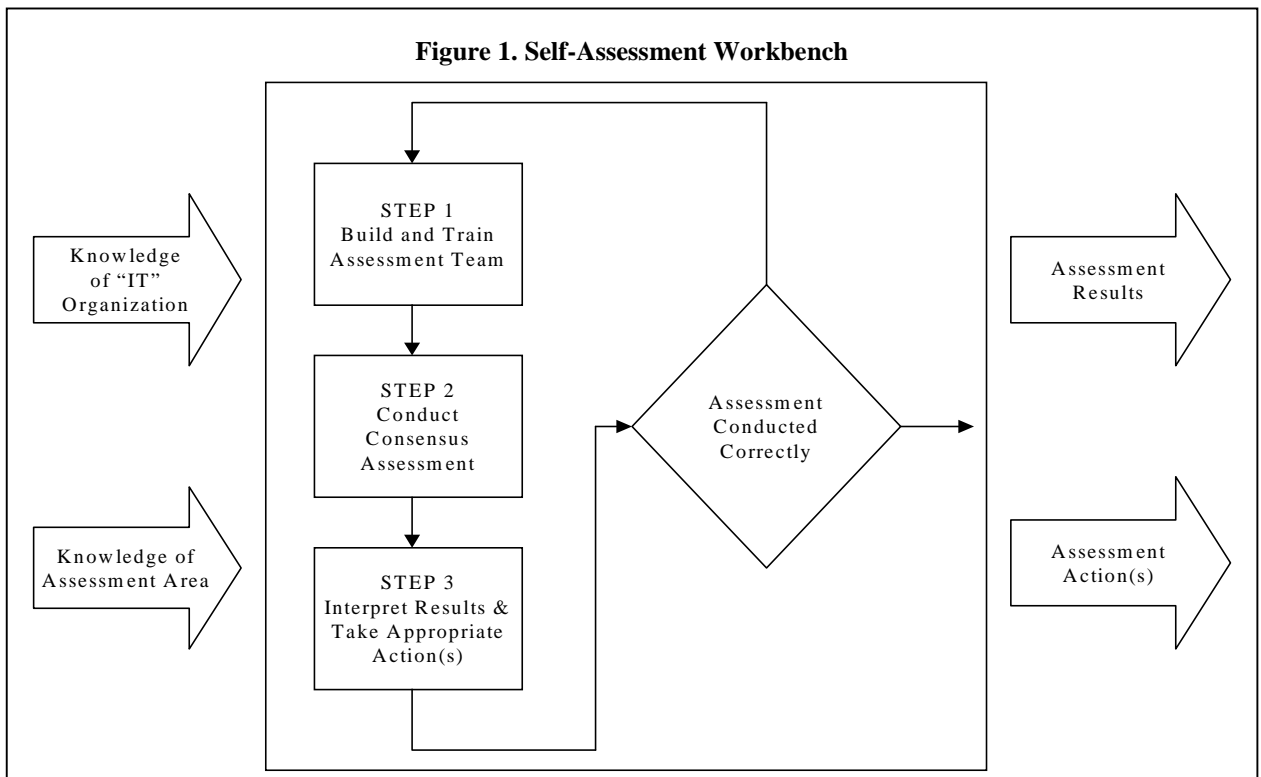
Examining where you are from an end user perspective, we'll call a survey. Assessments tend to be objective, while surveys tend to be subjective.

There are two general uses for self-assessments. One is probing for information; while the second is used to help drive results. The latter presumes that you know where you are going.

The objective of conducting self-assessments is to develop a rough calculation of the current status of an activity/function. These self-assessments are not designed to be high-precision/statistically valid measurement instruments. However, they are based on solid assessment concepts and should provide a valid enough assessment to make a determination as to the status of an activity. If a more detailed assessment is needed, then a more detailed assessment process should be undertaken. An independent party, such as QAI, is normally engaged when a more detailed and unbiased assessment is needed.

PRACTICE WORKBENCH

This self-assessment involves the execution of three steps (see Figure 1). Since the self-

Figure 1. Self-Assessment Workbench

Knowledge of "IT" Organization

Knowledge of Assessment Area

STEP 1
Build and Train Assessment Team

STEP 2
Conduct Consensus Assessment

STEP 3
Interpret Results & Take Appropriate Action(s)

Assessment Conducted Correctly

Assessment Results

Assessment Action(s)

assessments do not require an examination of the facts, they are subjective in nature. Therefore, it becomes extremely important that the right individuals are assigned to the self-assessment team. These individuals need to be unbiased in their responses, and individuals who are concerned for the best interest of the organization.

The three steps lead to improvement actions. It is generally not good practice to begin a self-assessment unless management is supportive of improvement. However, those performing the assessment may be different individuals than those who recommend and implement improvement actions.

INPUT PRODUCTS

The inputs into this self-assessment are the skillsets, experience, and attitudes of the individuals who will be selected for the assessment team. Individuals assigned to this self-assessment team should be knowledgeable in the more common information technology risks faced by the organization, as well as the principles and practices of software testing.

IMPLEMENTATION PROCEDURES

Completing these work practices involves the following three steps:

Step 1: Build And Train Assessment Team

Approximately three to five individuals knowledgeable in the area being assessed should be convened for the assessment. These assessments should be doable in 2 – 4 hours. If it is believed that two or more areas could result in different assessment results, then it may be desirable to organize two different teams for the purpose of using these self-assessments.

It is critical that the individuals doing the self-assessment be trained in conducting a self-assessment, as well as the self-assessment area. If individuals possess that training previously new training is not necessary. If the team members are not familiar with team consensus techniques, they should be taught those techniques. (see the Team Tools Section within the Process Warehouse™ for background on team consensus tools)

As a general rule, the assessment is a one-time meeting. The team is brought together, trained, perform the assessment, determine actions, and then adjourn with the assessment complete.

Step 2: Conduct Consensus Assessment

These self-assessments are designed to be performed quickly and economically, and yet provide a reasonable representation of that area assessed. For this to happen, the assessment must be performed with a team in tact. Individuals do not perform the self-assessment and then develop an average score. However, individuals should develop their own assessment conclusion for each item on the assessment document. Discussion then must explain the variances in assessment conclusions, and through discussion and team techniques, develop a consensus score for each assessment item.

The assessment document is attached to this work practice as an appendix.

Step 3: Interpret Results And Take Appropriate Action(S)

Once there has been consensus for each item in the self-assessment, a self-assessment score can be calculated. Note that the assessment documents and the appendix provide the guidelines on developing the score. There is also guidance in interpreting the score. However, the real interpretation should be done through team member discussion and developing a consensus of the result obtained from performing the self-assessment.

The last task for the team is to develop appropriate recommendations based upon the results that they have agreed upon. While it may be the prerogative of another group to recommend specific actions to management, the self-assessment team should develop their proposed actions. If more than one action is recommended by the team, the actions should be prioritized.

CHECK PROCEDURES

To verify that this practice has been properly performed, the following questions should be responded to positively:

1) Is the self-assessment team representative of the self-assessment area?
2) Is at least one member of the self-assessment team knowledgeable about the IT area being self-assessed?
3) Does at least one member of the self-assessment team have knowledge of the subject matter of the assessment document?
4) Is the assessment team knowledgeable about the items in the self-assessment document?
5) Does the self-assessment team understand the items in the self-assessment document?

6) Does the self-assessment team understand the impact of doing or not doing the items in the self-assessment document?

7) Are the self-assessment results reached through consensus?

8) Do the self-assessment team members believe that the results are representative of the area being assessed?

9) Are the results interpreted reasonably?

10) Are the actions recommended appropriate based on the results of the self-assessment?

DELIVERABLES

There are two deliverables from this work practice. The first is the results/conclusions developed from conducting the self-assessment. The second deliverable is recommended action(s) to IT management based on the assessment results.

USAGE TIPS

QAI has long been recognized as a leader in software testing. QAI helped organize the first national testing conference over 10 years ago, and continues to run one of the leading annual testing conferences.

During the early 1980s, QAI developed an effective four-step testing process. This process was based on the experiences of the approximately 1,000 QAI-affiliated organizations, and the best testing practices identified by QAI. That process has been continually improved over the past years. Over 2,000 organizations now use QAI's four-step testing process.

In addition, QAI regularly evaluates organizations' testing processes. This assessment uses a combination of a self-assessment methodology plus the experiences of QAI's professional staff.

The self-assessment process for testing activities incorporates the combined experiences of the above QAI activities. These are incorporated into questionnaires designed to probe the key areas that can identify potential testing problems. The structure of the questionnaires ensures a comprehensive review of the testing process. The questionnaire format was chosen because it is:

° Quick and economical to use

° Easy to learn

° Adaptable to most test environments

° A proven measure for self-assessment used by auditors and IT quality assurance professionals as an integral part of their review methodology

The missing ingredient is a trained testing professional to conduct the self-assessment. The process recommends that your organization establish a self-assessment team, whose combined knowledge covers the vocabulary, principles, and practices of testing.

APPENDIX
TESTING ACTIVITIES ASSESSMENT

SELF-ASSESSMENT OF TESTING ACTIVITIES

For the purposes of this testing self-assessment, testing has been divided into 11 areas. These 11 areas have been selected because they relate to potential plans of action to improve the testing process. The 11 areas are individually discussed below.

Scope of Testing Activities

Testing means many things to many people. In some organizations testing is focused at business applications; in other organizations it is more expansive. In some organizations the scope of testing is focused at unit testing; while in other organizations many levels of testing have been established. Questionnaire 1 identifies the major software areas being tested, and the three major levels of testing after unit testing.

Testing Vocabulary and Concepts

The lack of a standard testing vocabulary inhibits the testing process. For example, the IT staff may find it difficult to discuss testing concepts (e.g., structural and functional testing), defects by category and type, and the test products (i.e., documentation) prepared during testing. Questionnaire 2 evaluates the formality and use of a testing vocabulary in the organization.

Test Management

Test management should come under the direction of one person; otherwise, little progress is made toward improving the testing process because no one is specifically accountable for making things happen. Although the test manager may not do most of the testing, that individual must ensure that continual progress is made on improving the testing process. Questionnaire 3 evaluates this area.

Defect Identification, Recording, and Analysis

The term *bugs* is too general to be useful because it groups under one label anything that goes wrong in a program, hindering test improvement and communication. Without a vocabulary that facilitates correction, staff members are unable to explain specifically what has gone wrong. Organizations that gain experience in testing find an immediate need to classify and record defects by type. Test management then uses that information to identify defect-prone components of applications and defect-prone processes in the testing methodology. Questionnaire 4 should be used to assess this area.

Integrating Testing into the Systems Development Methodology

Testing is a process, not a life cycle phase. It must be integrated throughout the systems development methodology so that it becomes an integral part of development and maintenance. This requires inserting testing processes into design and standardizing that process with the structure and vocabulary used throughout the systems development methodology. The effectiveness of testing depends on how well testing is integrated into, and taught to users and supervisors of, the methodology. Questionnaire 5 should be used to determine the integration course of action.

The Testing Process

QAI teaches a four-step testing process. Each step is briefly described below.

Step 1: Set Test Objectives

The project team must set specific objectives to define the testing goals. When the objectives have been achieved, testing is completed. Accomplishing the test objectives must be measurable. For example, the objective of eliminating all defects in the program is not a good objective, because it is difficult to determine when the process is completed. On the other hand, the objective of showing that 17 functions perform as specified is an accomplishable and measurable objective. Questionnaire 6 is used for this section.

Step 2: Develop the Test Plan

The test plan describes how the test objectives are to be accomplished. It should be developed by all individuals involved with the computer application, and should identify:

- ° Features to be tested
- ° Features not to be tested
- ° The testing approach
- ° The test environment
- ° Software to be tested
- ° Staffing for testing
- ° The training of the test team
- ° The test schedule and budget
- ° Test responsibilities
- ° Test deliverables (products)
- ° Test suspension criteria
- ° Test resumption requirements
- ° Feature pass/fail criteria
- ° Reports to be prepared

The test plan is the key document; without one it is difficult to keep the testing process structured and comprehensive but finite. Preparing a test plan is a prerequisite to the implementation of an integrated test methodology. Questionnaire 7 should be used to evaluate this area.

Step 3: Execute Tests

An established plan must be implemented. As systems requirements change, however, so must the plan, and therefore test execution.

Test execution includes the following activities:

- ° Preparing the test case
- ° Developing expected test case results
- ° Selecting the testing method
- ° Implementing the testing tools
- ° Testing the testing process to ensure it is free of defects
- ° Scheduling computer time
- ° Running the computer tests
- ° Comparing the actual test results with those predicted
- ° Recording differences

Testing in an on-line environment is more difficult than testing batch systems. On-line systems require preparing testing scripts and running through a variety of transactions in which sequencing of events is important. In batch systems, this is not necessary. Questionnaire 8 assesses this area.

Step 4: Summarize and Report Test Results

Test results should be reported to the appropriate staff member. The type of report depends on the type of test. For example, unit test results should be reported to the programmer; string test results, to the project leader; system test results, to the project leader and perhaps the user; and acceptance test results, to the user.

Often, testing is completed but defect reporting is forgotten or haphazard. A systematic defect-reporting procedure ensures that action is taken on all defects. The information in the report is important, not the format of the reporting document.

Needed are the following three types of reports, which coincide with the three general objectives of testing:

- ° Uncovered defects (i.e., variances between what is found and what should be)
- ° A prediction of how the application software will perform
- ° Statistical data on the total number of defects by category and frequency (This report is usually used by test management and quality auditors to improve the testing process.)

These three categories of report information can be combined in a single report, included as appendices to a report, or distributed as worksheets. Worksheets are the most appropriate reporting mechanism for the third category of information—defect accumulation. Questionnaire 9 should be used in the evaluation of this area.

Testing Maintenance Changes

Many organizations report that maintenance is three to 10 times more error-prone than new development. Therefore, testing is a vital part of the maintenance process. Problems occur not only as a result of the items being changed but also because of unconsidered interfaces between the changed and unchanged parts of the system.

Regression testing is designed to confirm that unchanged portions of the system still work correctly. If regression testing is used, all parts of the system must be tested every time a change is made.

The general approach to testing remains the same whether the item to be tested is a new system or a change to an existing system. Test objectives must be set, a plan developed, testing executed in accordance with that plan, and the results analyzed and reported. If this process is cut short, an accurate prediction of how the application will perform in operation cannot be made, and users may be unhappily surprised by new bugs in their application.

Testing maintenance changes can be difficult, particularly if the individuals changing the application are not well trained in how the application operates or if the documentation is inaccurate or incomplete. Questionnaire 10 applies to this area.

Test Products (Documentation)

Testing yields its own documentation, which should be specified in the organization's standards documentation, and should be used for IT departmental standards. Questionnaire 11 evaluates this area.

HOW TO CONDUCT THE SELF-ASSESSMENT

The following steps should be followed in testing self-assessment.

Select the Self-assessment Team

Three to seven people who are familiar with the organization's testing methodology (formal or informal) should be assigned to conduct the self-assessment. This team should become familiar with the assessment process, conduct the assessment, then prepare an analysis of the results. Either the team or the test manager can then prepare a recommended plan of action to improve testing.

Train the Self-assessment Team

The individuals conducting the self-assessment should be trained in how to use the information provided in this report to perform the process. Training should include:

- ° Reading and understanding the self-assessment procedure explained in this section.

- ° Understanding testing vocabulary and understanding testing principles and practices. (NOTE: QAI's testing seminars would be helpful in mastering these skills.)

- ° Studying and interpreting each self-assessment question. (If the team cannot understand the intent or objective of a question, that question should be clarified.)

Modify the Self-assessment Test

The testing self-assessment has been developed as a generic self-assessment model. It needs to be adapted to your organization's testing needs and testing vocabulary. In performing this modification, you should evaluate each testing item individually, and do the following to those items:

1) Change the vocabulary in the testing item to words in common use in your organization. For example, the questionnaire uses integration testing to indicate testing two or more modules. If your organization uses "string" testing to indicate that multiple module testing, change the word integration in the item to string.

2) The scope of the question may be too broad or too narrow for your organization. For example, some questions include multiple activities, such as the question in the scope questionnaire relating to information technology project systems, communication software, and communication lines. If you have communication software, but do not have information technology project systems, or do not feel line testing is appropriate, delete those activities from the question and limit it to activities appropriate to your organization.

3) If items are not applicable to your organization, substitute items that are applicable. For example, if you believe a specific testing tool should be used, such as a capture playback tool, you may want to include that as a questionnaire item.

4) Add additional items as appropriate. (NOTE: If you do this you may need to change the scale or calculation for graphing the results on Worksheet #1.)

Conduct the Self-assessment Test

The self-assessment questionnaires for the areas to be evaluated are given at the end of this section.

Before responding to an item, a test team member should confirm that the response is correct. The only responses allowable are yes, no, or not applicable (N/A). N/A should be used for only those items not currently, or not planned as, part of the organization's testing methodology. When the answer is not a clear-cut yes or no, team members must choose the response that best describes the situation. A negative response indicates that the practice or method is not in place, is not working, or is not used by most of the staff in the organization. The comments column provides space to clarify responses. These clarifications can be used as the plan of action is developed.

Each member of the test team should fill out the questionnaires independently. The questionnaires do not take long to complete and are useful in obtaining all the viewpoints.

Resolve Response Differences

Items yielding disparate responses should be discussed. If the group cannot come to a complete agreement, the majority should determine whether the group response is yes or no; if there is a tie, the test team leader should cast the deciding vote.

Total and Graph the Self-assessment Score

The yes and N/A responses on each self-assessment questionnaire should be totaled. Questionnaire Assessment Worksheet #1 is used for recording the self-assessment results in a bar chart.

Analyze Self-assessment Results

Although this self-assessment is not designed to be a high-precision tool, it should provide significant insight into the current testing process.

The items listed in each questionnaire show the key aspects of testing in that category. The fewer the items performed, the less proficient the organization is in that area of testing. Therefore, although there may be little difference in precision between a score of 6 or 7 in a category, there is a measurable difference between a score of 3 and 8.

The self-assessment bar chart can be evaluated as follows:

° Assessment within a category—The lower the score, the less proficient the organization is in performing that aspect of testing. For example, a score of 2 in defect identification and analysis indicates that the organization is doing a poor job in that area; conversely, a score of 9 in developing test plans indicates that the organization is doing well in that aspect of testing.

° Assessment between categories—The 11 testing categories are clearly displayed on the bar chart worksheet, enabling the information department to tell in which of the 11 areas it is performing best and in which it is performing poorly. For example, an extremely low score in defect identification and assessment indicates that this area requires immediate attention to improve testing.

Develop A Plan of Action

The objective of this self-assessment is to help develop a plan of action for improving testing in the organization. If low scores are obtained in all or most categories, the current testing methodology should be discarded and a new testing methodology installed based on the materials included in this report.

The self-assessment process identifies potential areas for improvement; it does not determine which areas, if improved, would significantly improve testing. It is the combination of the testing expert assessing the questionnaire results that leads to an effective plan of action.

The following guidelines should prove helpful in using the questionnaire results to develop a plan of action:

° Step 1 - Identify the three of the 11 areas with the lowest score (i.e., the fewest number of "yes" and "N/A" responses).

° Step 2 - List the "no" response items for those two to three selected areas.

° Step 3 - Convene the self-assessment team to select from the list of "no" response items the two to three that they believe, if implemented, would contribute the most to improving testing. You should use your organization's problem-resolution process to identify these two to three items.

° Step 4 - For the two or three items selected, develop a detailed plan of action which will:

  a) Develop a baseline of performance for each item selected
  b) Establish an improvement goal for each item selected
  c) Determine a method for measuring improvement
  d) Develop a plan of action for improving in the areas covered by the items selected
  e) Implement the plan of action
  f) Measure the improvement and take appropriate action

° Step 5 - Go back to Step 3 and repeat the process.

QUESTIONNAIRE 1 – SCOPE OF TESTING ACTIVITIES

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Are all system development efforts tested regardless of the development approach (e.g., life cycle, prototyping, CASE tools, etc.)?				
2.	Is hardware tested?				
3.	Is microcomputer/PC software tested?				
4.	Is purchased/contracted software tested?				
5.	Are information technology project communication software/lines tested?				
6.	Is operating software tested (e.g., operating systems, security systems, scheduling systems, etc.)?				
7.	Are manual procedures tested?				
8.	Does the organization use an integration test process?				
9.	Does the organization use an acceptance test process?				
10.	Does the organization use an independent test process?				

QUESTIONNAIRE 2 – TESTING VOCABULARY AND CONCEPTS

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Does the organization use a standardized vocabulary for testing?				
2.	Are the objectives of testing defined (e.g., as defect detection, prediction of performance and operation, and collection of information about the type and frequency)?				
3.	Does the testing process differentiate verification from validation?				
4.	Does the testing process differentiate dynamic from static testing?				
5.	Does the testing process differentiate structural from functional testing?				
6.	Does the organization differentiate manual from automated testing?				
7.	Does the organization perform static analysis?				
8.	Does the organization perform dynamic analysis?				
9.	Does the organization name defects by type?				
10.	Does the organization offer training courses in testing vocabulary and concepts for the staff?				

QUESTIONNAIRE 3 – TEST MANAGEMENT

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Does the organization make one person responsible for the management of the testing process?				
2.	Is the vocabulary used in the testing process consistent with the vocabulary in the design methodology?				
3.	Does the test manager assist users in developing test plans and strategies?				
4.	Does the test manager select and acquire test tools?				
5.	Does the test manager allow projects to use automated test tools?				
6.	Does the test manager oversee the development of test standards?				
7.	Does the test manager ensure that test standards are followed?				
8.	Does the test manager ensure that test statistics (e.g., type and frequency of defects) are collected?				
9.	Does the test manager use the test statistics to identify defect-prone components and processes?				
10.	Is the test manager responsible for continually evaluating the testing process and making rec-ommendations and implementing actions to improve the effectiveness of testing?				

QUESTIONNAIRE 4 – DEFECT IDENTIFICATION, RECORDING, AND ANALYSIS

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Does the organization refer to problems in software as defects?				
2.	Are there standard worksheets on which defects can be recorded?				
3.	Is the staff instructed to record all defects clearly?				
4.	Are defects categorized as omissions, extra, and erroneous?				
5.	Are the effects of defects described?				
6.	Is there a special classification of defects for the requirements phase of design?				
7.	Is there a special classification of defects for the design phase?				
8.	Is there a special classification of defects for the implementation phase?				
9.	Is there a special classification of defects for the operations phase?				
10.	Are defects regularly summarized by category and type?				

QUESTIONNAIRE 5 – INTEGRATING TESTING INTO THE
SYSTEMS DEVELOPMENT METHODOLOGY

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Does the organization consider testing a process rather than a life cycle phase?				
2.	Is the vocabulary used in the testing process consistent with the vocabulary in the design methodology?				
3.	Is testing integrated into the requirements phase of development?				
4.	Is testing integrated into the design phase of development?				
5.	Is the IT staff taught the testing aspects of development as well as the development methodology?				
6.	Must the testing steps in the development methodology be performed before the project team can move to the next development step?				
7.	Does testing use the same type of standards and documentation as other parts of the development methodology?				
8.	If the development methodology is changed, is the test methodology changed accordingly?				
9.	Are the testing steps scheduled and budgeted in the same manner as other steps in the development methodology?				
10.	Does the organization's current systems development methodology include checkpoints for the inclusion of verification and validation processes?				

QUESTIONNAIRE 6 – THE TESTING PROCESS
STEP 1: SET TEST OBJECTIVES

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Does the organization expect a certain number of defects (e.g., 40 defects per 1,000 lines of source code)?				
2.	Does the organization know which components of an application are prone to defects?				
3.	Do users establish defect expectations as a system requirement?				
4.	Do users participate in establishing test objectives?				
5.	Do the test objectives indicate the organizational approach for testing (e.g., establishment of a test team for the project)?				
6.	Do the objectives define which features are to be tested?				
7.	Do the test objectives define which features are not to be tested?				
8.	Do the objectives indicate which criteria must be met for the tests to be considered acceptable?				
9.	Does the organization have a standard for setting the test objectives in an application system?				
10.	Does the organization have a procedure for verifying whether the test objectives have been accomplished?				

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Does the organization have a test plan standard?				
2.	Does the standard define the functional test conditions?				
3.	Does the standard define the structural test conditions?				
4.	Does the test plan methodology include budgeting and scheduling for testing?				
5.	Does the test plan provide for unit, string, system, and acceptance testing?				
6.	Are the unit and system test plans separate?				
7.	Does the test plan methodology require the assignment of test responsibilities?				
8.	Does the test plan indicate which test tools, methods, and strategies are used in conducting tests?				
9.	Is the test plan approved by the users of the application and appropriate levels of management?				
10.	Does the test plan include training for the test team to perform the test function?				

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Are the tools to be used during test execution specified in the test plan?				
2.	Are the systems analysts and programmers who are involved in testing trained in the use of the test tools and methods specified in the test plan?				
3.	Does the test execution validate that the requirements work?				
4.	Does the test execution validate that the structural design works?				
5.	Does the test execution validate that the program code is correct?				
6.	Are there quality control procedures for testing to ensure that it is properly performed?				
7.	Are the test results recorded in a manner that is easy to analyze and interpret?				
8.	Are the final test results retained and included as part of the application maintenance documentation?				
9.	Can the results of execution be traced back to the requirements specified in the test plan?				
10.	Are defects uncovered in tests recorded in a standardized format so that they can be analyzed and summarized?				

QUESTIONNAIRE 9 – THE TESTING PROCESS
STEP 4: SUMMARIZE AND REPORT TEST RESULTS

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Are formal test reports required for reporting test results to the appropriate individuals?				
2.	Do the people responsible for the application have access to test results and recommendations?				
3.	Are the test results cross-referenced to the test plan test objectives to verify what works and what does not?				
4.	Do the test reports list the features that do and do not work?				
5.	Has it been estimated what effect the features that do not work will have on the business?				
6.	Is the test report prepared sufficiently in advance of an operational date so that a reasonable business decision can be made regarding whether to install the application?				
7.	Does the test report identify the risks involved in running the application in production?				
8.	Does the test report include recommendations for correcting identified deficiencies?				
9.	Does the test report include items identified by the test team as areas for improvement?				
10.	Is test analysis and reporting subject to quality control procedures to ensure the accuracy and completeness of test reports?				

QUESTIONNAIRE 10 – TESTING MAINTENANCE CHANGES
(Maintenance is defined as changing operational systems.)

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Is the test plan documentation carried into this maintenance phase?				
2.	Are the results of testing carried into the maintenance phase?				
3.	Are maintenance changes grouped into releases so that testing can be directed toward groups of changes?				
4.	Is the test plan updated for each group of changes tested so that specific test objectives and conditions can be defined?				
5.	Are the test conditions that were used to test the last group of changes updated so that the new changes can be incorporated?				
6.	Is one person responsible for the accuracy and completeness of the software maintenance phase testing?				
7.	Is the test documentation updated to reflect the changes in each group of maintenance changes?				
8.	Is a report prepared after testing maintenance changes so that a reasonable business decision can be made regarding whether to implement the change?				
9.	Are the risks associated with installing maintenance changes defined and made available to the individual who must make a decision regarding installing the changed software?				
10.	Is a formal method established for identifying and classifying maintenance defects so that the maintenance defects can be analyzed?				

QUESTIONNAIRE 11 – TEST PRODUCTS (DOCUMENTATION)

#	ITEM	RESPONSE			COMMENTS
		YES	NO	N/A	
1.	Do the organization's standards cover test documentation?				
2.	Does the organization use a standardized test plan document?				
3.	Is there also a standard document for reporting test results?				
4.	Does the organization use a standardized method for documenting test conditions?				
5.	Does the organization use a standardized document for recording test results?				
6.	Does the organization use a standardized document for recording test defects?				
7.	Has the organization standardized the categories and names of testing defects?				
8.	Does the organization use a training manual or training course on how to conduct testing?				
9.	Does the organization use a quality control procedure that ensures test documentation is prepared accurately and completely?				
10.	Does the organization use a procedure for maintaining the currentness of test documentation throughout the systems development process?				

QUESTIONNAIRE ASSESSMENT WORKSHEET #1.
TESTING SELF-ASSESSMENT RESULTS BAR CHART

QUESTIONNAIRE	# OF YES RESPONSES									
	1	2	3	4	5	6	7	8	9	10
1. Scope of Testing Activities										
2. Testing Vocabulary and Concepts										
3. Test Management										
4. Defect Identification, Recording, and Analysis										
5. Integrating Testing into the Systems Development Methodology										
6. The Testing Process Step 1: Set Test Objectives										
7. The Testing Process Step 2: Develop the Test Plan										
8. The Testing Process Step 3: Execute Tests										
9. The Testing Process Step 4: Summarize & Report Test Results										
10. Testing Maintenance Changes										
11. Test Products (Documentation)										