

# **Standard Glossary of Terms Used in Software Testing**

## **Release Notes**

**Version 3.7**

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International Software Testing Qualifications Board

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## Release Notes

### Version 3.7 of the Glossary 30 September 2022

This version collects a series of changes implemented since the last release notes for version 3.6 published on June 30, 2021. Most changes in this version are related to new versions of the following syllabi:

- The AI Testing (CT-AI) syllabus version 1.0 released in October 2021
- The Agile Test Leadership at Scale MVP (ATLaS) syllabus version 1.0 released in May 2022
- The Errata version 1.0.1 of the Expert Level Improving the Testing Process (EL-ITP) syllabus

In addition, this version contains maintenance updates implemented since June 2021 that do not impact any ISTQB® exams or trainings.

The changes are categorized in different change types and listed in separate tables below. All new contents are based on the Glossary Principles.

For the references used, see the Glossary References and Trademarks document provided in the Glossary Help menu.

## 1. Terms Added

Name	Definition	See Also	Acronym	Reference	Remark
A/B testing	A statistical testing approach to determine which of two components or systems performs better.			After ISO/IEC 29119-11	A new keyword in CT-AI
ad hoc testing	Informal testing performed without test analysis and test design.				Used in CT-GaMe
adversarial example	An input to an ML model created by applying small perturbations to a working example that results in the model outputting an incorrect result with high confidence.			ISO/IEC 29119-11	Used in CT-AI
adversarial testing	A test technique based on the attempted creation and execution of adversarial examples to identify defects in an ML model.			After ISO/IEC 29119-11	A new keyword in CT-AI
Agile test leader	A leadership role that serves agile teams, championing testing and quality at the organizational level.	Test manager			A new keyword in ATLaS
Agile test team leader	A role that is responsible for maintaining solution quality within an agile delivery team.				Used in CT-AI
application programming interface	A type of interface in which the components or systems involved exchange information in a defined formal structure.		API		For consistency with GUI and CLI, reinstate Application Programming Interface (API) to the Glossary

Name	Definition	See Also	Acronym	Reference	Remark
built-in quality	A set of practices to ensure that each solution meets quality standards throughout each increment of development, focusing on constructive quality assurance as a shared responsibility.			After SAFe	A new keyword in ATLaS
causal loop diagram	A graphical representation used to visualize cause-effect relationships and feedback loops in a system.			After Sterman00	Used in ATLaS
follow-up test case	A test case generated by applying a metamorphic relation to a source test case during metamorphic testing.				A new keyword in CT-AI
input data testing	A test level that focuses on the quality of the data used for training and prediction by ML models.				A new keyword in CT-AI
metamorphic relation	A description of how a change in the test inputs from the source test case to the follow-up test case affects a change in the expected outputs from the source test case to the follow-up test case.		MR	ISO/IEC 29119-11	A new keyword in CT-AI
metamorphic testing	A test technique in which the inputs and expected results are extrapolated from a passing test case using a metamorphic relation.		MT		A new keyword in CT-AI
ML functional performance	The degree to which an ML model meets ML functional performance criteria				Used in CT-AI
ML functional performance criteria	Criteria based on ML functional performance metrics used as a basis for model evaluation, tuning and testing				A new keyword in CT-AI

Name	Definition	See Also	Acronym	Reference	Remark
ML functional performance metrics	A set of measures that relate to the functional correctness of an ML system				A new keyword in CT-AI
ML model	An implementation of machine learning (ML) that generates a prediction, classification or recommendation based on input data.				Used in CT-AI
ML model testing	A test level that focuses on the ability of an ML model to meet required ML functional performance criteria and non-functional criteria.				A new keyword in CT-AI
neuron coverage	The coverage of activated neurons in the neural network for a set of tests				A new keyword in CT-AI
pseudo-oracle	An independently derived variant of the test item used to generate results which are compared with the results of the original test item based on the same test.			ISO/IEC 29119-11	A new keyword in CT-AI
quality assistance	An approach to quality management that focuses on a quality culture throughout an organization.				Used in ATLaS
quality coaching	The activities focused on helping an agile organization identify, understand, and deal with quality management, business value, flow, and customer collaboration.				Used in ATLaS
quality culture	An organizational value system that results in an environment to establish and continually improve quality.				Used in ATLaS
sign change coverage	The coverage of neurons activated with both positive and negative activation values in a neural network for a set of tests				A new keyword in CT-AI

Name	Definition	See Also	Acronym	Reference	Remark
sign-sign coverage	The coverage achieved if by changing the sign of each neuron it can be shown to individually cause one neuron in the next layer to change sign while all other neurons in the next layer do not change sign for a set of tests.			After ISO/IEC 29119-11	A new keyword in CT-AI
source test case	A test case that passed and is used as the basis of follow-up test cases in metamorphic testing				A new keyword in CT-AI
test step	A single interaction between an actor and the test object consisting of an input, an action, and an expected result.				Term used in CT-TAE and in common practice
threshold coverage	The coverage of neurons exceeding a threshold activation value in a neural network for a set of tests.				A new keyword in CT-AI
value change coverage	The coverage of neurons activated where their activation values differ by more than a change amount in the neural network for a set of tests				A new keyword in CT-AI
virtual test environment	A test environment in which one or more parts are digitally simulated. ISO/IEC 29119-11				A new keyword in CT-AI
visual testing	Testing that uses image recognition to interact with GUI objects. Location visual testing				A new keyword in CT-AI

## 2. Terms Renamed

The table below enlists the terms renamed in this release, with possibly changed definitions.

Name	Definition	Old Name	See Also	Reference	Remark
retrospective	A regular event in which team members discuss results, review their practices, and identify ways to improve.	retrospective meeting		After SAFe	Both the name and the definition have been adjusted to the SAFe standard.
EFQM model	A management framework that supports organisations in managing change and improving performance.	EFQM excellence model		EFQM	Update the name and the definition based on the current original, published on <a href="http://efqm.org">efqm.org</a> .
transcendent quality	A view of quality based on the perception and feeling of individuals.	transcendent-based quality		[After Garvin]	Garvin defined no such view of quality. You cannot "base" the provision of quality on something "that cannot be precisely defined, but we know it when we see it." The term in Garvin is "transcendent quality".





### 3. Terms Changed

The table below enlists the terms with changed definitions in this release. Changes to the references are not listed.

Name	Definition	Old definition	Remark
automotive SPICE	A process reference model and an associated process assessment model in the automotive industry.	A process reference model and an associated process assessment model that conforms with the requirements of ISO/IEC 9002:2018.	There should not be a standard mentioned in the definition of a term (ASPICE).
certification	The process of confirming that a component, system, or person complies with specified requirements.	The process of confirming that a component, system, or person complies with its specified requirements.	Correct a grammatical error in the definition of certification
coverage criteria	The criteria to define the coverage items required to reach a test objective.	The criteria to define the test coverage items required to reach a test objective.	The definition uses the term "test coverage item" which should be "coverage item" because the latter is the correct Glossary term.
entry criteria	The set of conditions for officially starting a defined task.	The set of generic and specific conditions for permitting a process to go forward with a defined task, e.g., test phase. The purpose of entry criteria is to prevent a task from starting which would entail more (wasted) effort compared to the effort needed	Remove the example. Remove the second sentence Deactivate version 1. All syllabi are using version 2.



Name	Definition	Old definition	Remark
manufacturing-based quality	A view of quality measured by the degree that a product or service conforms to its intended design and requirements based on the process used. [After Garvin]	A view of quality, whereby quality is measured by the degree to which a product or service conforms to its intended design and requirements. Quality arises from the process(es) used.	"process(es) used"--For what? Using a product? Suggestion from Garvin (1984): "A view of product quality in which quality is dependent on the integrity of design and development processes and measured in terms of conformance to specifications and to requirements."
moderator	(1) The person responsible for running review meetings. (2) The person who performs a usability test session.	(1) The person responsible for running review meetings. (2) The person who conducts a usability test session.	Replace conducts with performs
PRISMA	A systematic approach to risk-based testing that creates a product risk matrix.	A systematic approach to risk-based testing that employs product risk identification and analysis to create a product risk matrix based on likelihood and impact. Term is derived from Product RiSk MAnagement.	The definition repeats the basic aspects of risk-based testing and risk because it refers to risk identification, risk analysis, likelihood, and impact. The only trait that differentiates PRISMA from risk-based testing is the product risk matrix. Remove the second sentence.



Name	Definition	Old definition	Remark
product-based quality	A view of quality measured by the degree that well-defined quality characteristics are met. [After Garvin]	A view of quality, wherein quality is based on a well-defined set of quality characteristics. These characteristics must be measured in an objective and quantitative way. Differences in the quality of products of the same type can be traced back to the way the specific quality characteristics have been implemented.	remove the second and third sentences replace whereby with in which
quality control	Activities designed to evaluate the quality of a component or system.	A set of activities designed to evaluate the quality of a component or system.	Change the definition very slightly to align with form of quality assurance. Remove "a set of"  This word is used in a lot of syllabi, but not marked as keyword in any. It will be a keyword for ATLaS.
root cause analysis	An analysis technique aimed at identifying the root causes of defects.	An analysis technique aimed at identifying the root causes of defects. By directing corrective measures at root causes, it is hoped that the likelihood of defect recurrence will be minimized.	Remove the second sentence



Name	Definition	Old definition	Remark
test level	A specific instantiation of a test process. (No reference to ISO 29119-1)	A specific instantiation of a test process. After ISO 29119-1.	Old definition in ISO/IEEE/IEC 29119-1:2013: specific instantiation of a test sub-process New definition in ISO/IEEE/IEC 29119-1:2022: one of a sequence of test stages each of which is typically associated with the achievement of particular objectives and used to treat particular risks So, our definition does not fit the ISO one anymore.
test process group (TPG)	A collection of specialists who facilitate the definition, maintenance, and improvement of the test processes used by an organization.	A collection of (test) specialists who facilitate the definition, maintenance, and improvement of the test processes used by an organization.	remove the words "(test)" from the definition
test process improvement manifesto	A statement that echoes the Agile manifesto and defines values for improving the test process. Ref: Veenendaal08	A statement that echoes the Agile manifesto, and defines values for improving the testing process. The values are: flexibility over detailed processes, best practices over templates, deployment orientation over process orientation, peer reviews over quality assurance (departments), business driven over model-driven.	remove the second sentence change testing process to test process



Name	Definition	Old definition	Remark
Total Quality Management	An organization-wide management approach to quality based on employee participation to achieve long-term success through customer satisfaction.	An organization-wide management approach centered on quality, based on the participation of all members of the organization and aiming at long-term success through customer satisfaction, and benefits to all members of the organization and to society. Total Quality Management consists of planning, organizing, directing, control, and assurance.	A keyword in ATLaS. Simplify the definition and make it clearer.
user-based quality	A view of quality measured by the degree that the needs, wants, and desires of a user are met. [After Garvin]	A view of quality, wherein quality is the capacity to satisfy needs, wants and desires of the user(s). A product or service that does not fulfill user needs is unlikely to find any users. This is a context dependent, contingent approach to quality since d	remove the second sentence make the definition singular change the wording to make it consistent with many other definitions using the phrase "the degree to which" remove reference to Garvin
value-based quality	A view of quality measured by the ratio of the cost to the value received from a product or service. [After Garvin]	A view of quality wherein quality is defined by price. A quality product or service is one that provides desired performance at an acceptable cost. Quality is determined by means of a decision process with stakeholders on trade-offs between time, effort a	Simplify the definition, make it clearer, and reduce it to one sentence.
V-model	A sequential software development lifecycle model describing a one-for-one relationship between major phases of software development from business requirements specification to delivery, and corresponding test levels from acceptance testing to component t	A sequential development lifecycle model describing a one-for-one relationship between major phases of software development from business requirements specification to delivery, and corresponding test levels from acceptance testing to component testing.	Add software to software development lifecycle to use the proper Glossary term.

## 4. Terms Removed

The table below lists the names of the terms that have been removed from the Glossary since version 3.6.

Name	Remark
accessibility testing	The term accessibility testing is not a keyword. Also, the term accessibility is already defined so there is no need to define accessibility testing.
acting (IDEAL)	Not a testing/quality term and not a keyword in ITP anymore.
agile testing	The definition does not add any value. We don't have such terms for Iterative Testing, V-Model Testing, or Sequential Development Testing either.
assessment report	Not a testing/quality term and not a keyword in ITP anymore.
assessor	Not a testing/quality term and not a keyword in ITP anymore.
balanced scorecard	Not a testing/quality term and not a keyword in ITP anymore.
branch	Branch is neither a testing term nor a keyword.
call graph	call graph is neither a testing term nor a keyword
capture/playback tool	Capture/playback is defined in the Glossary so there is no need to define capture/playback tool
change management	Change management is not a testing term but a Software Engineering term.
codependent behavior	This has nothing to do with software testing, and so, should be removed from the Glossary
content-based model	Not a testing/quality term and not a keyword in ITP anymore.
continuous representation	Continuous representation is a Software Engineering term. It is only a keyword in the CTEL-ITP Syllabus. It is not a testing term.
corporate dashboard	Corporate dashboard is a General term. It is only a keyword in the CTEL-ITP Syllabus. It is not a testing term.
Critical Success Factor	Not a testing/quality term and not a keyword in ITP anymore.
debugging tool	The Glossary contains the definition of debugging, so there is no need for a definition of debugging tool.
Decision Condition Coverage	remove the second sentence, Glossary Principle GD15; replace percentage with coverage, Glossary Principle SR7
decision condition testing	The term decision condition testing is not used in CTAL TTA 2019. It was only used in CTAL TTA 2012, where it has been a keyword.
Deming Cycle	Not a testing/quality term and not a keyword in ITP anymore.
diagnosing (IDEAL)	Not a testing/quality term and not a keyword in ITP anymore.
Emotional Intelligence	This definition has nothing to do with software testing
establishing (IDEAL)	Not a testing/quality term and not a keyword in ITP anymore.
extreme programming (XP)	Not a testing/quality term and not a keyword in ITP anymore.

Name	Remark
fault seeding tool	Fault seeding is already defined, so there is no need for the term fault seeding tool to be defined
goal question metric (GQM)	Not a testing/quality term and not a keyword in ITP anymore.
hyperlink test tool	The Glossary Principles include removing all tools from the Glossary.
Hyperlink test tool	The Glossary Principles include removing all tools from the Glossary.
IDEAL	The term IDEAL is not a testing term. No Syllabus uses it as a keyword except the CTEL-ITP which uses IDEAL as a domain-specific keyword only.
Indicator	Indicator is a generic term and not a testing term.
initiating (IDEAL)	Not a testing/quality term and not a keyword in ITP anymore.
interoperability testing	The term interoperability is already defined so the term interoperability testing can be removed from the Glossary
lead assessor	Lead assessor is a general term.
learning (IDEAL)	Not a testing/quality term and not a keyword in ITP anymore.
Maturity Level	Not a testing/quality term and not a keyword in ITP anymore.
maturity model	Maturity model is neither a testing term nor a keyword. It is not used in any other Glossary definition.
Measure	Not a testing/quality term and not a keyword in ITP anymore.
mind map	Not a testing/quality term and not a keyword in ITP anymore.
Pareto analysis	Pareto analysis is a general term.
performance indicator	Performance indicator is not a true testing term. it is not a keyword in any Syllabus.
process assessment	Process assessment is not a testing term. It is in the list of domain-specific terms in the CTEL-ITP.
process model	The term process model is not a keyword in any syllabus, and it is not a testing term
Rational Unified Process (RUP)	The term Rational Unified Process (RUP) is neither a keyword nor a testing term, so it can be removed from the Glossary
robustness	This is not within the ISO 25010 standard.
scrum	Not a testing/quality term and not a keyword in ITP anymore.
software process improvement	Not a testing/quality term and not a keyword in ITP anymore.
staged representation	staged representation is a Software Engineering term. It is only a keyword in the CTEL-ITP Syllabus. It is not a testing term.
standard	standard was a keyword in the CTEL-ITP Syllabus but it was changed to a domain-specific term. Only the CTEL-ITP used standard as a keyword.
static analyzer	The term static analysis is defined in the Glossary, so there is no need to define static analyzer.

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Name	Remark
suitability	Suitability has been replaced with functional suitability as a quality characteristic.
test data preparation tool	The definition does not add any value. The term 'test data preparation' is already defined.
test tool	Glossary Principles state that all terms with the word tool must be removed from the Glossary since the definitions add no value.
transactional analysis	transactional analysis is a general term. It is only a keyword in the CTEL-ITP Syllabus. It is not a testing term.