



One Root Vocabulary, Many Applied Vocabularies

Why Whole Quality Requires a Layered Vocabulary Architecture

Foundational Article 5 — Third Edition

Whole-Quality Institute

Whole Quality requires one stable conceptual foundation and enough applied precision to describe very different classes of Quality Objects responsibly.

A single universal applied vocabulary would become too abstract to represent infrastructure, support services, health, management systems, and other application domains accurately. Separate vocabularies developed without a common foundation could fragment the methodology and allow principal concepts to drift apart.

Whole Quality therefore uses one Root Vocabulary and many Applied Vocabularies within a layered document architecture. Each layer performs a distinct function, and each concept has one authoritative definition at the appropriate level.

The vocabulary defines. The standard requires. The guide interprets. The Foundational Article explains.

The authoritative Root definitions are established in the Whole Quality Root Vocabulary Standard (WQI VOC1). This Foundational Article does not redefine those Root Concepts. It explains how the vocabulary and document layers work together.

1. Why a Layered Vocabulary Architecture Is Necessary

Whole Quality is intended to apply across different classes of Quality Objects. Infrastructure systems have physical and functional Boundaries, technical Interfaces, energy or material flows, operating conditions, degradation mechanisms, Lifecycle stages, and system-level behavior. Support services involve persons, roles, relationships, service Boundaries, participation, dignity, communication, continuity, and lived outcomes. Health, management systems, and other applications require still other object-specific concepts.

The methodology must remain stable across these domains, but the applied language cannot be identical. Whole Quality therefore separates methodological universality from object-specific precision.

- The Root Vocabulary preserves the common methodology.
- Applied Vocabularies preserve the characteristics of defined classes of Quality Objects.
- Core Standards establish stable quality architectures and requirements.
- Context Guides interpret those architectures within bounded real-world Contexts.
- Foundational Articles explain the concepts, relationships, and development of the methodology.

The layers are complementary rather than competing. Together they allow Whole Quality to expand without becoming either too abstract or conceptually fragmented.

2. The WQI Root Vocabulary

The WQI Root Vocabulary is the authoritative conceptual foundation of the Whole Quality methodology. It is not an exhaustive dictionary for every field. It defines the Root Concepts that must retain a stable meaning across application domains.

WQI_VOC1 controls the Root Concepts of the methodology and also identifies supporting controlled concepts and methodological documentation. Principal Root Concepts include, among others:

- Quality and Whole Quality
- Quality Object and Quality Object Description
- Quality Object Description (supporting methodological documentation)
- Intended Function, Intended Result, and Function Realization
- Applicable Basis
- Boundary and Interface
- Quality Factor
- Quality Indicator
- Quality Outcome Criterion
- Evidence and Evidence-Supported Finding
- Quality State and Quality Determination
- Quality Claim
- Applicable Basis, Reference Layer, Evidence Quality, Evidence Sufficiency, Uncertainty, Quality Determination, and Traceability

A Root Concept cannot mean one thing in infrastructure and something fundamentally different in support services. A Quality Indicator cannot be treated as Evidence in one platform and as a Quality Outcome Criterion in another. A Quality State cannot be redefined whenever a new Core Standard or Context Guide is developed.

Each Root Concept is defined once in WQI VOC1. Other Whole Quality documents may explain, apply, require, or interpret that concept, but they should not create a competing definition.

3. Applied Vocabularies

An Applied Vocabulary extends the WQI Root Vocabulary for a defined application domain. It introduces the concepts needed to describe the Quality Objects of that domain without changing the meaning of Root Concepts.

For infrastructure, applied concepts may include Infrastructure Quality Object, Structural Integrity, Functional Integrity, Integrated Asset, Functional Specification, Technical Specification, and Conformity Assessment.

For support services, applied concepts may include Support Function, Support Service, Service Role, Participation, Support Boundary, Person-Context Relationship, Service Result, and Support-Related Evidence.

Future health applications may require applied concepts such as Clinical Finding or other health-specific terms. Such concepts may be linked to Root Concepts but do not become Root Concepts merely because they are important within one field.

An Applied Vocabulary should therefore begin with two questions:

- Which concepts already exist in WQI VOC1 and must be adopted without modification?
- Which additional concepts are necessary to describe the relevant class of Quality Objects accurately?

As additional domains are developed, the number of Applied Vocabularies may increase. The Root Vocabulary remains one.

4. Root Concepts and Applied Concepts

The boundary between Root and applied concepts must remain clear.

A Root Concept belongs to the Whole Quality methodology itself and remains meaningful across different application domains. **An applied concept** belongs to a defined domain and may be meaningful only for a particular field, service environment, technology, or class of Quality Objects.

Quality Object, Intended Function, Boundary, Interface, Quality Factor, Quality Indicator, Quality Outcome Criterion, Evidence, Quality State, and Quality Claim are Root Concepts. Structural Integrity is an infrastructure concept. Support Function is a support-service concept. A Clinical Finding may be a health-related applied concept.

Before assigning a term to the Root Vocabulary, Whole Quality asks whether the concept remains valid across different domains and classes of Quality Objects. Before assigning a term to an Applied Vocabulary, it asks whether the concept is required to describe the nature, function, structure, Boundaries, Interfaces, Evidence, or quality conditions of a defined application domain.

5. One Concept - One Authoritative Definition

The layered architecture depends upon one editorial principle: each concept has one authoritative definition.

Repeated definitions may appear convenient, but they create long-term inconsistency. A wording change in one document may not be reflected elsewhere. A Context Guide may simplify a definition in a way that changes its meaning. A Core Standard may unintentionally add domain-specific conditions to a Root Concept.

Whole Quality therefore assigns each concept to one principal vocabulary location:

- Root Concepts are defined in WQI VOC1.
- Applied concepts are defined in the appropriate Applied Vocabulary.
- Core Standards use those concepts to establish quality architectures and requirements.
- Context Guides interpret those requirements within bounded Contexts.
- Foundational Articles explain the reasoning, development, and relationships among concepts.

A Foundational Article may explain why Boundaries matter. A Core Standard may require Boundaries to be identified. A Context Guide may interpret the relevant physical, functional, organizational, temporal, or Lifecycle Boundaries for a particular Quality Object. The authoritative definition of Boundary remains in WQI VOC1.

The vocabulary defines. The standard requires. The guide interprets. The Foundational Article explains.

6. The Layered Architecture of the Whole Quality Family

The vocabulary relationship forms part of a broader document architecture. Each layer has a distinct purpose.

6.1 Foundational Articles

Foundational Articles explain why the methodology is needed, how its concepts are related, and how those concepts have developed. They explain Root Concepts without replacing their authoritative definitions.

6.2 WQI Root Vocabulary

WQI VOC1 establishes the authoritative definitions of concepts belonging to the Whole Quality methodology itself.

6.3 Applied Vocabularies

Applied Vocabularies extend WQI VOC1 for defined application domains. IQI_VOC1 addresses infrastructure Quality Objects, AMSI_VOC1 addresses support-service Quality Objects, and future Applied Vocabularies may address health or other domains.

6.4 Core Standards

Core Standards use the Root Vocabulary and relevant Applied Vocabulary to establish stable Quality architectures and methodological requirements for defined classes of Quality Objects. They may establish Intended Functions, Quality Factors, Quality Indicators, Quality Outcome Criteria, Evidence requirements, Critical Conditions, Non-Compensability rules, Quality Determination requirements, and permissible Quality Claims.

6.5 Context Guides

Context Guides interpret Core Standards within bounded application Contexts. A Context may be defined by an asset or service type, technology, operating environment, Lifecycle stage, population, jurisdiction, or another application condition. Context Guides may identify relevant Boundaries, Interfaces, Lifecycle or operating conditions, applicable Quality Outcome Criteria, Reference Layer sources, Evidence needs, Critical Conditions, and interpretation provisions without redefining Root or applied concepts.

7. Editorial and Governance Principles

One Methodology: All Whole Quality documents apply one methodology. Different domains are applications of one method, not separate methodologies.

One Root Vocabulary: Root Concepts retain the same authoritative meaning across domains and classes of Quality Objects.

Many Applied Vocabularies: Each application domain may extend the Root Vocabulary with necessary domain-specific concepts.

One Authoritative Definition: Each concept is defined once at its correct vocabulary level. Other documents use, explain, require, or interpret it without redefining it.

Controlled Evolution: Root Concepts are revised only when broad methodological relevance has been demonstrated. Applied concepts, requirements, and Context interpretations evolve at their respective levels.

Traceability: Concepts and requirements should remain traceable from Context Guides through Core Standards and Applied Vocabularies to WQI VOC1 where applicable.

These principles allow the Whole Quality family to grow while preserving conceptual coherence, methodological integrity, and object-specific precision.

8. Developing and Maintaining Applied Vocabularies

An Applied Vocabulary should not be developed as an independent list of familiar technical terms. It should be developed systematically from WQI VOC1 and from analysis of the relevant class of Quality Objects.

The analysis may consider the Quality Object Description, Intended Functions and Intended Results, Function Realization, Scale, Methodological Resolution, Applicable Basis, Boundaries, Interfaces, Context, Lifecycle conditions, Failure Modes, Evidence needs, Reference Layer sources, and requirements for Quality Determination.

A proposed applied concept should be screened by asking whether it:

- is already defined as a Root Concept;
- is genuinely specific to the application domain;
- performs a necessary conceptual function within the methodology;
- can be used consistently across more than one Core Standard or Context Guide;
- can be defined without altering the meaning of a Root Concept.

Revisions should also occur at the correct authoritative level. A change to a Root Concept may require review across Applied Vocabularies, Core Standards, Context Guides, and Foundational Articles. A change to an applied concept may require review of the corresponding Core Standards and Context Guides. A Context-specific clarification normally remains in the Context Guide unless it reveals a broader methodological issue.

9. Relationship to the Foundational Articles

The Foundational Article series explains the progressive development of Whole Quality:

- FTA1 maps the overall structure of the Whole Quality methodology.
- FTA2 explains the need for controlled and consistent vocabulary.
- FTA3 explains why Whole Quality matters for real-world Quality Determination.
- FTA4 distinguishes Scale from Methodological Resolution and explains their relationship.
- FTA5 explains the layered vocabulary and document architecture.
- FTA6 explains Intended Function, multiple Intended Functions and Intended Results, and Function Realization.
- FTA7 explains Boundaries, Interfaces, and bounded Quality Claims.
- FTA8 explains how Function Realization becomes understandable through Quality Factors.
- FTA9 explains how Quality Indicators identify what should be examined to understand Quality Factors.
- FTA10 explains how Quality Indicators are interpreted through applicable Quality Outcome Criteria.

Across this progression, the stabilized methodological relationships are:

A Quality Object may have one or more Intended Functions.

An Intended Function may be associated with one or more Intended Results.

A Quality Factor may be examined through multiple Quality Indicators.

A Quality Indicator may be interpreted through one or more applicable Quality Outcome Criteria.

The Foundational Articles explain and connect the methodology. WQI VOC1 establishes its authoritative Root definitions. Together they provide the conceptual foundation for Applied Vocabularies, Core Standards, Context Guides, and other Whole Quality documents.

10. Methodological Sources and Related Work

The layered vocabulary architecture of Whole Quality is a WQI methodological and document-governance design. Established terminology science nevertheless provides relevant external context for the need to distinguish concepts, definitions, and designations and to maintain terminological consistency across specialized fields [1,2].

ISO 704:2022 provides principles and methods for terminology work, while ISO 1087:2019 establishes vocabulary for terminology work and terminology science [1,2]. These standards support disciplined terminology practice; they do not define the Whole Quality methodology, the WQI Root Concepts, or the WQI document hierarchy.

The WQI contribution addressed in this article is the particular layered relationship among Root Vocabulary, Applied Vocabularies, Core Standards, Context Guides, and Foundational Articles, together with the governance principle that each controlled concept has one authoritative definition at the appropriate level.

References

[1] International Organization for Standardization (ISO). ISO 704:2022, Terminology work — Principles and methods. Geneva: ISO, 2022.

[2] International Organization for Standardization (ISO). ISO 1087:2019, Terminology work and terminology science — Vocabulary. Geneva: ISO, 2019.

Conclusion

Whole Quality cannot preserve conceptual consistency through terminology alone. It requires a layered architecture in which every document performs a defined role and every concept has an appropriate authoritative location.

The WQI Root Vocabulary preserves the common methodology. Applied Vocabularies preserve the characteristics of different Quality Objects. Core Standards establish stable quality architectures and

requirements. Context Guides interpret those requirements within bounded application Contexts. Foundational Articles explain the concepts, principles, and reasoning connecting the document family.

The architecture may be summarized through five guiding principles:

- One methodology.
- One Root Vocabulary.
- Many Applied Vocabularies.
- Many Core Standards.
- Many Context Guides.

Together, these layers allow Whole Quality to expand across diverse domains while preserving conceptual integrity, methodological consistency, controlled evolution, traceability, and object-specific precision.

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