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Information Technology for Learning, Education and  
Training

ISO/IEC 19796-5:

"How to Use ISO/IEC 19796-1, the Quality Standard for  
Learning, Education, and Training"

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Table of contents

Page

1	Introduction.....	2
2	Background.....	2
3	FAQ.....	3
4	The Quality Standard for Learning, Education, and Training: ISO/IEC 19796-1 .....	5
4.1	Description of ISO/IEC 19796-1 .....	7
5	More Information .....	8
6	References .....	9

# 1 Introduction

This Technical Report ISO/IEC 19796-5 is a short description of the International Standard ISO/IEC 19796-1 and answers frequently asked questions in brief. This Technical Report ISO/IEC 19796-5 provides only introductory information about the adaptation and implementation of ISO/IEC 19796-1 and it is NOT a guideline for its adaptation and implementation.

The quality standard ISO/IEC 19796-1 was published in October 2005. It is the first step in providing a common language and guidelines for developing and improving quality management and assurance systems for information technologies that are developed and used by organizations (in various sectors including private, public, voluntary) that support learning, education, and training. It consolidates a variety of quality approaches focused on quality outcomes in the field of information technology for learning, education, and training (LET). The 19796-1 quality standard can be used to assist decision makers, quality representatives, system developers, and users to develop their own quality system. It is not a standard developed for certification – it is a tool, which provides a common language concerning quality and a template for the implementation, development, and improvement of quality development for information technology for learning, education, and training (LET).

# 2 Background

Quality in the field of E-Learning has become an issue of increasing importance in both researchers' and practitioners' communities. A variety of approaches have been developed and implemented successfully: Generic standards, such as the European Foundation for Quality Management (EFQM) or the ISO 9000 family of standards, have been used in the educational community. Secondly, specific quality guidelines for distance education or E-Learning such as the "American Society for Training and Development (ASTD) criteria for E-Learning" or the "British Learning Association (BLA) Quality Mark" have been developed and implemented. It has become clear that Quality Management can contribute to improve the performance of organizations in the field of learning, education, and training.

## 3 FAQ

**Where can I get ISO/IEC 19796-1?**

**Can I certify my organization using ISO/IEC 19796-1?**

**Why should I refer to ISO/IEC 19796-1 as it is only a guideline? What will be the benefit for my organization?**

**How do I develop my own quality system?**

**How is ISO/IEC 19796-1 related to other standards?**

**Is ISO 9001 certification necessary for usage of ISO 19796-1?**

**If I use this standard, do you guarantee that my learning material will be better?**

**How can I contribute to the further work on quality standards?**

**Does a quality model exist?**

**How can I measure quality of my processes and sub-processes?**

**Where can I find examples of utilization of this multi-part standard?**

**Where can I get ISO/IEC 19796-1?**

It can be purchased online from ISO, e.g. here:

<http://www.iso.org>

**Can I certify my organization using ISO/IEC 19796-1?**

Not by only using ISO/IEC 19796-1. ISO/IEC 19796-1 serves as a guideline. However, we suggest choosing a certification agency, which uses ISO/IEC 19796-1 to describe what their quality approach can do for you. ISO/IEC is developing a standard (ISO/IEC 19796-2 “Harmonized quality model”) that will provide a quality model to identify ISO quality standards that can be used to certify organizations, products and services for information technologies that are developed and used by organizations (in various sectors including private, public, voluntary) to support learning, education, and training.

**Why should I refer to ISO/IEC 19796-1 as it is only a guideline? What will be the benefit for my organization?**

Even if ISO/IEC 19796-1 is only a guideline, it provides a “reference framework for the description of quality approaches” (RFDQ). A reference framework gives an orientation as to which aspects should be covered and how solutions for these aspects can be found. The standard is an instrument to develop quality in the field of E-learning. It provides a guideline for quality responsible actors to develop a standard conformant instantiation of RFDQ

**How do I develop my own quality system?**

Developing quality systems is a complex task, but ISO/IEC 19796-1 gives orientation. More tools e.g. methods, instruments, criteria will be provided in ISO/IEC 19796-2, 19796-3, 19796-4.

**How is ISO/IEC 19796-1 related to other standards?**

ISO/IEC 19796-1 is specifically designed to provide a guideline to develop and improve quality management and assurance systems that are used by organizations, products and services for information technologies that are developed and used by organizations (in various sectors including private, public, voluntary) to support learning, education, and training.

It helps to extend generic standards such as ISO 9000 to educational organizations by proposing a way to describe quality processes and requirements for the planning, design, production, realization and evaluation of learning, education, and training. Other national and trans-national standards (such as PAS 1032-1 and CEN/ISSS CWA 14644) have helped to serve as a basis for this international quality standard.

**Is ISO 9001 certification necessary for usage of ISO 19796-1?**

No as ISO/IEC 19796-1 serves only as a guideline that may help decision makers, quality representatives, system developers, and users to develop and improve their own quality system and is not a part of ISO 9000.

**If I use this standard, does it guarantee that my learning material will be better?**

ISO/IEC 19796-1 doesn't give a quality approach to follow. It gives guidance and suggestions to improve your own quality system.

**How can I contribute to the further work on quality standards?**

The standardization work is organized by the members of SC36, i.e. the national standardization bodies and liaisons organizations. Normally each national standardization body has established a mirror group that is participating in JTC1 SC36 work and coordinating the standardization activities within your country. Contact your national standardization body to be part of future standardization work related to quality for information technology for learning, education, and training.

**Does a quality model exist?**

A Quality Model, ISO/IEC 19796-2, provides a model that identifies the aspects of quality systems and the relationships with already established ISO quality standards. This standard aims to provide orientation for stakeholders, and will focus on development and improvement of quality management and assurance for information technology for learning, education, and training.

**How can I measure quality of my processes and sub-processes?**

Part 3 of the multi-part quality standard, ISO/IEC 19796-3, "Reference Methods and Metrics", provides a set of potential methods and metrics (and associated indicators) that can be used to measure quality in processes, products, and

services for quality management and assurance of information technology for learning, education, and training.

#### **Where can I find examples of utilization of this multi-part standard?**

A "Best Practice and Implementation Guide", ISO/IEC 19796-4, provides criteria for the identification of best practice and guidelines for the adaptation, implementation, and usage of this multi-part Standard. In addition, it contains a rich set of best practice examples.

## **4 The Quality Standard for Learning, Education, and Training: ISO/IEC 19796-1**

The Quality Standard ISO/IEC 19796-1 is the basic framework for quality system and development for organizations that develop and use information technology for learning, education, and training. It consists of a framework for quality development and the description of quality approaches and it serves several purposes:

#### **Consolidating Quality Approaches by providing a Common Vocabulary**

Many quality approaches are successfully used in information technology for learning, education, and training. However, the approaches differ in scope, objectives, and methods. The value of ISO/IEC 19796-1 is that it shows:

1. Context(s) for which they are intended to be used,
2. Processes for which they can be used, and
3. Methods that can be used in order to assure quality.

It is recommended that the providers of quality systems use ISO/IEC 19796-1 to make their approaches transparent.

#### **Developing and Improving Quality Systems**

Developing a new quality system in an organization means that quality objectives and instruments are implemented for the core processes. In the field of information technology for learning, education, and training for example this would include items such as:

- Analysis of learner needs,
- Design of learning systems,
- Provision of tutor support,
- Completion of performance assessments.

The process model serves as a guide to specify the objectives. An organization should go through the processes of the model and answer the following questions for each process:

1. What is the main quality objective for the process in question?
2. Who are the responsible actors?
3. Which methods or instruments can be used to assure quality?
4. How can we measure the success of the quality objective?

The processes therefore serve as a guideline to discuss quality and to set specific objectives in order to reach the best outcome.

### **Extending Existing Quality Approaches**

Many organizations already have quality management systems (such as the ISO 9000 family of standards) or their own quality guidelines in place. However, generic quality management approaches do not consider the specifics of LET. For these organizations, ISO/IEC 19796-1 can be used as a guideline for the specific aspects information technology for learning, education, and training. For organizations that have developed their own quality guidelines, ISO/IEC 19796-1 can be used to structure, evaluate, and improve the systems.

### **Combining Quality Approaches**

The Quality Model, as outlined in 19796-2, serves as a guide to describe quality approaches using a common vocabulary to support organizations and stakeholders that use or develop information technology for learning, education, and training. In addition, the use of a common vocabulary supports benchmarking and the exchange of quality information. The model provides a clear terminology and description formats to assemble individual quality concepts from existing approaches. In the future, organizations should be able to combine quality approaches based on their needs. As an example: depending on the context and the quality objective(s) of an organization, that organization may develop a quality system by combining and using:

1. Design guidelines from ISO 9241,
2. Use tutoring guidelines from Tutor Quality Mark,
3. Use accreditation guidelines from a National Accreditation Agency.

### **Developing Information and Communications Technology (ICT) support for quality development**

"This ISO/IEC standardization work harmonizes existing concepts, specifications, terms, and definitions for quality management and assurance for information technology for learning, education, and training."

In this section, the purpose of ISO/IEC 19796-1 is to provide:

1. A common vocabulary for quality approaches,
2. Guidance for the development of quality systems,



3. Suggestions to extend existing quality approaches,
4. Support for the combination of quality approaches,
5. Ideas related to the development of ICT support for quality system development and improvement.

Based on the models for processes and quality management, a common vocabulary provided which can serve as a basis for applications, such as quality information systems or quality support systems. The systems should support users to document their activities, to apply quality assurance methods to their products and services, to measure the quality, and to exchange experiences.

## 4.1 Description of ISO/IEC 19796-1

The standard ISO/IEC 19796-1 provides a “reference framework for the description of quality approaches” (RFDQ). A reference framework gives an orientation as to which aspects should be covered and how solutions for these aspects can be found. The standard is an instrument to develop quality for organizations and stakeholders who use or develop information technology for learning, education, and training. It consists primarily of two parts:

1. A **descriptive model** for quality approaches
2. A **process model** as a reference classification

It supports the development of quality initiatives for organizations that include the development of objectives and the identification of methods, relations, people involved, etc. The 19796-1 standard may be used to develop and improve quality systems to the needs and requirements of an organization, within a specific industry, or of certain stakeholders. It does not suggest specific requirements or rules – it is a framework to guide actors through the process of quality development in the field of information technology for learning, education, and training (LET).

### The Reference Framework for the Description of Quality Approaches

The Reference Framework for the Description of Quality Approaches is a schema that may be used to describe quality approaches such as guidelines, design guides, and requirements. It documents quality concepts in a transparent way. This model serves as a basis to describe quality approaches.

### The Process Categories of ISO/IEC 19796-1

The Process categories of ISO/IEC 19796-1 provide a guide to the different stages of the quality process. For example, the process categories can be used



to describe the relevant processes within the life cycle of the development of learning activities within an IT system.

The process categories are divided into seven steps: needs analysis, framework analysis, conception / design, development / production, implementation, learning process / realization, and evaluation / optimization.

The following picture shows the seven steps of the process, illustrated in ISO/IEC 19796-1. To more easily understand how they are organized, they can be related to the four steps of the Deming cycle, commonly known as the PDCA cycle for Plan (Design or revise business process components to improve results), Do (Implement the plan and measure its performance), Check (Assess the measurements and report the results to decision makers), Act (Decide on changes needed to improve the process). PDCA is a continuous process that provides information to managers to identify sources of variations that cause products to deviate from customer requirements. It allows managers to analyze and improve the parts of the process that need improvement. The ISO/IEC 19796-1 process categories may be applied to processes used for the analysis, conception, production, and improvement of quality development for information technology for learning, education, and training.

## 5 More Information

ISO/IEC 19796-1 was developed by ISO/IEC JTC1 SC36 WG5: the "International Organization for Standardization (ISO) / International Electrotechnical Commission (IEC) Joint Technical Committee 1 (JTC1) - Information Technology - Subcommittee 36 (SC36) - Information Technology for Learning, Education, and Training (ITLET) - WG5: Quality Assurance and Descriptive Frameworks".

For more information visit the SC36 website: <http://www.iso.org/jtc1/sc36>

or contact directly the SC36/WG5 Convener:

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