tekom Qualification Modules

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Module 1:   Legal and normative requirements for technical documentation

Modules: 1.1 Requirements for internal documentation

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About the topic

Anyone who assumes charge of Technical Documentation in a company (e.g. as technical writer, as the head of the documentation department or a as a service provider) must be aware of the legal principles and the specifications ensuing from technical standards, and comply with these meticulously in the work. For, "Pleading ignorance does not provide immunity against punishment'. Technical documentation that is wrong from a legal point of view entails consequences in terms of civil law, public law and criminal law: The customer can press damage claims and could withdraw from the purchase contract, for instance, in the event of damages to persons or property due to wrong operation of the product, there is the risk of damage compensation and the market surveillance authorities could force the product to be recalled from circulation. In case of damages to persons, the persons responsible for the technical documentation also face the risk of criminal proceedings.

National and international technical standards concretise the legal requirements. They are not in themselves legal standards, because they have been created by private standardization institutions, and not through government statutes. Technical standards can however be associated with or included in the legal requirements through contracts or references governed by law. Thus, for instance, legal requirements derived from the EC Directives are associated with the assumption defined under law that these requirements will be complied with, if and to the extent that the product is in accordance with the guidelines issued for the EC Directives.

The requirements for the technical documentation that follow as a result of legal principles and the technical standards are subject to constant change at the national and international level. The technical writer should be constantly aware of the latest versions. This requires knowledge about the sources of information and the ability to search in databases and on the Internet.

The Qualification Module 1 aims at minimising the risk of claims due to legally faulty technical documentation for the technical writer and for the company, regardless of whether this is a manufacturer or a service provider. And finally, the qualification also helps the product users: The aim of the legal requirements (concretised through the technical standards) is to minimise the risk involved in dealing with the products. If these are complied with, it means that a significant contribution has been made towards product safety.

Module 1.1:   Requirements for internal documentation

Justification

The internal technical documentation remains within the company. It starts with the "zeroeth hour" of the product and contains the documentation of the product development. Particularly important here is the threat analysis, which shows how the company has dealt with potential product hazards. The external technical documentation is based on the internal technical documentation. The external documentation ultimately reaches the product user in the form of a user manual.

Every product goes through a life cycle, during which an increasing amount of new information is generated at various key points that need to be documented within the company as part of the product observation or monitoring. The manufacturer's responsibility does not end with the first market release. Product liability and public-legal product responsibility place the manufacturer under obligation to observe and monitor the product in the field and to observe the trends in the state of science and technology. This could mean having to react if there are any indications of hazards to the product user, such as references to wrong operations obtained from an evaluation of the complaints.

Especially in the case of products for which it is not possible to rule out a risk to health or of material damages, a complete internal documentation over the entire product life span is indispensable as proof of fulfilling the due diligence obligations of the company and for avoiding economic damages for the company. EC Directives and their national implementations demand, in addition to this, a specific internal technical documentation under the CE labelling, which has to be kept ready for inspection for the market surveillance and monitoring authorities.

Contents

- Constituents of internal documentation
- Documentation of development processes
- Basic understanding of the threat analysis
- Threat analysis and external technical documentation
- Legal requirements for product observation
- Examples of internal documents/external documents

The most important learning objectives

The test candidates …

- ◆ know what technical documentation consists of.
- ◆ know the differences between internal and external technical documentation.
- ◆ know the principles of a threat analysis.
- ◆ know the importance of the threat analysis for external technical documentation.
- ◆ know the legal requirements for product observation.

Module 1.2: Requirements for external documentation

Justification

Legal requirements for external technical documentation and in particular for the user information pertain, among other things, to the form, content, arrangement, statements on residual risks and measures for circumventing the risks. Some of the legal requirements and duties at the time of releasing products to the market are derived directly from the statutory specifications. Besides this, the court rulings from which the guiding principles for the legal requirements placed on the external technical documentation are of considerable importance.

The legal specifications for external technical documentation are derived from the legal specifications for the properties of products (external technical documentation as part of the product) and are also known as the "obligation to provide instructions". These stipulations can be found in various legal domains:

Under civil law, contractual specifications arise as well. The jurisdiction on product liability, i.e. the liability without contractual relationship to provide damage compensation on grounds of damages to person and property, has occasioned definitive bases for the legal assessment of external technical documentation. Under public law, there are specifications pertaining to the European product safety law for a wide range of different products, ranging from toys to machinery. The penal code derives standards for assessing the personal characteristics and behaviour of persons responsible for the technical documentation based on civil law and public law.

Contents

- Overview of the various legal principles and bases
- Contractual liability for the technical documentation
- Liability as per the product liability law for the technical documentation
- Liability as per § 823 BGB for the technical documentation
- Public legal specifications through the law governing the safety of devices and products
- European product safety law and technical documentation
- Penal consequences in case of defective technical documentation

The most important learning objectives

The test candidates …

- ◆ will have an overview of the legal principles.
- ◆ know the basic principles of contractual liability.
- ◆ know the product liability (product liability law / § 823 BGB).
- ◆ know the essence of the requirements from product liability.
- ◆ know the formal requirements arising out of product liability.
- ◆ know what kinds of technical documentation are to be delivered as per the law on device and product safety.
- ◆ know the goals of the EC Directives and the new concept (New Approach).
- ◆ know the minimum details to be given in user manuals as per the EC Directive for machines.

◆ know three examples for the implementation of EC Directives under German law (SAMPLEASE NOTE).

Module 1.3:   National and international technical standards

Justification

Knowledge of standards is important for technical writers for various reasons: technical standards are useful recommendations from associations under private law with the following benefits: standardization promotes rationalisation and quality assurance in business, technology and administration. It serves to ensure the safety of persons and objects and to improve quality in all areas of life. Standards serve as instruments of consumer protection, rationalisation, communication and environment protection.

Although standards are not legal statutory regulations, they often create application safety in issues related to technical detail. An indirect obligation to use could ensue from the statutory requirements or provisions, contracts or other legal bases. Moreover, compliance with specific standards engenders the assumption that the basic safety requirements have been fulfilled.

Contents

- Introduction to the general principles of standardization
- Legal quality of technical standards
- Types of standards
- Principles of standardization work at the DIN
- International standardization
- European domestic market and European standardization
- Detailed examples of European standards (DIN EN ISO 12100, DIN EN 60204, DIN EN 82079)
- Checklists for checking instruction manuals
- Lists of standards (examples for various regulation areas)
- Examples of standards from various disciplines, e.g. machinery manufacture, medical technology, software
- Safety signs at the workplace and safety markings on the product (as per the EC Directive 92/58/EWG, ISO 3864, ANSI Z535.4)
- Safety notes and warnings in operational manuals (tekom-guideline)

The most important learning objectives

The test candidates …

◆ know the general principles of standardization.

◆ know the legal quality of standards.

◆ know what a draft standard, a pre-standard, or a terminology standard is.

◆ know the basics of standardization work done by the DIN.

◆ know the areas of application of the standards DIN EN ISO 12100, DIN EN 60204 and DIN EN 82079.

◆ know the standards which define the safety markings and signs.

◆ know the features of prohibitory signs, warnings and mandatory signs.

◆ know which signal words have been standardized internationally (English and German).

◆ know the guideline for creating safety notes in operational manuals of the Gesellschaft für Technische Kommunikation e. V. – tekom e.V.

Module 1.4:   Source of information and research options

Justification

Laws and technical standards are subject to a constant process of change and customization. Technical writers should check the validity of the specifications and be able to identify new sets of regulations. Knowledge of the relevant sources of information and technologies for accessing them is indispensable.

Contents

■ Relevant statutory regulations

■ Where can one find the statutory regulations in sub-areas (e.g. GPSG, ProdHaftG, MPG, EMC-Law)

■ Public libraries, university libraries; loose leaf binders, publications of the tekom, the tekom WebForum.

■ Internet addresses for finding laws, ordinances, judgements of the BGH

■ DIN catalogue for technical rules

■ DIN-communications with DIN-display for technical rules

■ DIN-pocket books

■ Bodies issuing standards

■ Internet research on standards, online orders, downloading of standards

■ Sources of information and reference

■ Links for researching standards on the Internet

The most important learning objectives

The test candidates …

◆ know the major collections of laws.

◆ can save and print the laws and ordinances, e.g. the device and product safety law and the corresponding ordinances from the Internet pages of the Federal Institute for Occupational Safety and Health (Bundesanstalt für Arbeitsschutz und Arbeitsmedizin) and of the Federal Ministry of Economics and Technology (BMWi).

◆ can find the EC Directives on the Internet and determine the corresponding standardization activities and harmonised standards.

◆ know the working of the tekom-standards practitioner.

◆ know the procedures for finding the latest standards pertaining to a technical field through the database of the Beuth-Verlag and for checking whether a given standard is still valid, or has been replaced.

◆ know the ICS-main groups as international classification criterion for standards.

◆ can determine which pocketbooks on standards are available.

◆ know how to find out the nearest standards issuing office.

◆ know how to use the legal service and the standards column and the guidelines in the tekom WebForum for special questions.

Module 2:   Information development

Modules: 2.1 Phases of information development

2.2 Analysis of products and target groups

2.3 Information concept

2.4 Project planning and organization

About the topic

Information development is the core activity of technical writers and is therefore of fundamental importance. The tasks of technical writers and the methods used in technical documentation can be described with different degrees of detail, and this is the approach followed in the various Qualification Modules too. But, for a technical writer, it is not only important to known in detail which methods are to be used and in what manner in technical documentation; rather, he should also be aware of the interplay between the various sub-processes. For this, it is necessary to have an overview of the overall process of information development which all the constituent aspects are integrated. In addition to this, it is also necessary to know how the individual phases of information development are linked to other processes, such as how the information development is related to the product development and the phases of the product life cycle.

The overall process of information development should be conceptualised to begin with. Central information for the information concept is derived from an analysis of products and target groups. The results of this are concretised in various definitions and decisions in the actual information concept.

The realisation of the information concept is generally done in through processes that are organized like in a project. Although there are standard processes for information development and its sub-processes in technical communication, planning and developing new documentation is very much like a project, which is pronounced to different degrees depending on the product that is to be described. For this reason, and also because technical writers are often involved in other projects as well, such as the introduction of an IT system or in a terminology project, it is important for them to known and be able to use the tasks and methods of project management.

Module 2.1:   Phases of information development

Justification

If we look at the phases and tasks involved in information development in their time sequence, it is possible to derive an ideal, typical process of information development. In reality, of course, not every information development project will pass through every one of these phases anew. In many cases, one accesses information from previous projects, e.g. a target group analysis. It is important for technical writers to be familiar with the overall process with its interrelations and interfaces, and to be able to represent it, even if they are themselves involved with specific activities only. This also includes knowing how the process can be organized, what resources are necessary, what skills or knowledge the executing

staff should have, what problems are encountered frequently and what requirements need to be fulfilled so that the individual sub-steps of the information development process can run smoothly.

Contents

Phases of information development

- Analysis of the target group, of the product and of the legal requirements
- Planning tasks and conception
- Research
- Preparation of contents / graphic processing
- Correction,revision and release management
- Updates and change management
- Usabilty testing
- Translation / localisation
- Layout: Composition, design
- Print / publication

Tasks, functions, activities in the individual phases of information development

Resources necessary for the individual phases of information development

- necessary system support
- necessary information / information flow / cooperation
- necessary qualification of the executing staff

Organization of the phases of information development

- Organization the information development in the context of the product life cycle
- Change processes / updating
- sub-steps that run in parallel
- requirements for the process and the process capability

Critical factors in the phases of information development

- Time critical processes
- Typical problems in the individual phases of information development

The most important learning objectives

The test candidates …

- ◆ know the various phases of information development.
- ◆ know the most important tasks, functions and activities in these phases.
- ◆ know what resources (IT-systems, information, qualifications) are needed for these tasks.
- ◆ know what requirements (e.g. available information) have to be satisfied so that the process can run smoothly.
- ◆ know the product life cycle and its link with the information development, e.g. whether this takes place simultaneously with the product development or subsequent to it.

◆ know how an information development process can be organized, i.e., which sub-steps can run in parallel, for instance.

◆ know how changes or updates to the product can impact the information development and how these can be integrated with the information development process.

◆ know the time critical processes and typical problems in the individual phases.

Module 2.2: Analysis of products and target groups

Justification

A technical documentation must contain all the functions and conditions that are relevant to the users, so that the user can also use it. This is done by documenting the functions, safety devices and the expected risk potential during the course of the product analysis. But any technical documentation is only as good as the ease with which the target group for which it is intended can comprehend it. The reader of the technical documentation must be able to understand it and be able to implement the information it contains in realising his goals while dealing with the technical device or software.

Contents

■ Classification of users with respect to their background or experience and the nature of the product usage and the methods of target group analysis, e.g. with the help of a "Who-does-what-matrix"

■ Procedure for creating a list of all the users of the products and methods of describing the target group, e.g. the Sinus-Milieus®

■ Creation of user profiles with the details of the user characteristics, that could influence the nature of the product usage, e.g. with methods of target group profiling, such as the "Persona"-technology

■ Procedure for defining the working environment of the user, to determine the most suitable medium for presenting the information

■ Procedure for specifying the types of information that the users will need during the various phases

■ Examples of complete target group analyses of different kinds, with the definition of primary, secondary and tertiary target groups

■ Cultural aspects of the target group and their influences on the product usage

The most important learning objectives

The test candidates …

◆ can carry out a product analysis.

◆ know the various methods of target group analysis and their characteristics, in particular the "Who-does-what-matrix".

◆ can use a "Who-does-what-matrix" on a sample product to get an overview of which target groups will be [performing what actions with the product. They can evaluate the matrix suitably to determine the target group specific information needs. They can then use the

matrix to arrive at suggestions for which information is to be included in which documents and for which target groups, and give the arguments in support of these suggestions.

◆ can describe the various target groups in apt manner, for instance, using the Sinus-Milieus® method. They can name several consequences resulting from these target group descriptions for an audience specific technical documentation for the described target groups.

◆ can create a profile for target groups using the "Persona" technology. They can name the atages of the profiles thus created, and also describe the conclusions that can be derived from these profiles.

◆ know which cultural aspects relate to the use of the product by the target group, and can mention examples to illustrate this.

Module 2.3: Information concept

Justification

An information concept in technical writing is the basis for creating documentation. It takes into account the results of all the research and analyses of documents. If a detailed analysis of weaknesses can be carried out, the conclusions from this can be used as specifications in the concept.

Contents

Type of instruction

Contents to be differentiated

Creation of concept

- Rough outline
- Detailed outline
- Textual concept and content designing
- Concept for the illustrations
- Formal aspects of the design: Layout and typography concept

Security

Multilingualism

Production

The most important learning objectives

The test candidates …

◆ can differentiate between various types of technical documents, such as immediate instruction, didactic instruction, reference manuals.

◆ Can identify the types of content, such as the description of the service, description of the device, description of the activity or description of the working, and know the core contents of various product information.

◆ can create a concept for information development and know what sub-sections this can be divided into (e.g. the aspects of linguistic style, mediation strategy, choice of information,

allocation to texts to illustrations, format, layout, typography, illustration type, orientation help or tips, paper quality, etc.).

◆ know which aspects need to be taken into consideration in the various concepts: text concept, illustration concept, layout and typography concept.

◆ know how the structure (fine and makrostructure) of an information product can be built up.

◆ know what aspects need to be considered under "Security", "Multilingualism" and "Production" in the conception for the detailed organization of the project.

Module 2.4:   Project planning and organization

Technical writers are often confronted with the task of executing projects, whether it is as part of developing new information products or as part of other projects such as the introduction of a new IT system. That is why technical writers should have a fundamental understanding of project work, be capable of planning a project, be familiar with the most important project management techniques and be capable of using controlling techniques to assess the project implementation.

Contents

Basic principles

- ■ Projects and project characteristics
- ■ Tasks and benefits of project management
- ■ Project phases

Project planning

- ■ Project origin and goals
- ■ Analysis of the project environment and project definition
- ■ Tasks and activity planning
- ■ Flow, timelines and schedules and resource planning
- ■ Cost planning
- ■ Risk planning

Project organization

- ■ Organizational structure and process organization in projects
- ■ Positions or items as modules in the project organization and roles in projects
- ■ Coordination with the project environment and information management

Project monitoring

- ■ Tasks, methods and procedures used in project controlling
- ■ Counter measures in case of deviations from plan

The most important learning objectives

The test candidates …

◆ know in what way projects differ from standard processes, and know the most important tasks in project management and the project phases.

◆ know various forms of organization, e.g. core staff organization and project organization, and roles in projects, such as manager, employee, steering committee, etc.

◆ know the meaning of positions or items as modules in the project organizations and the various roles, and be aware of possible role conflicts.

◆ know the process of defining project goals and the difference between real goals and formal goals.

◆ know the procedure for a project environment analysis and the contents of a project definition.

◆ can use the methods and tools for planning of activities, process and schedule planning, resource and cost planning.

◆ Knowhow and based on what criteria the project risks are estimated and compared.

◆ know the methods of information management and can coordinate projects.

◆ know methods and techniques used in project controlling, such as milestone -trend analyses, double bar charts, const controlling using the cash-flow-analysis method, integrated controlling: Earned Value Analysis.

◆ know the various possible realignment measures that can be implemented in case of deviation from plan, or from the in case of problems with the performance, schedules or costs.

Module 3: Organization and standardization, XML and authoring systems

Modules: 3.1 Organization (structuring the matte)

3.2 Standardization

3.3 XML (SGML)

3.4 Authoring systems: Single source and cross-media publishing

About the topic

Structuring the technical documentation and standardizing the key aspects of its creation are core skills that an efficient and high quality documentation creation should be able to guarantee. Knowledge of the methods of organization and standardization areas, like the knowledge of the relevant standards and guidelines, is indispensable for this.

To implement the structuring and standardizing concepts, technical writers should be capable of using the software tools that are commonly available in the market for creating documentation, with due consideration for the standardization aspects. Knowledge of XML (Extended Mark-up Language) is another key foundation stone for single source publishing solutions and for using authoring systems.

The methods will help in building up knowledge and skills, which benefit all those involved as follows:

1. The author: Once the author has defined the basic structure and standardized the creation of the documentation, he can concentrate on his core task, which is creating the contents of the documentation. Besides this, the use of XML (in an authoring system environment) makes it possible to publish in a target group and media specific and selective manner.

2. The company: Standardized documentation from one source comes with time and hence cost savings.

3. The customer: A consistently structured documentation that is published in a target group specific manner will bring him quicker and more certainly to the desired product benefits.

Module 3.1:   Organization (structuring the matter)

Justification

The information that is required by the target group was determined in the documentation planning stage through target group and product analyses. Now the data and information that has been collected needs to be aligned in such a way that it serves the purpose of use. With regard to the publication of information in various media, with a central and "simple" data maintenance (pre-requisite for "single sourcing") the requirements placed on the organization or structuring become all the more stringent.

Contents

- Principles of structuring: Structuring depends on the product, the type of user, the usage situation, task, degree of difficulty, etc.

- Principles of modularisation: Granularity (size) of modules (with, perhaps, an excursus on saving the modules in databases)

- Tools used in structuring/ planning (mindmaps, function/user group matrix)

- Standards that comment on the structure of document types or suggest outlines as prototypes (e.g. DIN EN 82079; VDI 4500)

- Structuring of information for hypertextual (non-linear) information systems

- Examples of various ways of structuring

The most important learning objectives

The test candidates …

- ◆ know the various principles behind structuring and their characteristics.

- ◆ can decide on a specific structuring principle, depending on the product, type of document and target group and can present the arguments in favour of this. This includes the case of non-linear structuring.

- ◆ can recognise and name deviations from an organization that goes contrary to the intended purpose of use through negative examples and suggest meaningful alternatives.

- ◆ can use at least one help technique for arranging information meaningfully.

- ◆ know the most important standards and relevant literature, in which structural specifications or suggestions are made, and can present the core ideas in a comparative manner, and evaluate these with arguments.

Module 3.2: Standardization

Justification

Those who fail to standardize are wasting precious time and money, and also run the risk of inconsistencies in the documentation, sometimes with serious consequences. The need for standardization increases, as the number of technical writers or other authors working on a document or an information system also increases. Almost all aspects of the work in a technical writing department can be defined in a binding manner. Technical writers must be capable of identifying and defining the areas that are relevant for regulations, in the form of an authoring or redaction guideline.

Contents

- Areas in technical writing that are relevant to standardization

- Standardization techniques or methods for the creation of text and documents (Class Concepts, Funktionsdesign®, Information Mapping®, didactic design, controlled speech, etc.)

- scientific principles and origins of these standardization techniques

- Content and structure of an authoring guideline or style guide

■ Implementation of the standardization with commonly available text editing and DTP programs (in particular standardization functions, e.g. format templates, document templates, variables, field functions)

The most important learning objectives

The test candidates …

◆ know the areas in technical writing that are relevant to standardization.

◆ know at least approaches to and basic principles of commonly used methods of standardization and compare and evaluate these with supporting arguments.

◆ have mastery over at least one standardization technique and can use it in actual practice.

◆ can create the structure for an authoring guideline or style guide containing the definitions and strictures for these areas, based on this knowledge.

◆ know how the standardization definitions are implemented with a tool available in the market and what should be borne in mind during the implementation.

Module 3.3: XML (SGML)

Justification

The Standard Generalized Markup Language (SGML) has enjoyed the status of an ISO standard since 1987. This created the basis for its widespread usage. Since the mid -nineties, SGML became increasingly important as a standard for publication-neutral data capturing, data usage and archiving in technical documentation. The W3C standard XML (Extended Markup Language) that is derived from it has now far exceeded the reach and use of SGML. This can be attributed in particular to the establishment of XML as a data mark-up and exchange format and to the corresponding tools. SGML/XML is an excellent pre-requisite for single source publishing

Contents

■ What are markup languages?

■ Why SGML/XML?

■ Document Type Definition (DTD) / XML-Schema: parts and well-formedness

■ SGML and XML: Common features and differences

■ Data modeling with XML

■ Tools for creating XML data

■ XSL methodology for standardized processing of XML data

■ Publication of XML data

■ XML and the Internet

■ Cases where it is worthwhile using SGML / XML (effort vs. benefits consideration)

The most important learning objectives

The test candidates …

◆ know what a markup language is.

◆ can represent the benefits of SGML/XML with examples.

◆ know the common features and differences between SGML, XML and HTML.

◆ know the basic rules for creating a well rounded DTD / a well designed schema.

◆ can analyse documents with regard to the markup using XML and know the procedure for developing text type specific DTDs/schemata.

◆ know the most important methods for the capturing data in accordance with XML.

◆ can capture XML-compliant data with at least one tool.

◆ know the publication processes for data that has been captured in the XML format, and in particular the possibilities offered by XML for Internet usage.

◆ know the processing of data with XSL-T and its formatting with XSL-FO and can show this through examples that are relevant to practice.

◆ know the main criteria for using SGML/XML under an efforts vs. benefits analysis.

Module 3.4: Authoring systems: Single source and cross media publishing

Justification

Documentation need not necessarily be delivered on paper; it can also be presented in other forms (on CD, as online help, as PDF files, on the Internet). Specific parts of the product documentation will be needed in various types of documentation (e.g. in the user manual, in the training documents, in the online help, in the service handbook). For this purpose, data must be captured once and archived and maintained at one place. The various publications should then be "generated" from this source. However, there is no standardized process for this, which could be used meaningfully by all companies.

Technical writers therefore need to know the methods of modularisation, document generation and as many variants of single source publishing as possible, in order to define the appropriate solution for their company.

Contents

■ Information modeling and system planning for selective publication in different media and for different target groups

■ Modularisation of documents and information

■ Data capturing and administration for single source publishing

■ Publishing from a single source for online and paper documentation

■ Uses of SGML/XML and standardization in single source publishing

■ Functional writing without layout definitions

■ Role of the databases and translation management systems in single source publishing

■ Reuse and document generation in authoring systems

■ Requirements for DMS and content management systems in the context of the company

■ Practical examples for the creation of single source and cross media publications

■ Usage and advantages of WIKIS for Technical Documentation

The most important learning objectives

The test candidates …

◆ know the main processes for publishing for different media and target groups from a single data source.

◆ know the role that SGML/XML can play in data modeling.

◆ know the channels and the technical background of single source publishing for online and print documentation (this also includes modular data capture and document generation for various media and types of publication).

◆ know the requirements placed on document management systems (DMS) and content management systems (CMS) for using data across authoring divisions.

◆ can give information related to the topic based on their practical experience (or at least through experience gained in exercises) in the sample implementation of a single source or cross media publication.

◆ Knows about the usage and advantage of WIKIS for Technical Documentation

Module 4: Professional writing

Modules: 4.1 Readability and comprehensibility

4.2 Stylistics

4.3 Language usage in technical writing

4.4 Corrections and editing

About the topic

Technical writers use language as a tool in their profession. Professional writing means mastery over the craft of using the (German) language

➡ quite independent of the special requirements within the company,

➡ using modern authoring systems and

➡ with regard to texts for international markets.

Apart from these general skills, which are described in Modules 6.1 to 6.4, companies also expect from technical writers skill in normal language usage in technical communication, the ability to organize the project flow especially with respect to corrections and editing, and a professional handling of electronic media in correspondence.

Module 4.1: Readability and comprehensibility

Justification

Readers expect the products of technical writing to be comprehensible. Technical writers must be capable of writing almost perfect texts from the point of view of comprehensibility.

Besides the general, formula based evaluation procedures, some of which are derived from American approaches or through scientific analysis of school text books, the Hamburg Model is considered to be the leading approach in Germany. Each of these methods has its own strengths and weaknesses, which technical writers must be aware of.

The core aspect of professional writing of functional texts is to be attuned to the target group. One needs to know for whom one is writing, if the text has to be such that the reader can understand it easily. This insight is aided by some knowledge with the cognitive processes.

Contents

- Readability, formulas for readability: Benefits and limitations of these methods
- The Hamburg model of comprehensibility
- Reader analyses, comprehensibility with respect to the target group. Special methods that have gained popularity in technical writing: the Persona-method, the Who-does-what?-Matrix
- Cognitive science for text comprehension
- Special hurdles to the understanding of texts, the age of the reader, physical impediments

■ Other hurdles to easy comprehension through the media and the reading context

The most important learning objectives

The test candidates …

◆ can apply the methods of evaluating readability and comprehensibility and assess their efficiency.

◆ know the methods used in conducting reader analyses.

◆ can evaluate the significance of important categories of this analysis such as the knowledge of the language, technical knowledge, education and others.

◆ can explain how the author is responsible for comprehension, using models for the way human beings process information and understand things (cognition).

◆ know the various impediments that stand in the way of text comprehension, such as reading in an emergency (fire extinguishers) or impediments due to age or physical limitations.

Module 4.2:   Stylistics

Justification

Texts in technical writing must be correct, above all: however, they may even be appropriate for the target groups and comprehensible, and also grammatically correct, and yet poor on the whole. In such cases, a good text simply involves more.

Good style means choosing what appeals most to the reader and also conveys the message, out of the many correct words and the various possible and correct syntactic variants that the writer can choose from.

Contents

■ Choice of words from a stylistic point of view

■ Words and their impacts

■ Syntax from a stylistic point of view

■ Stylistic glitches that hamper understanding, such as semantically weak verbs, nominalisation

■ Choice of words, syntax and corporate culture

The most important learning objectives

The test candidates …

◆ know the criteria that differentiate good style from bad.

◆ can use stylistic means to enhance the company profiling and reinforce its Corporate Image.

◆ can recognise stylistic faux pas that affect the comprehensibility of a text.

Module 4.3:   Language usage in technical writing

Justification

Many texts authored by technical writers differ considerably from the kind of text written by other professional writers. Functionality and economic viability are also equally important requirements, such as the requirement for keeping the effort needed for translation or conversion effort in to other languages low, in keeping with the rules of other national markets.

Professional German in technical writing therefore demands more than mere grammatical correctness, a confident sense of style and comprehensibility.

Contents

- Functions of the text: description, instruction, argumentation
- Designing texts under functional aspects
- Using words to specify: deixis
- Dealing with negations
- The language of safety notes
- Modular designing of texts for reusability of text modules
- Writing with the needs of translators and localisers in mind

The most important learning objectives

The test candidates …

- can use and describe the various functions of the text in grammatical and stylistic terms.
- can organize and describe the functional aspects of contents.
- know the deictic functions of words and can estimate the power and the risks of such constructions.
- know the pitfalls of simple and double negations and can handle negations appropriately in technical documentation.
- know how texts can be broken down into reusable modules for authoring systems in a broad sense of the term.
- know the requirements for designing texts for cost effective translation and localisation.

Module 4.4:   Corrections and editing

Justification

Professional German not only demands special writing skills. Professional use of language is also characterised by the ability to make corrections to and provide help with texts written by other authors.

In practice, technical writers often need to proof-read and edit texts. Proof-reading here means checking for the correct spelling, punctuation, grammar and sometimes even the basic stylistic elements.

Editing means making corrections to the content, checking the factual correctness, compliance with the corporate guidelines, the suitability of the text for a translation.

Whereas proof-reading can be learnt quickly, editing demands a high level of skill with texts, a certain flair and psychological capacity to empathise. Intervention by the editor to the text has the potential for hurting the author; unjustifiable interventions can have a huge negative effect on the work atmosphere.

Contents

- Proofreading marks as per DIN 16511
- Proof corrections and editing in project management and quality assurance
- "Improvement" in the context of group dynamics: How far can corrections go
- Text segments that require special attention

The most important learning objectives

The test candidates …

- ◆ know the most important proofreading marks.
- ◆ can situate the proof reading processes appropriately within the technical writing project management.
- ◆ can evaluate editing suggestions in terms of their importance to the document quality, and also in terms of their impact on the atmosphere at work.

Module 5:   Management

Modules: 5.1 Management role and management tasks

5.2 Cost calculations and profitability considerations

5.3 Key figures

5.4 Process descriptions

5.5 Management internal and external interfaces

About the topic

Management topics and tasks are playing an increasingly important role in information development. That is why technical writers should know what these management tasks are and how the management processes take place in general.

One reason for the increasing importance of management in technical communication is the fact that information development is coming under increasing cost pressures and hence is being evaluated using the criteria that are usually applied to the efficiency of business. Thus, many technical communication and documentation departments are now required to conduct the cost calculations and conduct feasibility analyses for projects and processes.

Key figures or indices are particularly important for management, especially for the higher management levels and for the controlling, because they are used for the planning, steering and controlling of information development. This is why key figures are requested with increasing frequency from the managers and staff of technical documentation departments. Even departments for which key figures are not yet mandatory should be prepared with the key figures related to important success factors as a strategic measure and know how these can be extracted and developed.

One important area that management focuses on is processes. Departments need to provide descriptions of their processes, especially for quality management and certification audits. Hence, technical writers should be familiar with the possibilities and the basic principles of process documentation. With active process management, technical writers are always confronted when processes are executed in cooperation with other departments, with service providers or with vendors. Technical writers should be capable of planning and controlling these processes and also monitoring their effectiveness and efficiency.

Module 5.1:   Management role and management tasks

Justification

To fulfil the requirements of the top management and make the in-house information development processes effective and efficient, it is important for technical writers to know, what management is, what the tasks of management involve and how the management process takes place. Also, technical writers need to take on management tasks as part of their day to day business, in particular, when it

involves managing external service providers or when sub-tasks of the top management are delegated to technical writers.

Contents

Management and Management function

- Definition
- Production factors
- Management techniques

Tasks of the company's management

- Management process and management tasks
- Strategy, formulation of goals, critical success factors

Leadership and Team

- Management style
- Team culture
- Team leadership and decision processes
- Conflict management

The most important learning objectives

The test candidates …

- know what Management is and the role played by managers.
- know the management process from the stage of defining strategies and goals to the controlling phase.
- know what the critical success factors are and how these are determined.
- know the most important tasks of the Management, such as planning, organization, leadership, controlling, and also know how decision processes take place.
- know how the management tasks are realised as part of the management process.
- know the management techniques, such as the "Management-by"-concepts, e.g. Management by Objectives, Management by Exception, Management by Direction and Control (MbDC).
- know the basics of team leadership, such as team culture and various management styles, know how the decision processes flow and what principles need to be considered in the management f conflicts.

Module 5.2: Profitability considerations

Justification

Profitability considerations and cost calculations are part of the core issues dealt with by the Management, in particular, when it comes to competitiveness. In technical documentation, too, it is important to consider the process of value addition under economic aspects, in order to stay

competitive with one's department or service, and to be able to provide the justifications demanded by the Controlling.

In addition to this, when it comes to deciding on new projects, such as in introduction of an authoring system, technical documentation must be capable of conducting cost vs. benefit analyses, and presenting in a business plan when the investment may be expected to pay off, and providing justifications for the decisions based on economic considerations.

Contents

Cost structuring

Terms used in cost accounting (types of costs, cost centre, cost unit or sponsor)

The project calculation loop and calculation process

Stages in costing and determining the project costs

Cost calculations and profitability considerations

- Cost calculation models (breakeven analysis, simplified project calculation based on hourly rates)
- Calculations for cost comparisons
- Cost distribution sheet
- Amortisation calculations
- Value benefit analysis

The most important learning objectives

The test candidates …

- can break down the costs, e.g. into individual cost items and general expenses, fixed and variable costs, one time and running costs, simple and composite costs, actual, normal and planned costs etc.
- know the main terms used in cost accounting, such as type of cost, cost centres, cost units or sponsors.
- know the project calculation loop (planning, control, analysis) and the various types of calculation (preliminary calculation or costing, concurrent calculation, post calculation) in the phases.
- can plan and control the costs with a cost distribution sheet.
- know how a calculation is implemented, e.g. in the phases "Estimate and determine volume of work", "Assess effort", "Calculate the time required" and "Personal costs".
- know the three stages of cost calculation: capturing, calculating, use.
- can determine concrete project costs and name the influences that these are subject to.
- can carry out simple cost calculations and business feasibility analyses, such as cost comparisons, amortisation calculations, etc.

Module 5.3: Key figures

Justification

Numbers and figures such as the Balanced Scorecard are becoming increasingly important in managing companies, and managers ask for precise evaluation of all kinds of facts. "Precise" is often equated here with "quantified". With key figures, it is possible to render various aspects measurable and hence "quantify" them: for instance, economic values (e.g. costs), process values (e.g. run-through time), as well as criteria such as quality or employee satisfaction.

Key figures support the core management tasks such as planning, steering and controlling. Key figures are also being used to an increasing extent in technical communication, for managing the development of information, or for managing external service providers. That is why technical writers should know what key figures and scorecards are, how the key figures can be extracted and know what key figures are useful in technical communication.

Contents

Using key figures

- Definition of key figures
- Systems of key figures and scorecards
- Types of key figures
- Functions of key figures

Development of key figures

- Implementation of strategies and goals in key figures
- Steps in generating key figures
- Criteria for good key figures

The most important learning objectives

The test candidates …

- know what a key figure is, in contrast to indicators and structural data.
- know what key figure systems and scorecards are.
- know the types of key figures, such as their classification into process key figures, result or profit key figures, influence key figures or vendor key figures.
- know how to use key figures.
- can render facts or goals measurable.
- can suggest and use own key figures with the knowledge of the steps involved in generating key figures.
- can tell when a key figure can be considered to be good.
- know examples of key figures used in technical documentation, such as delivery reliability.

Module 5.4:   Process descriptions

Justification

In the context of quality management or certification audits, in particular, technical writing departments are expected to provide descriptions of their processes. Hence, technical writers must be capable of preparing process documentation.

But process descriptions are useful in other ways too. They bring an element of transparency in the processes: they capture in detail all the activities that are performed in the process and their inputs and outputs, and the responsibilities for these. Besides this, process descriptions also point out the interactions with the related business processes and interfaces with service providers and suppliers. They can be used to identify optimisation potentials.

Also, process descriptions can be used to create a common understanding of the processes, interfaces and requirements, which is useful in co-operations across various departments, in particular.

Contents

Definition of a process

- Company structure vs. process structure
- Standard processes and process variants

Process description

- Identification and definition of processes
- Functions or roles in the process, process input and output
- Process interfaces and implementation of responsibilities
- External process links

Visualising the process

- Tools for visualising the process
- Contents of process descriptions
- Methods for visualising processes

The most important learning objectives

The test candidates …

- ◆ can define what a process is, and know how the process organization and the corporate structures are related to the organizational structure.
- ◆ know the features that differentiate the standard processes from process variants.
- ◆ know how the processes in the company can be identified.
- ◆ know the aspects that need to be defined in the process descriptions, such as the roles or functions, input and output, responsibilities and process interfaces.
- ◆ know the tools used for visualising processes, e.g. Aris, Visio, MindManager.
- ◆ can apply the methods for visualising processes, such as the tabular description of processes or flow charts.
- ◆ know the symbols that are commonly used for process descriptions (e.g. in Aris).

◆ can depict the contents of process descriptions in documentation and visualisation.

Module 5.5: Management of internal and external interfaces

For developing product information, in most cases it is necessary to work with other departments. In some companies, procuring the information from other departments makes up about 60% of the effort involved in the creation. Besides this, in many companies the information development is done in cooperation with service providers, be it in the area of translation, printing or writing. This gives rise to interfaces that span several departments or divisions, or even locations and companies.

These interfaces need to be managed for a smooth and efficient cooperation. By optimising the cooperation, the efficiency of the technical documentation can be enhanced considerably: the effort needed for changes is reduced, errors are reduced and the development times are shortened. The management of interfaces differs from process management in that it is not possible to exert a direct influence on all the interfaces. It is indispensable for technical writers to know how co-operations across departments or divisions can be organized and managed.

Contents

Internal and external interfaces in technical documentation

Structuring the cooperation and information flows

- Organizing the flow of information
- Possibilities opened up by IT for information flows across several interfaces
- Organization of core processes: release, update and change management, translation management

Management of interfaces

- Definition and controlling of the inputs and outputs at the interfaces
- Evaluation of service providers
- Contractual and non-contractual regulations for the cooperation with external service providers

The most important learning objectives

The test candidates …

◆ know the characteristic features of interfaces, such as repeated cooperation.

◆ know which internal and external interfaces can occur typically in technical documentation.

◆ know how information flows can be designed at the organizational level, such as by defining obligations to deliver and fetch, by allocating responsibilities, etc.

◆ know IT solutions for an information flow spanning several interfaces.

◆ know how to design important processes spanning different interfaces, such as update and change management, release processes and translation management.

◆ know the criteria for evaluating service providers.

◆ know examples of contractual or non-contractual regulations and agreements with service providers.

Module 6:   Research

Modules: 6.1 Research in the authoring process

6.2 Research interviews

6.3 Research on the Internet

6.4 Written surveys

About the topic

No research, no text! Research means collecting all the information that is required for a project. The information collected should not be too much or too less, because procuring it costs time and money.

Everyone conducts research almost constantly: only, professionals do it more thoroughly. This module organizes the knowledge of professional authors into four sub-modules.

Module 6.1:   Research in the authoring process

Justification

Every kind of research falls under a production process. It ends in a publication, such as a user manual. Retaining control over this process and the ability to documenting it for the benefit of their clients is indispensable for professional authors. This documentation is also required whenever juristic confrontations arise.

Contents

- Search plan, time management and can be very time consuming
- Search protocol
- The search process: questions, hypotheses, procuring information, counter checks, archiving the results
- Ethical and legal aspects of the search

The most important learning objectives

The test candidates …

- ◆ can create a search plan for publication in the company.
- ◆ know what activities threaten to become time wasters in any search; getting too deeply involved in a topic, not knowing where to stop, asking too many questions.
- ◆ can conceptualise a search protocol.
- ◆ can plan and evaluate search processes critically.
- ◆ know the stumbling blocks that could lead to legal or ethical problems even in the case of official searches.

Module 6.2:   Research interviews

Justification

Talking to the developers, conversing with people in the marketing department, with the management, with customers - technical writers get their information from research interviews or interviews as well.

The success or failure of the research interview depends on many random factors, including influences over which the writer has no control: if the interview partner is in a bad mood or has problems with his business, an interview can fail, leaving no opportunity for the writer to get the required information.

Hence, it becomes all the more important for the interviewer to avoid any technical errors on their part and do their homework, and contribute to the success of the research interview.

Contents

■ Preparing for the research interview: Question catalogue, selection of venue, technology, scheduling, finding interview partners, compiling the materials

■ Conducting the research interviews: allocation of roles, start, question, strategies for asking the questions, probe further

■ The respondent's interests may differ or be at complete variance with those of the interviewer

■ Processing the research interview: evaluation, revert with additional queries

■ Eliminate disturbances

The most important learning objectives

The test candidates …

◆ know what they need to pay attention to while planning, executing and post-processing a research interview, for it to be successful.

◆ can develop a question catalogue.

◆ can characterise various kinds of interview partners and adapt to them.

◆ can assess the possibilities of recording techniques.

◆ can assess external influences that could have an effect on the interview.

◆ know the advantages and disadvantages of open and closed questions.

◆ know the questions that can be used to steer the interview.

◆ know the filters and their questioning strategies.

◆ know how to avoid disturbances in the interview and bring the interview back on track after minor disruptions.

Module 6.3:   Research on the Internet

Justification

It is quite natural that random matches can occur on the Internet, which is a huge, rambling search space. Apart from these random matches, professionals do manage to find what they are looking for on the Net.

Searching on the Internet is therefore an area of work where well trained technical writers excel. Because this is a place where information about technology especially can often be found with greater ease and efficiency than in conventional media.

Contents

- Searching for standards on the Internet or in libraries and issue points
- Literature search on the Internet
- Searching in databases that can be accessed through the Internet
- Working with search engines
- Newsgroups, forums and mailing lists
- Searching on the tekom WebPortal site
- The Internet offer for technical writers

The most important learning objectives

The test candidates …

- ◆ can search for standards in the Internet.
- ◆ know the possibilities various search tools for the literature searches in the Net.
- ◆ can in search in some of the databases of his choice in the Net.
- ◆ know the limitations and possibilities of popular offers such as the Wikipedia.
- ◆ know the limitations and possibilities of various search engines.
- ◆ can explain the benefits of using newsgroups, forums and mailing lists for the technical writing, with the help of examples.
- ◆ know the possibilities of searching in the tekom WebPortal.
- ◆ know the Internet addresses that offer search and investigation possibilities for technical writers.
- ◆ know about the options and limitations of internet research and Web2.0 platforms

Module 6.4:   Written surveys

Justification

One of the most frequently used forms of interviews is through email. It is a different kind of written survey that every writer should be familiar with.

Besides this written survey, technical writers also use the questionnaire, or procurement of information for a group of persons. They do not work with the scientific methods used by psychologists and

sociologists, yet they should be capable of to providing decision makers in their company with data, which can be used as a basis for creating documents and training material for the future. At least the principles of such a survey are an essential part of the toolkit of technical writers.

Contents

- Efficient surveys through email. Requirements relating to the style, content and structure of electronic mail
- The stages in the development of a simple questionnaire: forming a hypothesis, selection of random samples, operationalisation, designing the questionnaire, pre test, conducting the survey, evaluation
- Response rates, methods for influencing these
- Special forms of questions used in questionnaires

The most important learning objectives

The test candidates …

- ◆ know what properties of the email can make it a successful visiting card.
- ◆ can develop simple questionnaires for the field of technical writing, such as the level of satisfaction with a given documentation, from the stage of forming a hypothesis or addressing a question to the evaluation.
- ◆ know the special forms of questions and scaling methods that are typical for questionnaires.
- ◆ know the differences between the nominal scales, ordinal scales, interval scales and ratio scales.
- ◆ know methods that have a positive influence on the response rate.
- ◆ know the interface to professional survey methods.

Module 7: Creating multilingual documentation and localisation

Modules: 7.1 Basics of intercultural communication

                      7.2 Computer aided translation

                      7.3 Management of projects for creating multilingual documentation

                      7.4 Creating documentation for translation

About the topic

In the age of globalisation, creation of multilingual documentation is becoming increasingly important. It is not only the EU Legislation on the manufacturer's liability that has heightened the requirements for technical documentations: the customers' expectations are also increasing. Today, every user wants to obtain information in his mother tongue about the product he has purchased. At the same time, the number of countries to which goods and services are exported is also increasing, and with it the number of target languages. The handling of individual product documentation has also grown rapidly in recent years with the increasing complexity of products. Given these conditions, either the documentation creation or the translation can be done by individual persons and without using corresponding electronic tools.

In a rough overview, creation of multilingual documentation consists of two steps:

➥ production of the technical documentation in the source language

➥ Translation/localisation of the technical documentation into the target language(s).

To create high quality target texts within time intervals that are growing increasingly shorter, formulating the source text in a translation friendly manner has become an absolute pre-requisite. To do so, technical writers must be aware of the basics of localisation and intercultural communication and should be familiar with the way translators work, and the tools they use. It is only then that they can understand the specific requirements for the source text and how translation management and quality assurance can be done meaningfully.

Module 7.1: Basics of intercultural communication

Justification

To write texts that are suitable for translation and successfully manage projects in the translation domain, knowledge of the basics in the fields of intercultural communication, translation and localisation is indispensable. Technical writers must be familiar with the terminology and meaning of globalisation, internationalisation and localisation. They need to be sensitised to the problem of cross cultural communication and know strategies for avoiding expected difficulties. This module describes the general principles that are applicable to all kinds of intercultural encounters.

Contents

- Definition of terms and abbreviations (globalisation, internationalisation, localisation, special case: software-localisation)
- Translation theories, translation strategies
- Functional translation
- Translation of modularised texts
- Cultural models
- Comparison of the source and target texts to determine culture specific elements
- Culture specific styles of negotiation and strategies
- Culture specific conventions for text types

The most important learning objectives 9741971004

The test candidates …

- ◆ know the importance of multilingual technical documentation.
- ◆ can define globalisation, internationalisation and localisation and differentiate them clearly from each other.
- ◆ know the effects of the internationalisation processes on the subsequent localisation.
- ◆ know the special requirements imposed through the software localisation on technical writers and on other participants in the project.
- ◆ have an overall idea of the various translation theories and strategies.
- ◆ know what functional translation is.
- ◆ know the requirements and problems arising through the increasing modularisation of texts and the resultant shrinking of contexts for translators, and how one can solve the problems associated with this.
- ◆ be able to recognise the culture-specific elements in a text, and know how these can be modified and adapted during translation or localisation.
- ◆ are aware of their own cultural imprinting.
- ◆ are sensitised to the typical difficulties and misunderstandings in intercultural cooperation and know strategies for avoiding or defusing intercultural conflict situations.

Module 7.2:   Computer aided translation

Justification

An efficient translation process with consistent, high quality target texts as the output is quite difficult to image without the support of machines. Computer aided translation (CAT) begins with the use of electronic dictionaries and terminology databases and ranges through translation memory systems to fully automated translation (MT – machine translation). Even if technical writers are not themselves translators, they should be familiar with the basic functionality of these tools so that they can design their source texts in such a way that they can be processed easily and translated with these tools, and to adapt the management of information and data accordingly.

Contents

- ■ Electronic dictionaries
- ■ Terminology databases
- ■ Translation Memory Systems (TMS)
- ■ Software localisation tools
- ■ Machine translation / fully automated translation

The most important learning objectives

The test candidates …

- ◆ know electronic dictionaries and terminology databases that are available in the Internet.
- ◆ know the way a translation memory system works.
- ◆ know the differences between database based TMS and file pair based TMS.
- ◆ can differentiate between and evaluate the various types of matches in a TMS.
- ◆ can adapt texts or just produce them in such a way that the number of matches obtained on applying a TMS increases, or is high, thereby leading to greater / high efficiency.
- ◆ know the advantages as well as the disadvantages of a TMS to the various project participants (translators, client).
- ◆ know how already existing translations can be made available in the translation memory for future translations with the help of a so called alignment tool.
- ◆ know the way a software localisation tool works.
- ◆ know the exchange formats /standards for software localisation tools, translation memory systems and terminology databases.
- ◆ know the various principles of machine translation.
- ◆ know the strengths and weaknesses of MT.
- ◆ know what pre-editing and post-edition mean in MT and can estimate the effort and the associated costs in each case.
- ◆ know example and the costs of commercial programs (electronic dictionaries, terminology administration systems, translation memory systems, machine translation systems).
- ◆ can decide under what circumstances it is worthwhile to use a TMS or an MT-system.
- ◆ know a few basic strategies for evaluating a concrete TMS or software localisation tools for a specific area of application.

Module 7.3:   Managing projects for creating multi-lingual documentation

Justification

In view of the increasing requirements and the heightened pressure of time in creating multilingual documentation, an adequate project management is absolutely necessary for ensuring the quality of the documentation on the one hand, and for organizing the cooperation between large numbers of project participants on the other hand. Project participants could be the employees in one's company (product

developers, technical writers, layout experts/designers, internal translators, marketing managers, etc.), external translators and/or localisers, translation service providers etc.

Contents

- DIN 2345 "Translation Contracts"
- Workflow for the creation of multilingual documentation
- Qualification of translators, localisers
- Definition and allocation of translation orders to external service providers or freelance translators
- Administrative tasks
- Quality assurance

The most important learning objectives

The test candidates …

- ◆ know standards (e.g. ISO 17100 "Translation Contracts")
- ◆ know what the workflow looks like or what it should look like, from the production of the source text to the publication of the entire documentation in all the target languages.
- ◆ know where and between which participants in the workflow to incorporate feedback loops.
- ◆ can assess the qualification of translators/localisers.
- ◆ can estimate the flow with respect to time and the costs of a translation order.
- ◆ know that exact matches and fuzzy matches from a translation memory should be taken into consideration while negotiating the price, and know how this is to be done.
- ◆ know what information should go into a translation order.
- ◆ know what material should be provided to the translator (terminology lists or terminology database, translation memory, parallel texts in the source and target languages, documentation on related or predecessor models, style guide, etc.).
- ◆ know the meaning of "by-products" in the translation process (mainly the updated versions of the terminology database and translation memory) and know the corresponding administration tasks of the technical writer (archiving and updating the multilingual data bases, administration of the translator and order data, etc.).
- ◆ know the strategies and technological possibilities for ensuring consistency and uniform style, also while distributing the starting material among various translators or teams of translators.

Module 7.4:   Creating documentation for translation

Justification

Every factor in the production of the starting text, which makes the subsequent localisation easier and hence faster, is an important cost factor. The greater the effort that is invested in the internationalisation of the source texts, the easier and less error prone the subsequent localisation processes into the various target languages will be.

The main goal here is to create texts that are largely culture neutral. Other requirements are comprehensibility, absence of ambiguity and consistency. These goals can be achieved through a continuous set of controlling options: starting from the authoring guidelines (Style Guide) to the use of controlled language. Compliance with the rules is monitored either by technical readers or test programs, or the so called Controlled Language Checkers.

Contents

- Suitability for translation of a source text with regard to natural translation (human translation)
- Suitability for translation of a source text with regard to a translation using a translation memory system (TMS)
- Suitability for translation of a source text with regard to a fully automated translation
- Writing technical documentation with suitability for translation
- Culture neutrality of texts and images
- Authoring guidelines /Style guides (development, distribution, use, checking)
- Controlled languages
- Language technologies for checking the style, grammar, orthography and terminology (Controlled Language Checker)
- Future trends

The most important learning objectives

The test candidates …

- ◆ know the quantitative and qualitative advantages of source texts appropriate for translation.
- ◆ know how a layout and wording that are appropriate for translation appears in principle, if the source text is then going to be translated a) by humans only, b) with TMS-support or c) in fully automatic manner.
- ◆ know to what extent standardization and modularisation of texts (such as through content management systems) can enhance their translatability on the one hand, ore restrict it on the other.
- ◆ know the positive influence of program automation on the translatability (e.g. automatic creation of index or table of contents).
- ◆ can design illustrations in a culturally neutral manner.
- ◆ can handle the authoring guidelines well (from the creation and processing to checking the compliance with rules).
- ◆ know some of the important controlled languages and the history of their origin, their original goals, etc. (especially Simplified English, since there is no established company specific or domain specific controlled language as yet).
- ◆ can name and assess the advantages of controlled languages for translators and recipients and producers of texts.
- ◆ can enumerate the problems in the introduction and use of controlled languages, and explain how these problems can be avoided.
- ◆ can assess whether the use of a controlled language would be profitable for a company.

◆ know functions of commonly used Controlled Language Checkers for quality assurance, and the way they work.

◆ will be familiar with the future developments that can be expected in the area of language controlling (e.g. authoring memory programs, Automatic Rewriting Systems).

Module 8: Terminology

Modules: 8.1 Basic principles of the theory of terminology

                 8.2 Terminology databases

                 8.3 Terminology management

About the topic

Through the increasing specialisation in science, technology and business, it is not only specialised technical knowledge that is growing, but even the corresponding technical vocabulary (terminology) is growing steadily. To communicate specialised technical content without ambiguity and without contradictions, a defined and consistently used terminology becomes necessary.

Terminology is an important quality factor in technical writing, because using unclear, wrong or inconsistent terminology can have costly negative consequences:

➡ The reader (end user, supplier, employees from other departments) fail to understand the technical documentation correctly, or do not understand it at all.

➡ The translation of the documentation becomes difficult.

➡ Electronic translation tools (mainly translation memory systems) cannot be used efficiently.

➡ The image of the product or company suffers.

➡ Ambiguities in terminology can have legal consequences.

The basic pre-requisite for a terminologically consistent, standardized creation of documentation is the compilation, management and application of a terminology database in at least one language. This should contain the relevant denominations or terms, definitions of concepts, notes on the usage of the terms, particularities that are specific to the company, etc... If the documentation is intended for translation, then multilingual terminology databases will be needed (source and target language(s)), which help in optimising the translation workflow and in making the target texts consistent, unambiguous and hence qualitatively better.

The technical writer should have mastered the theoretical principles in the theory and application of terminology in order to be able to compile, process, update, represent and use the terminology databases appropriately: or, in short, to be able to "manage" the terminology. For this, he will require knowledge about the relevant standards and guidelines as well as the software tools for terminology extraction and terminology administration (terminology databases) that are commonly available in the market, besides theoretical knowledge. He should also be acquainted with the basic working of electronic tools for terminology controlling.

Module 8.1:   Basic principles of the theory of terminology

Justification

For carrying out professional terminology management, some basic knowledge of the theory of terminology is necessary. The terminology theory is defined as the "science of terms and their designation or definition as used in technical parlance" (DIN 2342). It provides the theoretical basis for the subsequent practical terminology work or terminology management.

Contents

- Definition and demarcation of technical language and technical communication
- Semiotic triangle / three part model of the word
- Formation of terms / Patterns of word formation
- Systems of concepts, associations of concepts
- Definitions
- Terminology work as practical application of the theory of terminology

The most important learning objectives

The test candidates …

- know the most important standards related to terminology work (DIN 2330, 2331, 2332, 2340, 2342).
- can define the term 'technical language' and know the problems of demarcation from the terms used in common parlance, and in the language as a whole.
- know the relation between technical language and technical communication vis-à-vis terminology.
- know the semiotic triangle, that is, are capable of clearly distinguishing between a term, a concept and an object.
- know the existing patterns of technical word formation (terminologisation, word composition, loaning, loan translation etc.).
- know the aspects that need to be considered in coining new terms (derivability, motivation, freedom from connotations, pronounceability etc.).
- know what synonyms, homonyms, polysemes and equivalents are.
- can recognise different kinds of terminology systems (hierarchical, non-hierarchical and mixed) and create them independently.
- know the importance of definitions for the terminology work, the various kinds of definitions and the requirements that they need to fulfil.
- know the difference between descriptive and prescriptive/normative terminology work.

Module 8.2:   Terminology databases

Justification

Terminological data are managed these days in databases, mostly in special concept oriented terminology databases that have interfaces with the authoring systems and translation memory systems. Unlike printed books (dictionaries, terminology compilations etc.), these databases have the huge advantage in that they do not become obsolete as quickly and are also considerably easier to use. They also enable project teams that are located at different physical locations to access common data on the intranet or Internet, through web interfaces.

Technical writers should be familiar with and able to handle the functionalities of the terminology management systems that are commonly available in the market.

Contents

- ■ Terminology management programs that are commonly available in the market
- ■ Entry structures, field types or data categories
- ■ Working with in-house and third party databases
- ■ Importing and exporting terminological data, exchange formats

The most important learning objectives

The test candidates …

- ◆ know the commonly used terminology management programs and their core functionalities.
- ◆ know what a professional concept oriented entry structure looks like.
- ◆ know the advantages of concept oriented databases over term oriented databases.
- ◆ can create and manage their own databases in a terminology management software. This includes the following aspects: developing a database structure, creating the database, entering records, extending/modifying records, executing search queries, importing and exporting data, creating a print version (for instance, as a glossary to a manual).
- ◆ know some of the important freely available terminology databases on the Internet (e.g. EURODICAUTOM, the online database of the EU).

Module 8.3:   Terminology management

Justification

Professional terminology management enables the consistent use of unambiguously defined terms in a manner that suits the target group. This enhances the quality of the technical documentation with regard to its comprehensibility and translatability. In addition to this, the terminology management also creates a certain corporate identity and improves the image of the product or company. Terminology management consists of the following broad areas: terminology extraction (culling terminology from texts), terminology clean-up, terminology management (usually in databases), terminology representation/ terminology distribution (e.g. electronically on the intranet or Internet or in the form of a printed glossary) and terminology control (either through human verification and checking or by using language controlling tools).

Contents

■ Method for extracting terminology from bodies of texts in a single language or multiple languages (manually and using tools)

■ Terminology clean up and prescriptive terminology work

■ Terminology control

■ Language control programs and hence terminology control programs that are available in the market

■ Organization of the terminology work in the company

The most important learning objectives

The test candidates …

◆ know the advantages of consistent use of terminology appropriate to the target group.

◆ know that a comprehensive terminology management requires a large number of players and a constant exchange of information and data, which means strict guidelines are to be established while assigning roles and permissions.

◆ know the basic procedures for terminology extraction.

◆ know the advantages and disadvantages of machine aided terminology extraction.

◆ know the main focus of prescriptive terminology work or terminology control: Defining the preferred terms, rejecting certain synonyms, defining the preferred spelling, defining the areas of application or use for specific terms (e.g. depending on the target group).

◆ know that existing terminology data should be checked and cleaned up regularly, and know why and how this has to be done.

◆ know the basic working of the so called Language Checkers or programs for language control and hence also terminology control.

◆ can compare human terminology control (done by the creator of the text and/or reader) and machine aided terminology control and explain their respective advantages and disadvantages.

◆ know the typical forms of organization of terminology work in the company, e.g. terminology groups.

Module 9: Design and visual appearance/layout

Modules: 9.1 Typographical principles

9.2 Layout principles

9.3 Introduction to working with layout programs

9.4 Designing GUIs

9.5 Website designing

About the topic

The acceptance, comprehensibility and implementability of user information depend to a great extent on the way they are presented visually. Knowledge of typographic principles and suitable forms of layout depending on the selected medium is indispensable for this, as is the knowledge of the relevant layout programs for their technical implementation.

Technical writers must be in a position to develop a visual outline that is in accordance with the contents, which is also in keeping with the expectations and habits of the users.

This Qualification Module will build up knowledge and skills that benefit all those who are involved in the following ways:

1. The author: The author can implement the contents that he has conceptualised effectively and in a manner that is appropriate for the goals, in a suitable visual form and hereby shorten the designing process.

2. The company: Design that is aligned with the content and is appropriate for the users increases the acceptance among users for the information and hence of the product.

3. The customer: Typography that is suitable for reading and uncluttered, clear layout support the user in implementing the contents quickly and confidently.

Module 9.1: Typographical principles

Justification

Regular typography creates the optical prerequisites for rendering texts comprehensible and making their contents accessible to readers. Typographic errors lead to misunderstanding or wrong actions and reduce the acceptance of the text on the whole.

Contents

- Developing the script
- Introducing and building up font families
- Recognising and selecting suitable font families
- Font dimensions and the typographic parameters that are to be derived from them
- Line groups and line spacing

- Syntaxes and their suitability for specific contents
- Optic and graphic means for mark-up
- Visualising text structures
- Typography for the screen

The most important learning objectives

The test candidates …

- ◆ know the basic rules of typography.
- ◆ can prepare texts visually depending on the content, structure and medium.
- ◆ can recognise and eliminate typographic errors in the existing documents and screen representations.
- ◆ can formulate the typographic principles for authoring guidelines.

Module 9.2:   Layout principles

Justification

The layout combines the text, image and graphics into a coherent unit and represents the contents and their structure in an optimum form. It does so while taking into consideration the content goals, user behaviour and expectations, usage situation of the documents and aspects of replication and further processing.

Contents

- Classification of page formats as per DIN
- Basic structure of pages with regard to margins, print space and columns
- The typical parts of a page and their positions
- Structure of the print space, multiple columns, page grid
- Aspects of text-image allocation
- Creating the layout from a didactic point of view
- Basic forms of the layout
- Aspects of productions techniques

The most important learning objectives

The test candidates …

- ◆ know the layout relevant parameters of the page layout.
- ◆ know the basic forms of the layout and can assign them to the content outlines.
- ◆ can develop appropriate layout forms for concrete content outlines.
- ◆ can create the layout parameters for an authoring guideline based on this knowledge, with definitions for these areas.
- ◆ can evaluate existing layouts and improve them if necessary.

Module 9.3: Introduction to working with layout programs

Justification

The complete and technically correct implementation of a layout should be realised using only those software solutions that permit a high level of flexibility and precision in the integration of text and images and which are suited to required output processes. Technical writers should therefore have mastery over at least one layout program that meets these requirements.

Contents

- How layout programs work basically
- Layout programs and their suitability for technical documentation
- Text, image and graphic tools
- Incorporating text, image and graphics
- Development and allocation of style (format) templates
- Implementing layout forms
- Development of sample pages
- Dealing with colour
- Preparing for the output process
- Importing data from other layout programs

The most important learning objectives

The test candidates …

- ◆ have mastered one layout programme that is suitable for the technical documentation.
- ◆ can implement a required layout.
- ◆ can develop style sheets (format templates).
- ◆ can incorporate text, image and graphics.
- ◆ can handle colour in keeping with the concerned output process.
- ◆ can prepare documents for the various output processes.

Module 9.4: Designing GUIs

Justification

The preparation of contents for the screen as the medium of output requires media specific solutions in terms of typography, layout and navigation, which differ considerably from those for print. Technical writers must therefore know the specific technical requirements of the screen as an output medium and be capable of applying these to the contents.

Contents

- Colour space and colour composition for the screen
- File formats for image and graphics

- Optimising the illustration material
- Creating design templates
- Creating buttons and navigation elements
- Using filters and effects
- Keeping image areas free
- Composition of image elements

The most important learning objectives

The test candidates …

- ◆ know the requirements of the screen as the medium o output with respect to the colour space and the file format of the image components.
- ◆ can create design templates that are appropriate for the screen.
- ◆ can create buttons and navigation elements.
- ◆ can optimise and edit illustration material for the screen and mobile media.

Module 9.5: Website designing

Justification

The Internet as a communication platform is also making increasing demands on technical writers to learn the production techniques used there. The basic pre-requisite here is mastery over the page markup language HTML.

Contents

- Basics of Internet and the hypertext principle
- Setting up HTML documents
- Mark-ups and attributes in HTML
- Image formats for the WWW
- Creating Frame-pages and designing forms
- Texts in the WWW, formatting of text using internal and external format templates
- Introduction to WYSIWYG editors
- Types of navigation

The most important learning objectives

The test candidates …

- ◆ know the basics of the Internet and the hypertext principle.
- ◆ know the structure of HTML-documents.
- ◆ can create static HTML-pages.
- ◆ can use mark-ups and attributes for HTML.
- ◆ know the image formats in the WWW.
- ◆ can create Frame pages and forms.

◆ can format texts with internal and external templates.

◆ can develop navigation types that are adapted to suit the content structure.

Module 10: Graphic representation and digital image processing

Modules: 10.1 Design principles

10.2 Graphic representation of technical and abstract content

10.3 Digital image processing

10.4 Requirements of the pre-printing stage (pre-flight)

About the topic

The correct use of illustrations adds significantly to the quality of instruction manuals. Good illustrations save text, do not require translation, and are usually easier for the user to understand and increase the acceptance. The proper preparation of the illustration material is an important pre-requisite for incorporating them without problems into the layout programme and should be based on the requirements of the output process.

This Qualification Module will build up knowledge and skills that benefit all those who are involved in the following ways:

1. The author: Even at the concept stage, the author can think through and plan the illustrative contents and then accompany and monitor the process of creation. He can create simple illustrations on his own and optimize the illustration material.

2. The company: Succinct illustrations can replace text and save translation costs.

3. The customer: Illustrations that are appropriate to the purpose speed up comprehension and make it easier to understand and implement user information.

Module 10.1: Design principles

Justification

Illustrations must be designed aesthetically and functionally in order to fulfil the purpose of information optimally. For this, technical writers must be acquainted with and capable of applying the design principles.

Contents

- The biology of learning: How human beings process visual information
- Gestalt psychology
- The most important design principles
- Design principles in illustrated representations
- Evaluating the illustrative representations with due consideration for the design principles

The most important learning objectives

The test candidates …

◆ know how human beings process visual information.

◆ know the most important design principles.

◆ can conceptualise and evaluate illustrations with due consideration for the design principles.

◆ can make requests for specific improvements or implement them on his own.

Module 10.2:   Graphic representation of technical and abstract content

Justification

Good illustrations in technical documentation necessitate acceptance among the target group and increase the comprehensibility significantly. Technical writers should plan the use of images or illustrations, adapt their texts to suit the images and create the text - image relationship correctly. They must be capable of sketching illustrations and commissioning them, and creating simple illustrations on their own as well.

Contents

■ The language of illustrations and symbols as cultural heritage

■ Visual sign systems (iconic characters, indexical characters, symbolic characters, mixed forms)

■ Safety signs

■ Conventions of representation

■ Types of illustration in technical documentation (line drawings, photographs, photorealistic representation, screenshot, explosions, pictograms, etc.)

■ Types of visualisation in technical documentation (diagrams, tables, schemata, charts, plans, icons or symbols, etc.)

■ Focussed implementation of abstract contents in a corresponding visualisation

■ Limits to the interpretation of illustrative representations

■ Basic principles of perspectival representation (parallel perspectives, vanishing point perspectives, elliptic constructions)

■ Controlling and guiding the visual attention

■ Optimising the message conveyed by the illustration (cutting out of illustrations, omission, emphasis, enhancement, shadowing, etc.)

■ The combination of text and image

■ Systems used in creating text-image references

The most important learning objectives

The test candidates …

◆ know the various ways of illustrating technical contents and can select the type of representation and perspective that is appropriate to their purpose.

◆ can convert abstract contents into a purposeful visualisation in steps.

◆ can convert contents into illustrations and achieve a good combination of text and illustration.

◆ can define the contents of illustrations through sketches, commission illustrators or prepare simple illustrative representations on their own.

◆ can apply the systematic classifications to the relations between text and illustration.

Module 10.3: Digital image processing

Justification

The process of creating documents is now completely digitalised. The illustration material must be present in digital form, or has to be digitalised before it is incorporated into the layout programme digital. Technical writers must therefore be skilled in creating, editing and optimising digital images with respect to data technical aspects.

Apart from this, technical writers must have the basic knowledge of data formats in order to incorporate the illustrations with the correct resolution and colour depth and in the correct format in their documents.

Contents

■ Difference between vector illustrations and pixel illustrations (basic method of working, formats, conversion, methods of compression)

■ Using drawing programs

■ Creating illustrations (scanning, digital camera). Choosing the correct parameters (resolution, dimensions, colour depth, colour models, file format)

■ Importing and converting from CAD etc. Rendering vector illustrations

■ Basics of 3D-technology (3D-Models, Viewer, rendering in 2D)

The most important learning objectives

The test candidates …

◆ know the data technical structure of vector and pixel illustrations.

◆ know the parameters like resolution, colour depth and compression in the case of pixel illustrations.

◆ can evaluate the illustration material with respect to its technical suitability.

◆ can select the correct data format and optimise the illustration technically (resolution, colour depth, file format).

◆ know the differences between the file formats and can convert them from one to the other (or render them).

◆ know the basic principles of 3D-technology and can commission such illustrations.

Module 10.4:   Requirements of the pre-printing stage (pre-flight)

Justification

The various output processes for documents impose different requirements on the illustration material. In addition to the classic output process of printing technology, digital printing processes are playing an increasingly important role. Technical writers must the know the basic principles of this process and take them into account while preparing the illustration materials.

Contents

- How classic printing processes like offset printing, gravures and screen printing work
- Working of laser and inkjet printers
- Proofing methods
- Grids for gray scale and colour illustrations, tonal value, grid width and grid resolution, Moiré-illustration, grind angle
- Creation parameters (vector, pixel illustrations, line thicknesses, resolution of the illustration depending on the grid width, colour depth, control values, minimum values)
- Incorporation in DTP or text processing
- Particularities of file formats and compression processes (colour depth, artefacts, etc.)
- Special settings (overprinting, trapping, etc.)

The most important learning objectives

The test candidates …

- ◆ know how the commonly used printing methods work and their technical requirements.
- ◆ know the setting parameters and necessary minimum values for digital illustrations depending on the print process.
- ◆ can prepare illustrations and include them in DTP in such a way that they can be printed without problems.
- ◆ can assess existing illustration material with regard to their suitability.

Module 11: Online documentation

Modules: 11.1 Principles and concepts

            11.2 Formats, tools and techniques

            11.3 Online help

            11.4 Standards for online documentation

About the topic

Online documentation is the collective term for the contents of documentation that are available in electronic form. Online documentation is an evolution of the printed book, since the technical means of the electronic basis can also be used. In particular, the possibility of linking contents with each other through hyperlinks is a characteristic feature of online documentation. Links allow the user to access information quickly and jump directly between topics.

The creation of professional online documentation requires a high level of organizational skills and a sound knowledge of the technical possibilities.

This Qualification Module describes the knowledge and skills that are required for conceptualising and creating high quality online documentation and for assessing the existing online offers based on established quality criteria.

Module 11.1: Principles and concepts

Justification

An online documentation is made up of topics that are linked with each other through hyperlinks. The more the technology is used, the greater the importance of an appropriate selection of topics and their linking. Over the years, technologies and concepts that define the framework and a systematic approach to the implementation of online documentation have come into existence.

Technical writers must be familiar with online documentation. They must be in a position to assess the quality of the existing online documentation and create new, high quality online documentation.

Contents

- Topics
- Links
- Modularisation techniques
- Topic-oriented structuring
- Level technique
- Navigation and orientation help
- Multimedia elements
- Interaction

- Creation, updating and administration
- Quality criteria
- Workshop: Creating an online documentation with an online authoring tool

The most important learning objectives

The test candidates …

- ◆ know the basic components of online documentation and their features.
- ◆ know the difference between book-oriented and topic-oriented structures.
- ◆ know the quality criteria for online documentation.
- ◆ know how the outline for an online documentation is conceptualised.
- ◆ know the most important evaluation criteria for online documentation.
- ◆ can use at least one online authoring tool professionally and provide information about how it is used.

Module 11.2:   Formats, tools and techniques

Justification

The creation and use of online documentation require suitable tools. There is a rich landscape of tools, ranging from authoring tools to comprehensive authoring systems, which is growing quickly and changing rapidly. The format of the contents plays a decisive role in the electronic capturing, saving and reproduction. There are tool and manufacturer specific formats (such as the Rich Text Format (RTF) from Microsoft) or standard formats (such as HTML). Besides the general multipurpose formats, there are also specific formats and complete platforms for online help and dynamic contents.

Technical writers must be aware of the technical possibilities for the creation of online documentation and be able to select a suitable system for every requirement.

Contents

- Overview of the most important formats (PDF, HTML, …)
- Overview of tools, suitability, costs
- Decision criteria for the choice of systems
- Automation
- PDF (Creating PDF-documents, linking of PDF pages, navigation help)
- Workshop: Creation of PDF-documents for different requirements
- HTML (Creating HTML documents, linking of HTML-pages, navigation help)
- Creation of HTML documents for different requirements
- Requirements of different platforms, especially for mobile media and their operating system (e.g. iOS, Android)

The most important learning objectives

The test candidates …

◆ know the formats, tools and techniques for online documentation and can evaluate these in comparison, with arguments in support.

◆ know where it is possible to automat and how this can be implemented.

◆ know the possibilities of PDF. They can create and edit PDF. They know what settings they need to make in order to get good results.

◆ know the possibilities of HTML. They can create and edit HTML.

◆ can use at least one tool professional and provide information about its use.

◆ know the requirements of different platforms, especially for mobile media and their operating system (e.g. iOS, Android)

Module 11.3:   Online help

Justification

An online help is part of the standard configuration of any software product with graphic user interface. In other areas too, such as intranet solutions, online help has proved its merits for presenting information. It is certainly not easy to create online help that meets the requirements of everyone concerned: users expect quick and informative help. For authors of the help, it is important to be able to update the contents efficiently.

The various basic models of online help have evolved over the years: static context sensitive help, help in the form of tips, demonstrations of work steps that are incorporated into the help up to wizards guide users through complex tasks with the help of easy to use dialogue boxes. A professional help must be developed systematically, in accordance with a prescribed concept.

Technical writers must be able to create the online help, assess and update it.

Contents

■ Characteristic features of online help

■ Help platforms (mobile help, FlashHelp, HTMLHelp, JavaHelp, WinHelp, WebHelp)

■ Concepts and methods for online help

■ Authoring tools

■ Context sensitive help

■ Web-based help

■ Workshop: Creating online help with suitable author tools

The most important learning objectives

The test candidates …

◆ know what online help is.

◆ know the characteristic features of online help.

◆ know the common features and differences between the most important help platforms.

◆ know when to use which help platform.

◆ know the most important methods for the creation of online help.

◆ know the most important authoring tools for online help.

◆ know the different procedures in the creation of online help (new development, conversion, generation).

◆ can use at least one tool professional and provide information about its use.

Module 11.4: Standards for online documentation

Justification

Standardization is a core requirement for online documentation. Especially against the background of an all-round process-optimisation and automation, standards take on a new importance.

Technical writers must be aware of the most important standards and be able t work in accordance with them.

Contents

■ Standards and guidelines for online documentation

■ Standard languages for online documentation

■ Standardization techniques for online documentation

■ Standardized information architectures (DITA)

■ Practical examples of standard compliant online documentation

The most important learning objectives

The test candidates …

◆ know the most important standards and norms for online documentation and can provide information about the definitions laid down in them.

◆ know the advantages of standardization.

◆ know the possibilities for proceeding in accordance with standards in developing online documentation and can describe this process with examples.

Module 12:   Multimedia documentation

Modules: 12.1 Multimedia elements in documentation

12.2 Interactive programs

12.3 Multimedia tools and formats

12.4 Multimedia programming

About the topic

Today, multimedia technical documentation can be created using an average PC configuration. A large number of technologies are used for this. Creating graphics, making films and animating them, recording sound: all these require extensive knowledge and a certain amount of practice. This is accompanied by practice in handling the modern authoring tools, which often have a complex, object oriented programming language which can be used to use even databases and data in the XML format.

In the case of multimedia technical documentation, too, the organization and the didactic preparation of the contents are crucial to the quality. Added to this is the check to see if the multimedia technology really is the optimum medium for a given purpose.

Sound knowledge of tools and file formats are part of the basic knowledge of technical writers with a multimedia approach. It is only on the basis of this that it is possible to define whether a 3D model in the format X can be used to create a video film in the format Y, and how this can be done, the authoring tool with which this video format is associated and the programming technology that is needed for interactive manipulations. In the ideal case, technical writers should have executed a small multimedia project with a tool that is commonly available in the market.

Technical writers should thus be in a position to evaluate multimedia projects, know the most important tools and formats and be able to give a rough estimate the effort involved in the creation of multimedia products.

This Qualification Module will build up the knowledge and skills, which the participants will use as follows:

1. The author and/or client: Once the decision has been taken in favour of a multimedia project, technical writers should be capable of deciding whether they will execute the project with one or more service providers or if they possess the capacity, or if it is available within their company. They should be able to provide a rough estimate of the costs of such a project.

2. The company: Multimedia documentation can save costs and enhance its image.

3. The client's customers: the customer will receive a documentation that communicates complex relations in an optimal manner. By using different stimuli (acoustic, visual) and through interaction and feedback, the learning effect is achieved better.

Module 12.1:   Multimedia elements in documentation

Justification

Today, PC technology makes it possible to use multi-facetted, additional media. Sound, video and above all interaction make it possible to present the information in a more pleasant, appealing and "brain-friendly" manner. Sound and video can be incorporated easily into the existing systems. 3D engineering models can be used directly to impart knowledge, without necessitating the use of expensive 3D systems at the end-users' side or divulging secret know-how.

Contents

■ Suitability and advantages of multimedia technical documentation

■ The most important formats and tools for creating multimedia technical documentation

■ Creation and processing of digital sound recordings and video films

■ Incorporating multimedia modules in HTML, Word, PDF and other commonly used documents

■ Planning and conceptualisation of multimedia projects and editing of multimedia modules

■ Possibilities of using 3D-models in multimedia-modules

The most important learning objectives

The test candidates …

◆ know the advantages of multimedia technical documentation.

◆ know the most important formats and tools.

◆ know video and audio techniques and the most important principles in digital video editing and sound technology.

◆ know how multimedia modules can be incorporated into Internet pages.

◆ know how a multimedia project is planned and executed.

◆ know the approximate path from a 3D-model to an animated video film.

Module 12.2:   Interactive programs

Justification

Interactive programs must be planned and conceptualised thoroughly in order to keep the creation costs low and achieve acceptance among the target group. Here, it is important to be able to recognise the advantages and to keep the disadvantages as few as possible.

Contents

■ Advantages of interaction

■ Interaction models

■ Forms of multimedia representation

■ Classification systems

■ Navigation versions

- Programme and tools
- Target group analysis
- Creating scripts
- Creating and commissioning the creation of multimedia-modules
- Combining various multimedia-modules using an authoring programme
- Various kinds of interactive programs (e.g.. utility-films)
- E-Learning

The most important learning objectives

The test candidates …

- ◆ know examples of multimedia systems used in technical writing.
- ◆ know a few tools for editing multimedia-modules.
- ◆ can conceptualise and multimedia systems in a team and create individual multimedia-modules.
- ◆ know the basic principles of authoring programs.
- ◆ can create a script.
- ◆ know different principles of navigation.

Module 12.3:   Multimedia tools and formats

Justification

The knowledge of the advantages and disadvantages of the most important multimedia tools that are currently in use, such as Flash, Director and Toolbook as well as the language used for describing two dimensional vector graphics (SVG) is the basic pre-requisite for carrying out the conceptualisation and planning of a multimedia-project. In addition to this, knowledge of browser plug-ins is also important, if multimedia-modules are going to be provided not only on data storage media such as CD or DVD, but also on the Internet or intranet. Without these basics, a technical writer will not have the wherewithal to evaluate the possibilities offered by multimedia technical documentation. This knowledge is equally important in engaging external experts and in evaluating the offers of multimedia modules.

Contents

- The most important authoring tools, editing programs, 3D-animation programs
- The most important browser plug-ins for representing multimedia-modules
- Advantages and disadvantages of Toolbook
- Advantages and disadvantages of Macromedia Director
- Advantages and disadvantages of Macromedia Flash
- Advantages and disadvantages of SVG

The most important learning objectives

The test candidates …

- ◆ know what an authoring tool is.

◆ know the most commonly used formats and tools for creating or editing multimedia-modules.

◆ know what a plug-in is and know at least two of these.

◆ know what SVG is.

◆ know the strengths and weaknesses of Toolbook.

◆ know the strengths and weaknesses of Director.

◆ know the strengths and weaknesses of Flash.

Module 12.4:   Multimedia programming

Justification

Whether it is Macromedia Director with Lingo, Flash with Actionscript or Toolbook with OpenScript, most sophisticated authoring tools have a programming language which can be used to manipulate the individual objects such as texts, illustrations, films, sound or even 3D-models. Most object oriented programming languages allow these systems to work with databases and XML data and control the interactions. As an alternative to these tools, SVG can be used, for instance. With Javascript, it can also be used to control animation through programs.

Contents

■ Multimedia tools and their programming languages

■ The alternative SVG (Scalable Vector Graphics) and Javascript

■ Functionalities that necessitate programming

■ The programming language OpenScript from Toolbook

■ The programming language Lingo from Macromedia Director

■ The programming language Actionscript from Macromedia Flash

■ Advantages and disadvantages of combining SVG and Javascript with respect to the commercial tools with their programming environments

The most important learning objectives

The test candidates …

◆ know what functions and extensions can be implemented only with programming effort.

◆ know what SVG is.

◆ know what Javascript can be used for in conjunction with SVG.

◆ know the most important differences in the combination of SVG, HTML5 and Javascript over commercial tools and their programming environments.

Module 13:   Usability testing

Modules: 13.1 Principles of user oriented design

                  13.2 Overview of usability methods

                  13.3 Conducting a usability test

About the topic

Usability means that a system is usable in a given usage context (user, environment, situation), that is, it can be used effectively, efficiently and satisfactorily. In software ergonomy and product development, certain approaches to user oriented design have come to be established. These approaches can be transferred to a part of a product, such as the technical documentation.

This takes on a very special importance if we look at the importance of technical documentation in the various phases in the life cycle of a product. Especially in the commissioning, operation and maintenance of a technical system usability of technical documentation is very important. Through a user oriented documentation, the work processes can be improved and thus enhancing profitability and safety. Further, user oriented technical documentation allows the user to access the full scope of the system's functionality more easily and quickly. IN this way, he will be able to gain mastery over the essential aspects of the way the product works, and how to use it, that is, he can learn what functions a system has and how these should be operated.

The technical documentation must be designed in such a way that it can be used as easily and intuitively as possible by the potential user. The subsequent user groups could differ widely in terms of the characteristics and skills, depending on the area of application or qualification. Further, the context of usage, that is, the situation, in which the technical documentation is used, can be very different. That is why it is necessary to adapt the technical documentation to the subsequent users and adapt the corresponding usage context.

A range of usability methods are available for these. These methods can be used in usability tests to improve the user friendliness of the technical documentation.

This Qualification Module will build up knowledge and skills that benefit all those who are involved in the following ways:

1. The author: The author should have the knowledge for creating user oriented technical documentation, which will enable the subsequent user to perform his activities efficiently, effectively and in a satisfactory manner. To this end, he will get to know the necessary usability methods and the procedure followed in usability tests.

2. The company: A user oriented technical documentation increases the utility value of a product and can thus represent a competitive advantage. It reduces the time spent on learning the functions of a product, its operation and maintenance. Queries and service can be reduced.

3. The customer: Through a user oriented technical documentation the user will find it easier to learn and access the technical functions of the system. The user can utilise the full scope of functions of the system and use it efficiently. A user oriented technical documentation can

make the work processes easier during the commissioning, operations and maintenance, thereby making it more profitable and safer.

Module 13.1:   Principles of user oriented design

Justification

To create user oriented technical documentation, a standardized procedure such as the one described in the standard DIN EN ISO 13407 (user oriented design of interactive systems) is helpful.

The aim of this standardized procedure is to develop a user oriented system, in this context, a usable technical documentation. The procedure takes into account future users and their usage context. The result of the process should be a technical documentation that can be used effectively, efficiently and satisfactorily. Prototypes are drafted for this, and depending on the usability-method that is employed, tested with the help of future users.

Contents

- Goals of usability tests
- Usability process and product development (technical documentation)
- Standardized procedure for user oriented design (e.g. DIN EN ISO 13407)
- Understanding and specifying the usage context
- Understanding and specifying the users' concerns
- Task analysis
- Definitions of terms: effective, efficient, satisfactory
- usability criteria as per DIN EN ISO 9241-10 (appropriateness for the task, ability to describe independently, controllability, compliance with expectations, error tolerance, possibility of individualisation, conduciveness to learning)

The most important learning objectives

The test candidates …

- ◆ know the basic idea behind user oriented design (e.g. as per DIN EN ISO 13407).
- ◆ can describe the process of user oriented design as per DIN EN ISO 13407.
- ◆ know the importance of the terms: Effectiveness, efficiency, satisfaction and usage context (DIN EN ISO 9241).
- ◆ can analyse and describe the usage context and the user concerns.
- ◆ know the criteria for describing the usability as per DIN EN ISO 9241 and its meaning.

Module 13.2:   Usability methods

Justification

There are several possibilities for checking the usability of a technical documentation. Several usability methods have been developed in the social sciences and in the field of ergonomics.

The various usability methods can be used at different points of time in the development process. Further, the methods are differentiated by different criteria such as: the need for prototypes, the complexity, effort needed for setting up the apparatus, the necessary presence of users,...

The goals of the individual methods differ widely. Whereas individual methods check the design mainly, other methods are mainly suited for assessing the performance or functionality. it is therefore necessary to know the different methods and their areas of application, in order to be able to select from among a vast number of methods the most appropriate one for the given goal

Contents

- Classification schema for usability methods
- Description of individual usability methods, e.g. observation, surveys, thinking aloud, performance measurement, log files, semantic differential,...
- System for selecting suitable usability methods
- Possibilities for variations and adapting individual usability methods (e.g. interviews, semi-structured interviews, questionnaires,...)

The most important learning objectives

The test candidates …

- ◆ know different usability methods.
- ◆ know the goals and the possibilities of using the individual usability methods.
- ◆ can select the most suitable one for their purposes from among different methods.
- ◆ can apply at least one usability method competently in practice.

Module 13.3: Conducting a usability test

Justification

The creation of a user friendly technical documentation could necessitate a usability test with the participation of potential, future users. For this, it is necessary to plan and prepare the usability test. The usability goals must be defined. The potential user and the usage context must be analysed and described, in order to be able to select a suitable usability test for the given task. After selecting a suitable usability method usability test must be conducted and evaluated. The results of the usability test must be incorporated into the further development of the technical documentation.

Contents

- Definition of usability goals
- Analysis and description of users and usage context through a practical example
- Choice of suitable usability methods in accordance with the goals of the usability test
- Creating a test plan
- Preparing the usability test: Creation of documents (e.g. questionnaire, checklists, survey form for personal data,...)
- Test set up

- Test execution (flow and potential sources of error)
- Evaluating the tests and documentation of the possibilities for improvement

The most important learning objectives

The test candidates …

- ◆ can define usability goals for a technical documentation.
- ◆ can plan a usability test and create a corresponding test plan.
- ◆ can prepare a usability test and create the documents necessary for this.
- ◆ can set up an experimental environment in which a usability test can be conducted.
- ◆ can conduct a usability test.
- ◆ can evaluate the results of a usability test and derive suggestions for improving the technical documentation.

Module 14: Databases

Modules: 14.1 Basics: Use of databases and relational data modeling

14.2 Structured Query Language (SQL)

14.3 Application of SQL in database systems

14.4 Conceptualisation and implementation of database applications*

About the topic

Databases are often part of the tools in day-to-day authoring work. They often work in the background in authoring systems, in systems that assist translators, in document management systems, in process preparations and many other tools that are part of the information management in a company. Technical writers must be familiar with the basic principles and application scenarios of database technology, in order to be able to work successfully with these tools.

These modules present the theoretical basic principles of data modeling and the standardized database language SQL in a step by step manner. The participants will be implementing an SQL application practically while working with the database systems and their interfaces.

The Module 14.4 is optional (*) and can be executed as a project-like implementation of the contents of Modules 14.1 to 14.3. It is the starting point for developing own applications.

Module 14.1: Basics: Use of databases and relational data modeling

Justification

Numerous tools used in technical writing are based on the modeling and saving of data in relational databases. The users must know the basic principles of database technology in order to be able to work successfully with them. From the knowledge of relational data modeling the users can access structured information processing for saving and evaluating data.

Contents

- Introduction to the logical concepts of relational data maintenance
- Areas of application of relational databases in technical writing
- Data types and data integrity
- Normalisation steps from the 1st normal form to the 3rd normal form
- Entity relationship diagrams
- Conception of a sample database with up to 5 tables
- Demarcation of and prospects of object oriented databases
- XML-data in databases (saving and interfaces)

The most important learning objectives

The test candidates …

◆ know databases and the role they play in authoring work.

◆ using a sample system (document management system, authoring system, database publishing system, translation memory system etc.), can describe the tasks of the database component and the interfaces in the system.

◆ can explain the concept of normalisation.

◆ can model a small relational database up to the 3rd normal form.

◆ know the possibilities of saving XML-data in relational and object oriented databases.

Module 14.2:   Structured Query Language (SQL)

Justification

Structured Query Language (SQL) is the standardized query language that is used working with relational databases. Many relational database management systems (RDBMS) have graphic user interfaces which make it easier for users to formulate queries in SQL. In cases of conflict and while searching for errors, n understanding of this language is indispensable for working successfully with relational database management system.

Contents

■ SQL as the standard for data definition, data manipulation and data query

■ Data integrity and referential integrity

■ Basic commands (CREATE, INSERT, SELECT, UPDATE, DELETE)

■ Extended (group) commands (INNER and OUTER JOIN, GROUP BY)

■ Client server and multi-user concept

■ Outlook for XPATH and XQUERY for querying XML-data in databases

The most important learning objectives

The test candidates …

◆ know the possibilities of SQL and can carry out the basic data manipulations with SQL-commands.

◆ can set up tables, add, modify and delete data.

◆ can formulate SQL-commands that can be used to select and project data from several associated tables.

◆ know the mechanisms for ensuring data integrity and referential integrity at the level of SQL.

◆ know what query options exist for XML-data in relational and object oriented databases.

Module 14.3:   Application of SQL in database systems

Justification

Many tools used for the administration or publication of data are based on file oriented database applications (e.g. MS Access) or on complex client server systems. Distributed approach to working with these tools requires knowledge of using SQL in database systems and the interfaces used. Using real database systems, the theoretical SQL knowledge is implemented practically.

Contents

- Concept of file oriented database application (e.g. MS Access)
- Graphic interfaces for the definitions of tables, data queries and referential integrity
- SQL clients for server-database management systems (e.g. MySQL, MS SQL Server)
- DB interfaces with publication systems and DTP applications (ODBC)
- Front-end concept
- Exporting and importing XML data

The most important learning objectives

The test candidates …

- ◆ know how to work with clients for various database systems from actual practice.
- ◆ can communicate with the database systems both through the graphic user interface as well as through command line oriented clients.
- ◆ know the common interfaces that are used in publication systems and front-end applications for including databases.
- ◆ know the basic possibilities of using XML as an exchange format from relational database systems.

Module 14.4:   Conceptualisation and implementation of database applications*

Justification

The successful conceptualisation and introduction of database applications demands experience in implementing systems in which various software components interact with each other. Depending on the previous knowledge of the participants, selected tasks can be set and solved as a project. These projects could be taken from the following areas, for instance:

- Terminology databases
- Web content management systems, Wiki systems
- Online catalogues
- Database publishing systems, product catalogues
- Administration of customer data and product data, order processing

Module 14.4:   Conceptualisation and implementation of database applications*

- Document management systems and content management systems

Technical writers should possess an overview of the functionality of the said systems and have prior, relevant knowledge from other modules.

Contents

- Data modeling (normalisation and ER diagrams) for a practically relevant application
- Data type definitions, creating the database and the associated tables
- Linking of user interfaces for data entry and maintenance (forms, front-end)
- Developing the relevant data queries for using and evaluating the data
- Linking the usage or publication tools (Web and/or print)
- Data export and import through exchange formats

The most important learning objectives

The test candidates …

- ◆ can apply the theoretical knowledge and the experience with individual databases and with publication systems coherently in a practical project.
- ◆ know the procedure for implementing database systems (data modeling, planning the user interactions, linking the publication systems).
- ◆ know examples of the technical aspects the interaction with other software systems (interfaces).

Module 15: Quality management in technical documentation

Modules: 15.1 Principles of quality management (QM)

15.2 Quality management in technical documentation

15.3 CIP, QM-control loops and quality assessment in technical documentation

15.4 Practice of quality assurance in technical documentation

About the topic

The demand for quality has now reached the technical documentation as well. Problems certainly exist in implementing this in technical documentation. This is because the known quality management systems have so far dealt with the requirements of industrial manufacturing and to a lesser degree with the multi-facetted processes involved in the creation of technical documentation or user information.

But it is precisely in these areas that it becomes all the more difficult to find measurable criteria for checking the quality claims. Unfortunately, the users of technical documentation are often also the only testers.

This Qualification Module will build up knowledge and skills that benefit all those who are involved in the following ways:

1. The creators: Quality management allows the creators of technical documentation to ensure a controlled and reproducible quality of their work.

2. The company: A quality assured technical documentation will save on follow up costs through complaints and is often the sole means of accessing specific, quality assured markets.

3. The users: a quality assured technical documentation takes into account the users, the purpose of use and the place of use, besides the legal requirements of documentation.

Module 15.1: Principles of quality management (QM)

Justification

Quality management is now a permanent feature in the industry and is increasingly in demand in the field of technical documentation as well. To be able to build up quality management in technical documentation, one has to know and understand the need, the structure and the working of quality management.

Quality management controls a complex quality management system that has evolved through several stages of development. Quality management systems encompass the organization of staff, working aids and resources, execution and the organization (control) of these components in the interest of quality, to fulfil the requirements and tasks that are imposed.

The terms used frequently in the literature pertaining to quality management are explained in the standards governing quality assurance.

Contents

- Description of the various approaches (Quality inspection vs. Quality control vs. Quality assurance vs. Quality management vs. Total Quality Management)
- Definition of quality in accordance with ISO and other definitions, if any
- Goals of a quality management system
- The balance between quality and costs: Interplay of quality and costs

The most important learning objectives

The test candidates …

- ◆ know how quality management has evolved and the significance attached to it today.
- ◆ know the differences between various approaches to quality management.
- ◆ know how to define quality and the resulting problems.
- ◆ know the goals of quality management.
- ◆ know how quality and costs are related and in what field of tension quality management exists.

Module 15.2:   Quality management in technical documentation

Justification

To ensure that quality management systems are also of a high quality, there are standards that are used to certify the internal quality management systems in a company. Technical documentation is also included under the certification to an increasing extent these days As part of the certification process, the required parts of the quality management and their practical implementation are checked.

Quality management does not just mean managing quality through planning, control and checking, but it also raises management issues such as the quality policy, responsibility and target planning.

Quality management consists of different parts. The quality management system and its parts are described in the quality management manual.

A comprehensive quality management does not just evaluate the results of a project or of a work process, instead, it also evaluates the processes, and is integrated systematically into projects through the so called quality gates.

Contents

- Certification of quality management systems / Certification standards and there relevance to technical documentation
- Process and methods used in a certification
- Parts of a quality management system / contents of quality management manuals
- Quality management as a management task
- Process oriented quality management and quality assurance in technical documentation projects

Module 15.3: CIP, QM-control loops and quality assessment in technical documentation

The most important learning objectives

The test candidates …

◆ know who can certify a quality management system and based on what standards.

◆ know how a certification process flows and what methods are used in it.

◆ know which components belong to the quality management system and what should go into a QM-manual.

◆ know what management tasks go hand in hand with quality management.

◆ know how quality management can be applied to (documentation) processes and integrated with documentation projects.

Module 15.3: CIP, QM-control loops and quality assessment in technical documentation

Justification

The core element of modern quality management systems is continuous improvement. This claim is implemented based on the process of continuous improvement, or (CIP, KVP in German) through so-called QM-control groups. Quality is planned and quality requirements are defined for these. In technical documentation the quality requirements come from customers (e.g. high usability), from law makers (e.g. compliance with standards), from the management (e.g. safe processes) and from the technical writer (e.g. implementation of TD know-how). To formulate the quality requirements or claims, modern quality management systems focus on the customer requirements as the core element. Hence, the control loop should include customer feedback. IN addition to this, it is also important to question the quality requirements thus determined with respect to their significance (how important) and the feasibility of fulfilling them (such as the associated costs). For a quality assessment, the development of quality criteria from the formulated requirements is the definitive starting point. Quality exists if the defined requirements are fulfilled.

After the quality check is conducted, the current quality is examined and measures for improvement are derived from the result. Since control loops can also detect deviations in the "human" part of the resources, the company culture should define these deviations or non-compliances as an opportunity for improvement, to prevent the non-compliances from being glossed over by the staff.

Contents

■ Significance of control loops for the CIP in quality management

■ Quality planning by determining the quality requirements and evaluating these

■ Development of quality criteria for the technical documentation and their implementation in test procedures such as checklists

■ Quality criteria from the checklists of tekom, RWTÜV, Stiftung Warentest and VDI 4500 and evaluation with respect to their measurability and the feasibility of fulfilling them

■ Conducting quality assessments or audits and presentation of the results

■ Quality improvement and quality culture in the company

The most important learning objectives

The test candidates …

◆ know what control loops are and how they can be used for the CIP under the quality management in technical documentation.

◆ can plan for quality and formulate the quality requirements of various departments and evaluate them.

◆ can develop measurable and achievable criteria for the technical documentation.

◆ know the various quality criteria of the checklists available in technical documentation and can evaluate and apply these

◆ can formulate and implement measures for improving quality from the results of quality assessments or audits.

Module 15.4:   Practice of quality assurance in technical documentation

Justification

Some methods have been developed over time for quality assurance in technical documentation. Each of these methods has its specific focus and time of application. Constant quality is achieved primarily through standardization. That is why these methods of standardization directly aid quality assurance.

In addition to this, there are various tools for quality techniques. Some of these, such as the FMEA, Mind-Mapping, fishbone diagram or even the quality control cards can be used in technical documentation as well. In addition to this, there are different methodical approaches to systematic quality assessment, such as heuristic evaluation or self-assessments, usability testing, customer surveys, focus groups, certifications, expert evaluations, benchmarking etc. Here, selecting the correct method for the intended goal is of primary importance.

Contents

■ Relation between quality assurance and standardization (process standardization, authoring guidelines, etc.)

■ Tools used in quality systems

■ Methodical approaches to quality assessment

■ Planning, Use and evaluation von quality assurance methods and techniques

The most important learning objectives

The test candidates …

◆ know the relation between standardization and quality assurance.

◆ know what tools are available in quality technology.

◆ know various methods of quality assessment.

◆ know the focal areas of these methods and how these methods work.

◆ know when to use which method.

◆ can use these methods and their results.

Module 16:   Software and hardware

Modules: 16.1 Hardware

                    16.2 Networks and operating systems

                    16.3 Commonly used software in technical documentation

About the topic

Technical documentation today is created exclusively on the PC, including the creation of text and illustrations. Technical writers prepare the layout and the data for handing them over to the pre-printing stage (pre-flight) or for further processing in interactive multimedia systems. The information they use is drawn largely from the associated systems.

Content management systems replace the individual desktop by linking a database system that spans the entire company. They enable the efficient administration of modules and their reusability in automated document generation.

Technical documentation exists largely in print form; it is also created for mobile media. This gives rise to factual or industrial films, animations for describing functions and processes, while product documentation is configured for cross media usage in catalogue and shop systems on the Internet; service documents are prepared as e-learning systems.

The knowledge of the PC as a tool is therefore an absolute must for technical writers. The author operates the relevant authoring systems and the associated tools on the PC.

The technical writer is not alone at his PC: he works with and as a part of a network with other departments in the company as well as with service providers outside the company.

This Qualification Module will build up knowledge and skills to enable technical writers to understand the software landscape that is used, and to use the information technology systematically and to advantage.

Module 16.1:   Hardware

Justification

In some companies, specialised writers are employed, who install the hardware and software as well as the networks that are used in the authoring work, and also maintain these. Hence, they need to have basic knowledge of system technology.

Contents

- Computer components and their technical data: PC-case, network part, fans, hard disc, drives and connectors, motherboard with sockets for the processor, storage modules and accessories such as network cards, video, audio and screen cards
- Monitor: CRT and flat screen monitors, monitor formats, multiple operations
- Scanners for copying and scanning, slide scanners and film scanners

■ Laser printers, inkjet printers, colour sublimation printers

■ external memory such as hard discs, tapes, optical storage media

■ Network/connections: LAN, Internet, USB, Firewire, W-LAN, Bluetooth

The most important learning objectives

The test candidates …

◆ can name the hardware components of the PC using their technical names and interpret the associated technical data.

◆ can put together the hardware based on the task and explain this with a simple practical example.

◆ can assemble the hardware parts independently and install the necessary software components for this.

◆ know the service tools, can test the system and detect errors (only Windows and Linux).

◆ can proceed systematically in case of errors and in case of malfunction, identify which component is likely to have gone wrong.

Module 16.2:   Networks and operating systems

Justification

The network and operating system of the computer forms the primary framework for its usage. Isolated computers differ essentially from computers that are installed as individual workplaces in a networked environment. Open networks and operating systems enable the individual adaptation of the desktop computer to suit the user. The hierarchically higher operational computer landscapes determine the choice of the network and operating system at the workplace, to ensure the integration of technical writing with the workflow of the company. Three different network and operating systems are used, as before (Windows, Linux, Apple). Dealing with these different network and operating systems, the interfaces between them, the transfer of data, the protection functions and the user administration are all part of day to day work.

As a basis for their work, the technical writers who specialise in the hardware and software will therefore have to know the relevant systems and have mastery over at least one of them.

Contents

■ Operating network and operating system

■ Configuration

■ User administration

■ Updates

■ Error search and debugging

■ System maintenance

■ Anti-virus protection

■ Service tools

■ System extensions (e.g. printer drivers, colour profiles, network)

■ Data backup

The most important learning objectives

The test candidates …

◆ know the basic differences between the operating systems (Windows, Apple, Linux) and can name their special areas of application, and their individual strengths and weaknesses.

◆ know the difference between open and closed operating systems.

◆ know the fundamental working of an operating system (files, sub-directories, network connection, printing, …).

◆ can install and configure the operating system as required.

◆ can update the operating system.

◆ can analyse and eliminate malfunctions in a systematic manner and.

◆ can maintain their system (micro-updates, defragmentation, etc.).

◆ can implement and maintain a closed security concept (Firewall, virus protection, backup, data mirroring, management of permissions, etc.).

Module 16.3: Commonly used software in technical communication

Justification

Using software for the creation and administration of technical communication is part of the day to day transactions of technical writers. For this, they will need to have a solid overview of the most important programs and tools.

Contents

■ Text processing (programs, useful functions, useful methods of working)

■ DTP programs (difference between the various programs, useful functions, meaningful approaches to work, possibilities of automation) preferably InDesign, FrameMaker and QuarkXPress

■ Programs for editing illustration files (changing the colours, sections or extraction, placeholders, masking, preparing for hand-over to publication systems)

■ Programs for drawing (programs, basics of vector illustrations, useful functions, meaningful approaches to work, converting illustrations)

■ Tools for creating DF-files

■ HTML editors, conversion to HTML

■ XML editors, conversion to XML

■ Translation Memories (TMS), Text-Checkers

■ How content management systems (CMS) work

■ Add-on and supplementary tools

The most important learning objectives

The test candidates …

◆ know all types of software programs that are used in technical communication, and can describe the purpose of use and the usage scenarios with examples.

◆ can evaluate at least two software programs each of the types text processing, DTP and editing of illustration for use in technical writing.

◆ can install the software that is relevant to technical communication and configure it, for instance, for common data usage (e.g. use of servers) and maintain it (update, debugging).

◆ know which software programs interact and in what manner in the authoring workflow, know the formats and interfaces and can put together and configure prototypical workflows.

◆ know how the translation workflow and the corresponding tools are integrated with the authoring workflow.

◆ know how content management systems are linked with the tool-concept in technical communication.

Module 17: Production

Modules: 17.1 Printing and replication

                  17.2 Customization

                  17.3 Outputting documents in PDF

About the topic

Technical writers who are in charge of the production of documentation must have basic knowledge of the production. Various output process such as offset printing, laser printing or electronic variants such as PDF and Web have an impact on the conceptualisation and the structure of a document. Even the different customization techniques that correspond to the individual purposes of use must be taken into account in the layout phase itself.

This Qualification Module will build up knowledge and skills that benefit all those who are involved in the following ways:

1. The author: Right in the layout phase the author can take into account the requirements of the output processes and the technologies used for the further processing.

2. The company: A reproduction and customization solution that is aligned with the purpose of use and the distribution channels takes the business conditions into account.

3. The customer: The goal-oriented preparation of documents ensures the handling and availability of documents.

Module 17.1: Printing and replication

Justification

The different printing processes mean different requirements, e.g. with respect to the layout, use of colour, resolution of pixel illustrations. Many processes in the so called pre-printing stage are now in the hands of technical writers. That is why the technical writer needs to know the output processes, so as to implement an optimum workflow.

Contents

- Process of offset printing
- Creating the print form
- Direct to Plate
- Direct to Print
- Printing on Demand
- Screen printing process
- Effects of the printing substrates
- Paper qualities

- Requirements for the print template
- Multicolour printing
- Imposition of print templates
- Calculations and proposal
- Handling printing jobs
- Laser printers and inkjet printers for individualised printing

The most important learning objectives

The test candidates …

- ◆ know the basics of offset printing and screen printing.
- ◆ can apply the requirements of the printing process to the document creation.
- ◆ know the factors that influence the costs in the printing process.
- ◆ can specify print orders and evaluate and compare offers.
- ◆ can handle print orders.

Module 17.2:   Customization

Justification

Depending on the scope and the purpose of use, documents are customized in different ways. The type of customization must be known and taken into account right in the layout phase of a document.

Contents

- Types of binding
- Materials
- Aspects related to shelf life
- Folding techniques
- Finishing techniques
- Production of special volumes (e.g. spiral-bound book)
- Registers and tabulators
- Customization of documents that can be added to
- Customization of packaging for CD
- Calculations and proposal

The most important learning objectives

The test candidates …

- ◆ know the various types of customization.
- ◆ are capable of selecting the customization that is appropriate for the purpose of use.
- ◆ are capable of creating their documents in tune with the customization.
- ◆ can specify requests and evaluate offers.

Module 17.3:   Outputting documents in PDF

Justification

To an increasing extent, manuals are being provided in addition to or exclusively in the electronic form. Here, the PDF-format plays a special role, because it is easy to create, can be viewed free of cost with any widely used browser and is printable. In addition to this, the pre-printing stage demands templates in the PDF format to an increasing extent these days.

Contents

- Basic principles of the Postscript and PDF formats
- PDF programs (Distiller etc.)
- Creating PDF documents, possible settings (for images, scripts, security, etc.) depending on the intended purpose of use
- Creating PDF from DTP (automatic folders, etc.)
- Linking of PDF pages, creating navigation aids (thumbnails, etc.)
- Tools for creating or editing PDF
- Inclusion of non-printable elements (animation, video etc.)
- Special problems with PDF (special characters, foreign scripts, etc.)
- Distribution of PDF (diskettes, CDs, download)

The most important learning objectives

The test candidates …

- ◆ know the possibilities of PDF from the user's point of view
- ◆ know the requirements place on print templates in the PDF-format in the pre-printing stage.
- ◆ can create and edit PDF.
- ◆ know what settings they need to make in order to get good results.
- ◆ know programs and tools for creating PDF.
- ◆ can plan the creation flow in such a way that the creation is as reliable as possible, and takes place automatically.

Module 18: Communication, rhetoric, conversation techniques and skills, presentation

Modules: 18.1 Communication

                    18.2 Body language

                    18.3 Speaking properly

                    18.4 Rhetoric

                    18.5 Conversation techniques and skills

                    18.6 Presentation

About the topic

Every technical writer needs basic communication skills. Cooperation in the project, the research interviews and many other events demand communicative skills.

Often, one expects authors to possess greater skills in this area than other participants in an event or conference. Ultimately, they are the experts on language and communication.

A certain amount of negotiating skills is acquired right from childhood, some of it may even be innate; but over and above these talents and skills acquired early in life, there is a certain knowledge of communication between human beings. This module deals with this knowledge.

Module 18.1: Communication

Justification

Technical writers must take charge of the communication, steering it and shaping it. They should avoid errors in communicating with their informants and business partners and with customers, and be able to correct these if necessary.

There are many different and contradicting theories about the basic principles of communication. This module is not concerned with differentiating between what is right and what is wrong. Rather, the intention is to get the technical writers to engage with the theoretical concepts dealing with communication.

The contents of the module are intended only as a suggestion, several other approaches are known, especially from psychotherapy. Understanding, paying attention, steering the communication and removing disturbances: these topics will be learnt through different theoretical approaches.

Contents

- Maslow's hierarchy of needs
- JoHari-window according to Ingham and Luft
- Bühler's organon model

■ The contribution of Watzlawick, Beavin, Jackson

■ Schulz von Thun's communication model, the four sides of any news

■ Transactional analysis according to Harris and Harris

■ Cooperative communication according to Horace Paul Grice

■ Actives listening according to Rogers

■ One-way communication/two-way communication according to Brocher

The most important learning objectives

The test candidates …

◆ know that successful communication depends not only on the good intentions of the participants, and can describe situations in which misunderstandings can disrupt the communication.

◆ know a few models of communication and can use these models to name and analyse some examples of successful and failed communication.

◆ know what they can contribute to avoid disturbances in communication.

◆ can use methods to avoid disturbances.

◆ know and have mastery over the techniques of active listening.

Module 18.2:   Body language

Justification

Anyone who understands the body language of the communication partner and can control the messages sent out by his own body to some extent at least has an advantage in communication.

Since international competition also means more frequent intercultural contact, technical writers should also understand those aspects of body language and of maintaining distances, which are primarily conditioned through culture.

Contents

■ Critical interpretation of the potency of body language

■ Posture

■ Eye contact, gaze

■ Mime

■ Gestures

■ Maintaining distance

■ Body language determined by cultural influences or other factors

The most important learning objectives

The test candidates …

◆ know what it means to emphasise your message through your own body language.

◆ can interpret some of the messages sent out by the body language of the conversation partner.

◆ know about the limited capabilities of body language and the dangers that lie in wrong and uninformed interpretation.

Module 18.3: Speaking properly

Justification

Correct speech can be learnt. Like singing or making music, it is not something that everyone can acquire; some talent is also necessary. That is why it is enough for technical writers to

1. master some basic rules of correct speech and

2. can tell, especially for multimedia projects and the spoken texts in them, when the help of trained professional speakers is necessary.

Contents

■ Pace of speech

■ Breathing

■ Pauses

■ Volume/Loudness

■ Emphasis

■ Transforming a text created for the print media into a text for lecture presentations

The most important learning objectives

The test candidates …

◆ can prepare a speech for presentation before a group of people.

◆ know exercises that can be used to improve spoken skills and enhance them.

◆ know a few traits that distinguish professional speakers (radio, television, theatre).

Module 18.4: Rhetoric

Justification

The art of disputing, the art of debate: or this is how the term rhetoric can be explained today. Many of the terms used in the subject of rhetoric are derived from ancient Greek, thus illustrating the fact that the basic patterns of argument, at least in European cultures, are quite independent of the time or epoch, but specific to this territory.

Knowledge of rhetoric enriches many texts, though not the conventional user manual. It is useful in verbal engagement, from the product presentation to the research interview.

The basic rules of logical reasoning can also be interpreted in a similar manner: as something that is shaped by time and culture. In technical writing, a reference to the Eurocentric roots of "our" logic is

important, to sensitise the candidates to the necessary 'difference' in proper argumentation with people from other cultures, such as from China and Japan.

Contents

- Tropes
- Sentence patterns
- What is the effect of tropes and patterns?
- How are they used in "the media"?
- Are there any signs of wear and tear?
- Differences between spoken and written text
- Logical reasoning

The most important learning objectives

The test candidates …

- ◆ can use rhetorical means.
- ◆ can assess the usability of means and explain which means should be used with caution.
- ◆ know a few simple logical conclusions, some wrong conclusions as examples.
- ◆ can differentiate between deductive and inductive reasoning.

Module 18.5:   Conversation techniques and skills

Justification

Discussions, conversations, conferences are a strain on the time budgets of decision makers. Well prepared and professionally conducted discussions yield results and leave the impression that the effort was worthwhile.

Since high communicative skills are expected from technical writers, they should know how to conduct meetings and conversations successfully.

Contents

- Tasks of the moderator
- What information about the conversation partner is useful in the preparations
- Definition of the goals: Goals and alternative goals
- Conversation strategies
- Conversation culture
- Strategies for conflict resolution
- Moderation and moderation techniques: Metaplan, index car query, opinion barometer and others
- Conversation strategies in quality assurance and in project management

The most important learning objectives

The test candidates …

◆ can moderate and lead conversations.

◆ can name the goals and alternative goals.

◆ know strategies for resolving conflicts.

◆ know the commonly used moderation techniques

◆ can develop concepts for moderation in quality assurance.

◆ can prepare for and lead project management meetings.

Module 18.6:   Presentation

Justification

Presenting the results of one's work, representing the company at trade fairs, congresses and at events, providing information about products, plans and projects: these are tasks that even technical writers have to succeed in once n a while.

This module names presentation techniques and introduces the technique literally: Presentation with transparencies and beamer-projection and with the help of presentation programs such as Microsoft PowerPoint.

Contents

■ The preparation: Topic and content, goal, audience, flow and organization

■ Material and technology: Venue, time, documents, invitation

■ Media concept and choice of media

■ Media: Flipchart, whiteboard, board, pin wall, overhead projectors, overhead transparencies, software and technology (beamer, darkening)

■ Outline of the contents

■ How we present ourselves

■ Dealing with the public

■ What to do in case of disturbances.

The most important learning objectives

The test candidates …

◆ can create presentations and present them.

◆ know the strengths and weaknesses of the various media.

◆ are capable of planning the use of various media and using them purposefully.

◆ know the requirements for a successful presence in front of the audience.