



Syllabus

Technical Communication Professional

Foundation Level

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0.5	12/31/2013	Created an initial version of the syllabus.
0.9	05/12/2014	Reviewed and introduced corrections.
1.0	06/30/2014	Applied ITCQF® template.
1.1	10/15/2018	Fixed reported bugs; updated learning objectives; fixed numbering and formatting issues; updated cross-references.
2.0	06/17/2020	Added sections on API documentation and help authoring tools (HATs); updated learning objectives; updated styling; fixed reported bugs.

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Introduction to this Syllabus

ITCQF® Certified Technical Communication Professional

ITCQF® Certified Technical Communication Professional is a comprehensive technical communication certification program developed in cooperation with recognized techcomm experts, and based on existing international standards. The program is designed to facilitate the learning process for aspiring technical communicators, as well as to supplement and organize the knowledge of already experienced techcomm specialists. Ultimately, ITCQF® provides a means to standardize the terminology, processes, and best practices used by professionals across the world in different organizations.

Intended Audience

The area of technical communication includes a number of different roles with different responsibilities and education needs. ITCQF® certification recognizes the common ground for all techcomm disciplines, and is designed to meet the needs of people with the following areas of expertise:

- Technical writing – the development of documentation content
- Technical editing – documentation evaluation and introducing corrections in terms of technical aspects, as well as linguistic correctness
- Graphic design – the creation of illustrative content for documentation purposes, like diagrams, schemas, etc.
- Information architecture – structural design of content to facilitate effective communication
- Usability/User experience/User interface design – the development of the interaction between users and products, with emphasis on simplicity and efficiency of the design to allow accomplishing user goals
- Technical training – preparing, organizing and conducting educational sessions for technology-related topics
- Technical translation – converting technical documentation to other languages and cultural contexts

Learning Objectives/Knowledge Levels

Learning Objectives are indicated for each section in this syllabus with Knowledge Levels classified as follows:

- K1 – remember
- K2 – understand
- K3 – apply

The Examination

ITCQF® exams are organized in a consistent way worldwide and are based on a precisely defined number of questions, distributed in accordance to the syllabus topics.

Exam Structure and Rules:

- Examinations will be based on the relevant, approved syllabus.
- Answers to exam questions may require the use of material based on more than one section of the syllabus being examined.
- All learning objectives in the syllabus are examinable.
- The examination comprises 40 multiple-choice questions.
- The number of points available in an examination is 40.
- Each correctly answered question is worth one point.
- The time allowed for the examination is 60 minutes.
- A score of at least 75% (30 or more points) is required to pass.

ITCQF® exams are administered by Exam Providers.

1 Fundamentals of Technical Communication

Learning Objectives

- LO-1.1 Recall the common objectives of technical communication (K1)
- LO-1.2 Give examples why technical communication is needed (K2)
- LO-1.3 Describe why technical communication is part of products and systems development and give examples how it contributes to end user perception (K2)
- LO-1.4 Explain expected qualities of a technical communication professional (K2)
- LO-1.5 Recall the psychological factors that influence the success of technical communication (K2)
- LO-1.6 Recall the professions related to technical communication and connections between them (K2)

1.1 What is Technical Communication

Technical communication combines a range of disciplines that work together to efficiently transfer specialized information to those who need it to accomplish a defined task or goal. The scope of technical communication may vary depending on the needs of an organization, but typically it encompasses the following disciplines:

- Technical writing – the development of documentation content
- Technical editing – documentation evaluation and introducing corrections in terms of technical aspects, as well as linguistic correctness
- Graphic design – the creation of illustrative content for documentation purposes, like diagrams, schemas, etc.
- Information architecture – structural design of content to facilitate effective communication
- Usability/User experience/User interface design – the development of the interaction between users and products, with emphasis on simplicity and efficiency of the design to allow accomplishing user goals
- Technical training – preparing, organizing and conducting educational sessions for technology-related topics
- Technical translation – converting technical documentation to other languages and cultural contexts

1.2 Business Value of Technical Communication

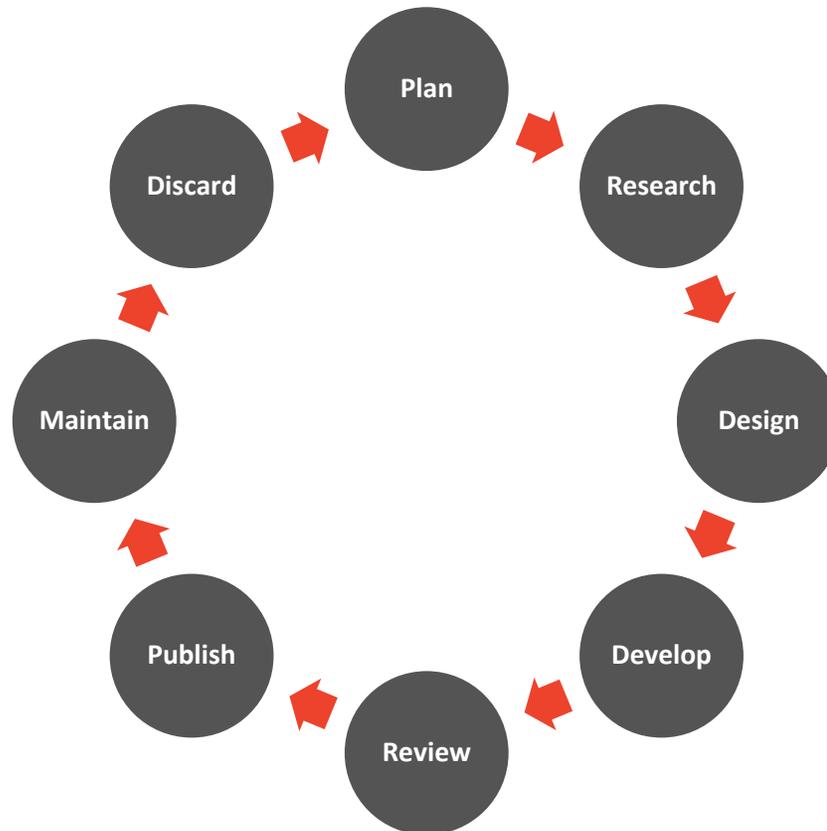
Technical communication, as a part of product development process has a great influence on the way an organization is perceived by customers and partners. A well-documented product delivered together with comprehensive training materials is more attractive to many customers, as it usually implies reducing cost and effort required for product implementation, usage and maintenance, as well as for staff training. Also, an organization that can afford providing such deliverables as part of a clearly documented process and according to recognized standards is more likely to gain the trust of possible business partners; therefore, technical communication may be successfully used as a valuable marketing tool.

Another important aspect and benefit of technical communication is allowing cost reduction for the organization in the area of product support. For example, if a product is shipped together with a list of frequently asked questions (FAQ), a troubleshooting section, or best practices recommendations, then customers are more likely to solve many of their problems without engaging the product support department. This results in lower expenses for the organization, but also in higher customer satisfaction.

On the other hand, unreliable, incomplete or missing product documentation may drastically reduce the value of the product and, in extreme situations, be dangerous to the users. If the users are not clearly instructed on how to deal with the product, they will most likely not be able to use it to the full extent, if at all, which may impair user satisfaction and the perception of the product and organization. What is more, any issues with safety instructions for the product may lead not only to legal consequences for the organization, but may also pose a serious threat to the health and life of the users.

1.3 Information Life Cycle

This syllabus assumes that information life cycle is independent of the product life cycle. Organizations may adjust product life cycles to their individual needs, whereas the information life cycle handled by technical communication professionals ideally should take the form presented below.



For a detailed description of each phase in the information life cycle, please refer to chapter 3 *Content Creation Process*.

1.4 The Psychology of Technical Communication

The process of creating technical documentation requires a slightly different mindset from that used in other stages of product development. While it is true that with the right attitude and set of skills developers or testers can document their products, transferring this task to a technical communication professional is typically practiced in order to maintain clear and narrow focus areas and ensure an independent perspective from professional writers.

In order to produce reliable product documentation, writers are required to develop a certain level of familiarity of the specific product. While keeping in mind that not all technical communication professionals must be experts in their technological area of focus, the minimum prerequisite is that their set of skills enables them to grasp the idea behind the product to the point where they themselves become apt users and understand the scenarios, best practices, as well as limitations for utilizing the product.

Writing in a product team is about collaboration. Well-organized and complete documentation or training is the result of team work and occurs between the technical communication professional and people acting at multiple levels in the organization's structure and at all stages of the process, starting from design creation, through knowledge transfer and content development, to reviews and feedbacks. Therefore,

writers need to demonstrate excellent interpersonal skills to successfully collaborate with individuals of different profiles. It lies in the writers' best interest to ensure a successful interaction and a constructive flow of information with product developers, testers, subject matter experts, as well as high management representatives. The most valuable assets that help achieve this goal include consistency and curiosity, as well as empathy in reference to peers and the audience. Most importantly, writers need to spread the awareness that all the persons involved in collaboration are pursuing a common goal, that is, the success of their project.

Since many deliverables of technical communication constitute a direct link between the product and its users, apart from technological aspects of the process, creation of such content requires the writer to also fully understand the psychology of the audience. Addressing their needs in an appropriate manner and delivering accurately composed content is essential in order to enable efficient communication. For example, a different linguistic register and level of complexity will be applicable when writing for a CEO of a company, for shop floor workers, and for qualified IT staff.

On project level, documentation development constitutes an additional layer for testing. Technical communication professionals usually act as early users of the product which implies sharing the responsibility with the quality assurance department in terms of reporting any encountered issues. Typically, this kind of activity occurs in the form of testing performed independently of the QA test plans, and is based on short-term needs of the writer. Such needs may include simple actions like reproduction of a particular situation in order to acquire a screen capture of an updated area in the product, but also completion of lengthy and complex usage scenarios required in order to prepare training materials.

1.5 Code of Ethics

The main responsibility of a technical communication professional is to deliver appropriate and accurate information to the users. At the same time, it is equally important to respect the confidentiality of sensitive or privileged information regarding the products, organization, customers, etc. In order to fulfill these responsibilities, apart from practical preparation, technical communication professionals need to understand and respect the ethical foundations implied by their profession. ITCQF[®] hereby states the following code of ethics for technical communication professionals:

Certified technical communication professionals shall:

- Conduct their work in accordance with best interest of their clients and employers, managers and colleagues, as well as respecting the public interest
- Maintain the highest possible quality standards of their deliverables with respect to the benefit of the product
- Act in benefit of the integrity and reputation of the profession, and adding value to the writer's community
- Remain fair and independent in their professional judgment

- Continually improve the quality of their own work, in terms of technical skills and with respect to the quality of the language they are using

1.6 Career Paths in Technical Communication

Since technical communication encompasses multiple disciplines, there are many possibilities for career growth. Technical communication professionals may choose the managerial path and become a:

- Technical communication leader – for managing small teams of technical communication professionals and reporting to technical communication manager
- Technical communication manager – for managing large teams or whole departments of technical communication professionals, including leaders, and reporting to higher management

Alternatively, technical communication professionals may develop their skills and specialize in one of the following positions:

- Technical writer
- Technical editor
- Graphic designer
- Information architect
- Usability expert
- User experience designer
- User interface designer
- Technical trainer
- Technical translator

Depending on the technical communication professional's background, experience and areas of interest, the typical career path may also include becoming a specialist outside of technical communication, in one of the following disciplines:

- Configuration Management
- Manufacturing
- Marketing
- Product Development
- Project Management
- Quality Assurance
- Technical Support

References

1.1, 1.2 Hannigan, 2008

2 Types of Technical Communication Deliverables

The purpose of this chapter is to systematize the outputs produced by technical communication professionals. To make it possible, this syllabus describes the most important deliverables by providing their definitions, explaining their purposes, intended audiences, typical structures, as well as their publishing characteristics.

Learning Objectives

- LO-2.1 Recognize the fact that technical communication products must be adapted to the context of project and product characteristics (K1)
- LO-2.2 Explain the difference between product documentation, process documentation and training documentation considering objectives, audience, delivery methods (K2)
- LO-2.3 Describe, using examples, common types of technical communication deliverables (K2)
- LO-2.4 Assign appropriate type of technical communication to particular audience and objectives (K3)

2.1 Product Documentation

This category of technical communication deliverables deals with user assistance related to products, including installation, usage, maintenance, customization, etc.

2.1.1 User Guides

A user guide (or user manual) is a document designed to provide assistance for a particular aspect of a product or solution. This type of documentation is universal: it is not limited to a single industry and is suitable for explaining simple usage scenarios to end users, as well as for providing guidance on complex systems to expert-level readers.

Purpose

A user guide may serve different purposes and explain the product from different perspectives. Therefore, depending on usage context and identified audience needs, many different types of guides can be created, like:

- Administration guides – for assisting users in system management
- How-to guides – for guiding the users through a procedure to achieve a specific goal
- Implementation guides – for explaining the procedure of enabling a solution

- Installation guides – for guiding through product installation process
- Quick start guides – for assisting in first-time use of a product
- Technical guides – for covering low-level procedures

Audience

Since user guides provide many opportunities in terms of how they cover product areas, different kinds of audiences can be accommodated with this type of documentation.

Structure

Since a user guide is designed to be read as a whole, it typically has a book-like structure and is divided into regular chapters supported by images and diagrams. In the case of very brief documents, a user guide may consist of only one chapter or even of a single instructional diagram.

Publishing

This type of documentation is usually delivered to the users in the form of a hardcopy or in a printable format (e.g. PDF), depending on the characteristics of the product. In the case of many software products, an electronic version might be preferred because of shipment channels (often downloaded instead of delivering physical media), as well as for the user's convenience – displaying the guide on the screen right next to their application is often more comfortable. Printed books are typically used when the products are not used near a computer.

2.1.2 Online Help

Online help is a topic-based document delivered together with software or operating systems. The document is designed to be displayed on the screen for immediate assistance when using IT products.

Purpose

The purpose of online help is to provide the user with quick assistance directly from the application/module to which it refers. The help should be accessible at any stage of product usage and displayed in the context of current state of the software or system. For example, when having trouble logging in to an application, opening the help from the login screen should instantly display the topic that deals with the subject of logging in instead of a default welcome topic.

Audience

This type of documentation is aimed to support end-users of a particular software product, regardless of their level of expertise. It may be successfully used as simple guidance for beginners, but also as low-level reference for expert users.

Structure

Online help should consist of topics covering different aspects of a product itself and its possible usage patterns. Topics may be categorized into books (which act as containers for similar or related content) and arranged in a tree structure.

Online help is typically not read in its entirety, but only individual pieces of information are used as a reference based on the user's short-term needs. Therefore, the main focus should be put on cross-referencing related content for quick access to further information, rather than on outlining the general content flow.

Publishing

Online help is meant to be presented on the screen, and invoked directly from the software to which it refers. It is a good practice to link help topics with particular screens of the product, so that the help can be displayed in the desired context with a single key stroke.

For example, if a user encounters difficulties with logging in to an application, then the help should be available to be invoked directly from the login window (using a keyboard shortcut or a dedicated button). Moreover, the help should instantly take the user to the section regarding logging in.

The tools for viewing this type of documentation usually offer a printing option, but it should only be used as a last resort in specific situations (collaboration, brainstorming, etc.). In standard scenarios, online help is not meant to be printed.

2.1.3 Mobile Application Help

This type of documentation is used in the case of software running on mobile devices: smartphones, tablets, e-book readers, etc. Since using online help or a user guide is not always convenient on smaller screens, mobile application help can be used to facilitate accessing the content and to optimize user experience related to documentation.

Purpose

The purpose of mobile application help is to provide users with instant assistance concerning the software they are using. This type of documentation makes it possible to adapt the way content is presented to the specific character of the user's device, mainly with respect to screen size and navigation possibilities.

Audience

Mobile application help is aimed to support different groups of end-users. These users could be mobile gamers – in such case a more casual approach may be appropriate – or business users which implies a formal style to be applied. There are also end users of consumer applications who stand somewhere between the aforementioned groups, so the help must be adjusted according to the characteristics of an application.

The users of software on mobile devices are reluctant to reach out to any printed documentation or to use another device (like a PC) to access the help from other electronic sources. The typical requirement of this kind of audience is to be able to receive help in the very place (their device) and at the very time (instantly) of using the software.

Structure

Since this type of documentation is presented on specific devices, the structure of the help should be adjusted to their limited field of view and navigation options. In the case of smaller applications, the documentation may be limited to only a couple of questions and answers or a single quick start topic. However, if the functionality is considerably more complex and requires more explanation, then a more organized structure is required. In such cases, the help may have topic-based organization similar to online help, but with navigation adapted to the device ergonomics.

Publishing

The help should be accessible directly from the software it refers to without the need of closing or interrupting the functioning of the application. It can be embedded in the software and displayed as one of the pages (or group of pages) inside the application. Alternatively, the help can be hotlinked in the application from an external source (e.g. company website) to be displayed using a browser or a particular content reader, with the application still running in the background.

2.1.4 Knowledge Bases

A knowledge base is a web-based system for gathering information on a specific subject, including frequently asked questions (FAQ), installation procedures, quick start articles, usage instructions, etc. It can exist as independent user assistance, constitute a container for other types of documentation, or act as a knowledge-sharing portal. A knowledge base is typically used for large IT products, but it can be successfully applied to other industries as well (for example, electronics, consumer goods, etc.).

Purpose

The main purpose of this type of documentation is to gather all available knowledge on a specific product in one place accessible for end users. It is used in cases where large quantities of content need to be presented, so other types of user assistance cannot be used efficiently, or when different types of content need to be collected in one place.

Audience

No audience restrictions apply to this kind of documentation, since its universal character makes it possible to address the needs of any type of user.

Structure

This type of documentation is very flexible in terms of structure, and can be implemented according to the specific needs of the intended audience. Depending on the needs, a knowledge base can be divided into different types of content, like FAQs, articles, forums, tutorials, and even download zone for patches, firmware, drivers, etc. Additionally, considering the volume of gathered information, it should also offer a search functionality for quick access to the desired sections when traditional navigation might not be efficient enough.

Publishing

A knowledge base can be published either online (for more widespread access) or within an organization's intranet (for internal purposes only). Typically, multiple authors collaborate or work independently to make their contributions in the form of small pieces of information, and in different points in time. Therefore, once a knowledge base is published, it no longer requires scheduling further releases cycles, as the content can be modified or expanded by any authorized writer at any time and supervised by assigned moderators.

2.1.5 Release Notes

This type of documentation provides an overview of changes in a particular version of a software product. It does not explain features in such detail as other documentation types.

Purpose

The purpose of the release notes document is to communicate changes introduced in a specific version of the product to end users. The changes may include feature additions and removals, as well as bug fixes and known issues. If necessary, release notes may also guide the users through any manual steps required to apply particular fixes.

Audience

Release notes are aimed at end users who plan to upgrade to a particular version of software. Such documentation may also be used internally before releasing the product and aim to facilitate the process of planning and developing other documentation. Release notes may also help in test development, based on the stated product modifications.

Structure

The structure of release notes is typically designed individually in each organization depending on the requirements and the type of information to be conveyed. The most popular structure consists of a short introduction followed by a bulleted list of modifications and/or known issues, together with the description of their impact on the product that each change entails.

Publishing

Since release notes are typically rather short (up to a couple of pages), they can be embedded in the software they cover (for example, as a pop-up window or as a part of "About" section) or published in the form of a short article in electronic form shipped with the software. The most common formats for publishing release notes are TXT, PDF and HTML. Providing release notes in printed form is rarely done.

2.1.6 API Documentation

API documentation is a deliverable providing information on how to use and interact with an application programming interface (API). It is a concise guide to an API's endpoints, their expected parameters and their data types, as well as possible return values and

formats. API documentation also frequently includes end-to-end tutorials and detailed example scenarios.

Purpose

There are two key objectives of API documentation:

- To explain the functionality and business value of an API, along with possible use cases
- To provide a quick reference for those working with an API

Audience

This type of documentation is addressed at two groups: decision-makers and developers. By explaining its purpose and possible applications, API documentation helps stakeholders assess the product's usefulness to their business goals. For developers, it is a key source of information on how to communicate with an API, which includes authorization and authentication protocols, a reference to endpoints exposed by the API, as well as comprehensive scenarios illustrating certain common use cases from start to finish.

Structure

Since API documentation is primarily a source of reference information, it needs to be easily searchable and is therefore web-based. It may include a range of topics covering an API's business value, use cases, and tutorials. However, most of the documentation's volume is devoted to its endpoints. Sections documenting individual endpoints typically contain a short description of their purpose, followed by information on HTTP methods that can be used to access it, and the arguments the endpoints expect when called. Response formats are also usually shown. Some API documentation is interactive and allows the user to call endpoints directly from documentation.

Publishing

This type of documentation is typically produced from code, either completely automatically or semi-automatically. Its content is sourced from developers' comments and the structure of the code itself. The build process may be triggered on demand, or integrated with continuous delivery pipelines to automatically reflect changes in software. API documentation is predominantly served to end users in a web-based format, such as a website on the Internet or a downloadable package of HTML documents.

2.2 Training Materials

The technical communication deliverables included in this category are used for facilitating the learning process.

2.2.1 Presentations

Presentations are training and/or informative materials displaying information in the form of a slide show.

Purpose

Presentations are used as reference when conducting training sessions or when presenting information on a particular subject. This type of materials helps the trainer or presenter maintain a fixed structure of the session and helps the attendees visualize, understand and memorize the information to be learned.

Presentations may be used to achieve different goals: educational, professional (e.g. marketing, announcements), entertainment, general communication, or any combination of the aforementioned.

Audience

This type of training materials can be dedicated for any audience, from product trainees, employees, end users, management boards, business partners, to general audience.

Structure

Typically a presentation consists of slides displayed in a fixed order together with presenter notes attached to each slide for reference. An example may include a welcome slide stating the subject of the session and document author/issuer, an agenda for presenting the structure and list of topics, content slides elaborating on the topics, and a closing slide providing reference materials and contact information. Depending on the needs, a slide may contain elements like text, images, audio and video, as well as animations used for ordering or emphasizing the content of a slide.

Publishing

This type of training materials may be published in electronic form that can be used by the presenters for displaying on the screen, or printed for the attendees as a reference.

2.2.2 Classroom Trainings

Classroom training materials are created for teaching groups of users gathered in one room.

Purpose

Classroom training materials are designed to teach attendees how to use a product by explaining theoretical aspects and conducting practical exercises with the supervision of a trainer. This kind of training often offers live usage of a product, which provides possibilities of serving both education and marketing purposes. The learning experience is additionally enhanced by such factors as the interaction between attendees, their contribution to the received information (sharing their experience), and the possibility to apply skills as they are learned.

Audience

This type of training materials can be dedicated for any type of users, depending on the character of the subject to be taught. A typical audience includes, for example, product end-users learning how to deal with the most important features, software architects learning the details of a specific platform, etc. It is, however, important to assume a particular level of users' fluency in the subject, and adjust the materials accordingly. If the assumed fluency range is too wide, then the complexity of materials may not be suitable for some trainees in the group (either too high or too low).

Structure

Classroom training materials typically consist of presentations with theoretical information used in combination with textbooks (in the form of user guides) for completing laboratories in a dedicated live or simulated environment. The materials can be supplemented by pre- and post-training surveys, as well as quizzes and completion certificates.

Publishing

Classroom training materials may be published as a set of presentations to be displayed by the trainer, printed textbooks for attendees, and an environment designed for product usage or demonstration.

2.2.3 E-learning

E-learning is a form of education via the Internet or from physical media. It makes it possible to complete a course, training session, or even university education without the need for physical presence in a classroom.

Purpose

The purpose of e-learning is to provide the attendees with training possibilities whenever classroom session is not possible or inconvenient to be organized. This type of training also helps achieve better cost-efficiency, since it does not require the organizers to involve trainers, to book a venue or to ship environments. Moreover, e-learning is designed to be the most accessible form of training – if the technological requirements are met, it can be completed at any time and any place chosen by the trainee.

Audience

E-learning is dedicated for any users who cannot, or do not wish to, attend classroom sessions.

Structure

These types of training materials may consist of presentations (optionally, with recorded trainer narration), laboratories and quizzes to be completed on a provided environment, as well as videos and audio recordings. They are typically available as complete sessions, optionally divided into chapters and sub-chapters, so that fragments can be completed at different occasions, and not necessarily in one sitting.

Publishing

E-learning materials may be published either online or on physical media. They are often provided in the form of an application or a web page, where individual chapters are available in a predefined order. It is a common practice to enable an individual session after a particular prerequisite is completed, e.g. chapter three of a session will be available no earlier than after the trainee has successfully passed chapter one and two.

2.2.4 Webinars

A webinar is an Internet seminar conducted with the use of a webcast technology providing bi-directional communication between the trainer and trainees.

Purpose

Webinars are used for training purposes whenever a classroom session is not possible and e-learning limitations make it difficult to explain a subject in a sufficient manner. The interaction with a trainer possible in webinars provides the attendees with the opportunity to clarify any doubts they might have in reference to the subject of the training. This type of communication is also commonly used for demo purposes, as well as for business contacts.

Audience

Webinars are suitable for trainees, business partners, customers, and prospects.

Structure

This type of training may be provided in the form of an online lecture with audio/video, often accompanied by a presentation. The lecture may be followed by a demo session, desktop and/or file sharing for more possibilities of elaboration on the subject of the training. Webinars may also end with tests or quizzes to evaluate the results of the training session.

Publishing

The materials used for webinars, like presentations, audio and video recordings, tests and quizzes should be published in electronic form to support the trainers for online use.

2.3 Process Documentation

This category of technical communication deliverables is dedicated for systematizing or monitoring series of actions that lead to achieving a certain goal.

2.3.1 Project documentation

Project documentation is a deliverable required to be created and approved before work on a project can be started. Examples of such documentation include project proposals, requirement specifications, feasibility studies, business cases, etc.

Purpose

The purpose of the document is to identify the scope of work required to complete a project, to explain why the project is necessary, and to propose ways of accomplishing it. This information often states the resources available to perform the necessary tasks, a technological perspective on the subject, and a plausible management plan.

Audience

This document is aimed at project stakeholders and decision makers in an organization, who analyze and approve project plans.

Structure

Project documentation is similar to user guides and has a book-like structure. The main sections that should be present in the document include problem statement (motivation), objectives (what should be done), problem solution (how to do it), and project management (who should do it and when it should be done).

Publishing

Project documentation is published in a printable format (e.g. PDF) or as a hardcopy, and sent out to all interested parties. After the document is analyzed by the stakeholders, all necessary modifications and improvements are introduced into the document based on the received feedback, and republished in the same form. If no further changes are requested and the document is approved by the required persons, then the final form of the project proposal is archived for future reference and retrospective.

2.3.2 Policies and Procedures

This type of documentation refers to a set of rules, principles and guidelines created or implemented by an organization in order to achieve its goals.

Purpose

Policies and procedures are created in order to systematize the way an organization should be functioning. This type of document is meant to increase an organization's transparency and process repeatability, as well as to support quality management and process improvement initiatives.

Audience

Policies and procedures are intended for members of a given organization with respect to their work characteristics, responsibilities, authority level, and department membership.

Structure

This type of documentation may follow the structure of a short user guide. Policies and procedures may include such additional content as mission statements, organization best practices, templates, etc.

Publishing

Policies and procedures may be published as a file (e.g. PDF) available for the staff of the organization, or printed and delivered to the interested entities as a hardcopy. Other possible options include wiki pages, independent diagrams, web pages, etc.

2.3.3 Reports

A report is an analytical document written to provide data on a particular subject to a specific audience.

Purpose

Reports are created for analytical purposes. They are prepared on demand (once or periodically) to provide the requesting party with the desired information in a presentable form. Reports play an important role in business decision-making, taking corrective actions, evaluation, etc. Examples include test reports produced for quality assurance leaders, sales performance reports for managers, or inventory reports for warehousing staff.

Audience

Reports are most commonly requested by managers, business partners, existing and prospective customers, etc.

Structure

The structure of this type of document depends primarily on the purpose and target audience of the report. If the report is intended to only gather raw data to be analyzed later by the requesting party, then using a spreadsheet format may be applicable – a table presenting data and/or charts for visualization. However, if the report is requested together with appropriate analysis on the writer's side, then a user guide structure will be more suitable to provide possibilities for elaboration on all relevant aspects of the gathered information.

Publishing

Depending on the needs of the requesting party, reports may be published and delivered in electronic form or as printed documents.

References

2.1, 2.2, 2.3 Alred, 2009

3 Content Creation Process

The purpose of this chapter is to provide a comprehensive description of the content creation process based on the information life cycle presented in section 1.3 *Information Life Cycle*. The description includes inputs and outputs of each phase, as well as the steps and roles required for completing the entire process.

Learning Objectives

- LO-3.1 Recall the fundamental five content creation activities from planning to maintenance (K1)
- LO-3.2 Recall different content creation activities, their inputs and outcomes and detailed steps (K1)
- LO-3.3 Describe importance of documentation project planning, information research, documentation maintenance, production and release and activities involved in these processes (K2)
- LO-3.4 Plan content creation activities for a particular technical documentation project (K3)
- LO-3.5 Describe the typical information lifecycle and tasks related to each phase (K2)
- LO-3.6 Write a schedule for a given technical communication task, considering prioritization and estimation of tasks and technical and logical dependencies (K3)

3.1 Documentation Project Planning

Inputs

A technical communication professional is responsible for collecting all the information required for documentation project planning:

- From any existing project documentation, like project proposals, requirements specifications, design specifications, etc.
- By analyzing existing versions of the product, its prototypes or demonstration materials
- By interviewing persons with knowledge relevant for documentation project planning

Outputs

After the documentation the project planning phase is completed, a technical communication professional should understand project objectives and constraints, documentation requirements, the intended customers and end-users of the product, as well as the available project budget, human resources, technology, and timeline.

As a result of documentation project planning, a technical communication professional should deliver:

- A list of documentation tasks in the project
- Estimates for completing the tasks
- A list of identified risks
- Information about identified dependencies

3.1.1 Project Goals and Constraints

In order to plan documentation activities in a reliable fashion, it is first necessary to gain a wider perspective on the entire project, and to understand its goals and constraints. Before proceeding with the planning process, a technical communication professional should gather the following project-related information:

General

- Intended end-users of the product and documentation
- The characteristics and purpose of the product
- The scope of features in the project
- Possible relations between this and other products (an independent package vs. part of a suite)
- Availability of the product, prototype or early version in the course of the project
- Product localization and customization plans

Release-related factors

- Product release strategy (single release or release cycle)
- Product and documentation update strategy: hotfixes, service packs, full versions, etc.
- Maintenance costs
- Support for released versions
- Update delivery channels

Standards that must be followed

- International, local and industry standards
- Accessibility standards
- Policies and procedures of the developing organization
- Copyright restrictions
- Policies on confidential and sensitive information

3.1.2 Documentation Requirements

When planning documentation, the technical communication professional should consider the following factors:

- Information management policies and procedures in the organization
- Standard document templates in the organization, including formats, styles, etc.
- Written specifications and other sources of information on the product
- Availability of the product, its prototype, or early versions for documentation developer's reference in appropriate phases of the project
- Availability of business and technical contacts with sufficient product knowledge

3.1.3 Infrastructure and Tools

Before starting a project, a technical communication professional should gather information on any requirements in terms of infrastructure and tools for creating, managing, publishing or displaying documentation. Before selecting a particular tool, a technical communication professional should make sure that its capabilities make it possible to deliver the planned documentation, including:

- Writing, formatting and editing text
- Creating or editing illustrations
- Reviewing content
- Testing documentation
- Publishing documentation

3.1.4 Available Resources

Technical communication professionals should verify the availability of:

- Themselves (holidays, vacations, other planned absences)
- The final product, its prototype or early version together with environment which makes it possible to use the product in accordance with the intended purpose
- The hardware and software for creating, managing and translating product documentation
- Environment for performing documentation tests
- Technical information sources, like subject matter experts, product developers, testers, product owners, business analysts, etc.
- Cooperating roles, like content editors, graphic designers, and usability experts
- Evaluating roles, like reviewers and testers
- Legal contacts
- Translators
- Printing and packaging infrastructure

3.1.5 Cost Estimating

A technical communication professional should contribute to project cost estimating by assisting in evaluating expenses in terms of:

- Documentation project management
- Documentation infrastructure and tools
- Business and Technical contacts (for knowledge transfer and reviewing)
- Documentation development and maintenance (writing, editing, illustrating, reviewing)
- Documentation production and delivery
- Documentation tests
- Training
- Translation and localization

3.2 Information Research and Design

Inputs

A technical communication professional is responsible for performing information research and design tasks based on:

- The outcomes of documentation project planning process
- Existing project documentation, like project proposals, requirements specifications, design specifications etc.
- Product demos
- The actual product, its prototype, or early version

Outputs

The outcomes of information research and design should be:

- Listed user roles and grouped into audiences
- Listed user tasks in the context of the audiences
- Identified required types of documentation
- Identified number and estimated size of documents
- Revised and estimated documentation tasks

3.2.1 Audience Analysis

At the beginning of the research, a technical communication professional should identify and list the user roles that will be using the documentation, and then group them into audiences that fit a similar product usage profile. The key factors in audience analysis should be:

- Product usage context and frequency
- The technical skills of the users
- Previous product experience (beginning end-user or trained solution implementer?)
- The working environment of the users (office work or field operations?)
- The language of the users (should the documentation be translated?)

3.2.2 Product Usage Analysis

Once the audiences are identified, a technical communication professional should list and analyze the tasks that each group of users is likely to perform when working with the product. This can be achieved by interviewing or observing users, by collecting information from user stories documents, via simple questionnaires or simply by simulating likely product usage scenarios.

The information to be gathered includes:

- The reasons for the task
- The frequency of performing the task
- Probable usage approach
- The order of performing tasks in a usage scenario
- Task prerequisites
- Task correction possibilities
- Task failure consequences

3.2.3 Documentation Design

Based on the results of the analysis, a technical communication professional can make a decision regarding the types of documentation that will suit each audience and the tasks they are likely to perform. Common factors to be considered when making the decision include:

- Information characteristics (complexity, size, etc.)
- Product and documentation usage environment
- Convenience of users
- Technical possibilities for development, delivery and usage of documentation

3.3 Content Development

Inputs

The inputs for content development include:

- The outcomes of documentation project planning process
- The outcomes of information research and analysis process
- Documentation design accepted by project stakeholders
- Agreed functional requirements for the product
- Product nomenclature agreed upon with the product team

Outputs

The output of content development is a draft version of documentation supported by a content management system (CMS).

3.3.1 Documentation Drafts

A technical communication professional should develop a documentation draft based on the following information:

- Documentation design
- Product requirements documentation
- Product design information
- The expertise of business and technical contacts and product team
- The content developer's own experience with the product

3.3.2 Work Organization for Content Development

Content development process requires technical communication professionals to properly organize their work. The recommended best practices for work organization include:

- Using a content management system for content storage and versioning, as well as for collaboration
- Defining (if not already done) and applying an organization-wide template for each type of documentation
- Following the content development process defined within the organization's policies and procedures
- Using workflow and issue management systems for better visibility of required activities in the project
- Using tools for reporting time spent on each activity for analyzing and fine tuning the work plan in the project, as well as for future reference when providing estimates in next product versions

3.4 Improvements and Corrections

Inputs

The inputs for improvements and corrections include:

- The outcomes of documentation project planning process
- The outcomes of information research and analysis process
- The outcomes of content development process

Outputs

The outputs of improvements and corrections should include:

- An evaluation plan in the form of a table
- Feedback on the documentation draft provided by relevant stakeholders in a previously agreed form
- A list of recommendations on fixing any identified issues both in documentation and the product, based on the collected feedback

- A recommendation on further evaluation cycles, if necessary
- A revised version of the documentation
- Suggested content development process improvements

3.4.1 Evaluation Planning

Documentation evaluation process is necessary in order to maintain the high quality of documents in any project, and consists of:

- Documentation review – evaluation of structure, formatting and styles, technical accuracy, scope and level of detail, consistency with the product, coherence, safety, etc.
- Documentation testing – evaluation of usability and functioning, like the possibility to display, browse and search on-screen documents, print quality and accuracy of index references for hardcopies, etc.

Evaluation Activities

Preparing for evaluation

A technical communication professional should prepare for evaluation in cooperation with project manager. Such preparations should include outlining evaluation requirements together with clear acceptance criteria for quality, necessary activities (scenarios and scripts) with appropriate roles assigned, as well as activity scheduling information. It should also be indicated how the evaluation will be measured and its results recorded.

Performing the evaluation

A technical communication professional should support a project manager in making sure the planned activities are being completed by the assigned roles in the agreed timeframes.

Analyzing evaluation results

When the evaluation is complete, a technical communication professional should analyze its results. Based on the conclusions of this analysis, the technical communication professional should prepare a list of recommendations on how to address the issues identified in the evaluation.

Revising the documentation

A technical communication professional should address the list of recommendations developed during evaluation analysis and introduce necessary corrections and enhancements to the documentation. Additionally, any issues reported to the product itself should be communicated to the development team, and, if necessary, a recommendation on further evaluation cycles should be communicated to project manager.

Evaluation roles

Apart from technical communication professionals, the roles involved in the evaluation process may include:

- Product managers – for a perspective on overall quality, business needs, strategic features and comparison with competition
- Technical editors – for a perspective on the documentation’s fulfillment of assumptions agreed on during analysis phase
- Developers – for a perspective on how the documentation covers advanced product features
- Subject matter experts – for a technical perspective on the subjects described in documentation
- Documentation maintainers – for special quality requirements, including documentation structure, updatability, and portability to new technologies
- Other technical communication professionals – for peer review and feedback from documentation development point of view
- End users – for a perspective on the accuracy and relevance of information, as well as the ease of use

3.4.2 Documentation Review

Documentation review should separately examine the documents’:

- Organization
- Technical accuracy
- Suitability for the intended audience
- Editorial consistency and linguistic correctness
- Safety instructions
- Legal accuracy

In cases where two or more reviewers provide conflicting feedback, an escalation path should be available in order to decide on accepting and implementing the changes.

3.4.3 Documentation Testing

The purpose of documentation testing is to validate and verify documents in relation to the product. Testing should be performed at each stage of product development, and both documentation system and usability testing should take place before the release of the product.

Documentation System Testing

Documentation system testing should cover the following areas:

- Documentation access channels
- Functioning of the system for contextually displayed information in on-screen documentation

- Documentation navigation features
- Documentation search functionality
- Table of contents and indexes
- Links and cross-references
- Expected warnings and error messages
- Instructions in the documentation and their effects

Documentation Usability Testing

Usability tests examine if the documentation answers the users' needs and is easy to find, understand and apply. High-level tests are most effective when performed by the users themselves (ideally, observed by experts who record and analyze their usage strategies, and the problems they found during work with the product), whereas low-level tests should be handled by usability experts to validate conformance to specified usability standards (if applicable).

These types of tests may be organized as a live activity, but also in the form of interviews, surveys or group discussions.

3.5 Document Publication and Maintenance

Inputs

The inputs for document production and maintenance include:

- The outcomes of content development process
- The outcomes of improvements and corrections process

Outputs

The outputs of document production and maintenance should include:

- A verified version of documentation
- Approval for documentation publishing
- A final version of documentation
- Documentation release with the use of a content management system
- A procedure for documentation upgrades and maintenance with the use of a content management system

3.5.1 Verification and Assembly

Before the documentation can be published, a person different than the author (preferably the publisher or editor) should verify and, if necessary, fix the documents in terms of:

- Table of contents and indexes
- Proofreading and visual checks
- Cross-references

- Illustration contents and positioning
- Page layouts, formatting and styles as required by the organization
- Missing sections
- Object numbering

If fixing by the verifier is not possible, then the documentation should be returned to evaluation and, consequently, fixed by a technical communication professional.

3.5.2 Approval

The organization should appoint a person responsible for final approval. As part of the approval, the person should make sure that the documentation process has been followed according to appropriate standards and internal policies and procedures, the review and testing activities have been completed, and legal aspects have been inspected by appropriate experts.

3.5.3 Documentation Release

The process of documentation release should always be supported with a content management system. When a final version of documentation has been prepared, a technical communication professional should communicate such fact to the publisher and provide appropriate accompanying information for version identification. The complete final version should be copied to a location that stores released versions and to a master location where it will serve as the basis for the development of further versions (as required by product and documentation release cycle).

3.5.4 Updates and Maintenance

Modification of documentation is typically expected when product enhancements are introduced or post-release issues are fixed. Any changes to the documentation should be supported by a content management system for easier and more secure introduction of modifications, and for storing historical revisions.

Typically, all modified documents should be provided to the users in their entirety, with the possible exception of very large printed documents, where the modifications may be supplied in the form of replacement pages.

Additionally, whenever a set of updates is added to the documentation, it may be beneficial to indicate all important modifications in the form of release notes. Release notes, however, should never be treated as a replacement for thorough documentation update.

References

3.1, 3.2, 3.4, 3.5 ISO 26514, 2008

4 Information Design and Editing

Learning Objectives

- LO-4.1 Differentiate between document structure, content and formatting (K2)
- LO-4.2 Explain the rules applied when building the structure, content and format of the document (K2)
- LO-4.3 List basic usability rules related to user interface and documentation (K1)
- LO-4.4 Explain the relations between product user interface and documentation (K2)
- LO-4.5 Analyze product and its documentation to identify usability-related issues (K3)

4.1 Document Structure

The purpose of this section is to explain the most important aspects of creating the structure of a document, including possible structure types, information placement, section size, as well as typical structural components.

4.1.1 Structure Types

Documentation may consist of two types of information that determine rules regarding the structure to be applied for each section:

- Instructional – information- or task-oriented content for explaining how to use the product
- Reference – information used for refreshing the memory about product usage

As a general rule, these two types of information should not be used together and, depending on the needs, should be clearly separated into different:

- Documents
- Chapters or topics, or
- Sections within a chapter of topic

Instructional information structure

Usage procedures should present feature descriptions or step-by-step usage instructions. Any related procedures should be grouped in the same chapter or topic, whereas chapters and topics should be ordered according to the information complexity, usage frequency or usage sequence, as needed.

Reference information structure

Reference documentation should be prepared specifically to allow quick access to particular information. In the case of short documents, the information may be organized

sequentially; however, as the amount of information grows, it may become necessary to use such features as cross-references, links, indexes, or search functionality. Also, large documents are not typically read as a whole, which implies the use of more advanced sorting of information, for example by the result that the user wants to achieve, by feature name, or by issue number.

4.1.2 Information Placement

In order to make the decision on where the information should be placed, a technical communication professional should analyze the information gathered in information research and design phase (identified audiences, identified user tasks and documentation design).

After the scope is identified, the necessary information should be added to the documentation. However, documentation itself is not the only channel for delivering information to the users. In order to adjust the content to the users' needs, parts of it may be copied or moved to other deliverables, like training materials, user interface, product packaging, surface of the product (print or stickers), etc.

Additionally, it is necessary to separate sensitive information suitable for only one type of audience from documentation intended for multiple audiences. For example, system security configuration should not be described in system usage documentation for end-users, but delivered as part of a document dedicated for administrators only.

4.1.3 Section Size

Printed documentation is very flexible in terms of section sizes, since it is not dependent on the capabilities of any displaying device. A technical communication professional should, however, keep in mind any usage limitations or specific work environment characteristics, like for example difficulties with turning pages, if operating the product requires using both hands.

In the case of on-screen documentation, the size of individual sections may depend on the following factors:

- The screen size and resolution of the displaying device
- The amount of information needed by the user
- The importance of the needed information (less important information may be moved to additional sections with a reference in the main topic)
- The amount of potential additional steps required in case of section fragmentation

4.1.4 Structural Components

The purpose of this section is to identify the main structural components that may be used by a technical communication professional when designing a document. It is not mandatory to use all of the components, and the chosen set will vary depending on the type and audience of documentation.

Cover/title page

A cover or title page states the product name that the document refers to, as well as product version, document type and the issuing organization. Typically, a cover page includes the document date indicating the day of last changes introduced into the contents.

Copyrights section

A section containing official legal conditions for using the document, including reservation of appropriate rights, information on any registered trademarks (product and company logos, third-party content, etc.), disclaimers, intended purpose, warranty, etc. Copyrights section is often supplemented with corporate address and contact information for supplying the user with more details on legal matters. The content of this section is typically prepared by the legal department rather than by a technical communicator, who is responsible for incorporating the page into the final document. A copyrights section is usually a part of a predefined company-wide document template in order to minimize the effort required for embedding the section across all documents in the organization.

Revision history

A section providing a record of changes introduced into a specific version of the document. A revision history is typically presented in the form of a table stating the document version, the date of the change, the name of the person making changes, and the description of the modification. Based on this information, the users or documentation developers can identify if any sections have been updated in the document since last reading.

Tables of contents

A section organizing different types of content (headings, figures, tables, etc.) into indexed tables, together with page numbers indicating where a particular piece of content can be found in the document.

Introduction

The main purpose of this section is to provide the users with an overview of the subject, together with any prerequisites for installation and for usage. It should also indicate the intended audience (with specific requirements, like minimum required set of skills) and explain how to use the document.

Main body

The section should contain the central ideas of the document arranged into chapters or books.

Miscellaneous sections

Miscellaneous sections should present all the remaining ideas that were not covered by the main body. Such ideas can be gathered in sections like:

- Best practices – for recommended usage strategies

- Frequently asked questions (FAQ) – for presenting the most common questions and answers
- Known issues – for informing on the identified and yet unresolved usage problems together with possible workarounds (if any)
- Troubleshooting – for resolving the most common issues of the users

References

This section should list external sources (other documentation, books, publications, etc.) where the users can obtain more information.

Glossary

A glossary should cover all acronyms and industry terms used in the guide. This section is particularly important in highly specialized areas, where industry-specific jargon may be used. In cases where the glossary is particularly extensive, it may be beneficial for the overall usability to separate it from the main document and publish it as an independent deliverable.

Index

An index should list the most important items together with their location in the document. Including this section is especially useful in case of large documents, and for the ones delivered as a hardcopy, where the users cannot use the search functionality to quickly find the occurrences of their item of interest.

Closing page

A closing page may contain the company name and repeated copyright information or its excerpts.

4.2 Styles and Formats

All documentation in an organization should be created according to a style guide. The organization may develop their own style guide or follow an existing one (international, local or industry-specific), according to their needs.

A style guide is a reference point that defines the rules for working with documents. The exact contents of such a guide may vary depending on the specific needs of the organization, and may include:

- The language of communication
- Spelling preferences
- Grammar preferences
- Style for sentences
- Paragraphing rules
- Rules for presenting reference information
- Rules for presenting instructional information
- Style for translation and localization (terminology and cultural factors)

4.3 User Experience

In order to adjust to users' needs, a technical communication professional should make sure that the documentation is created in accordance with the following rules:

- The terminology used in documentation should correspond with terminology familiar to the users, as well as with the terminology used in the product
- Each document in a documentation set should have a clearly defined purpose and intended use, and the media of the documentation should be chosen based on the user's needs. For example, rooftop workers will prefer hardcopy documents to intranet knowledge bases
- Information should be designed effectively, so that it is easy to find and understand by users presenting different levels of knowledge
- Documentation should support different methods of searching the contents in order to adapt to different strategies of the users, including the usage of tables of contents, indexes, on-screen search functionality, simple browsing, etc.
- Documentation should anticipate possible issues and help the users to avoid or solve them with the use of such sections like Best Practices, FAQ, Known Issues and Troubleshooting
- Information presentation and design conventions should be consistent across all documents in a documentation set, it should follow the same standards and avoid duplication of content

References

4.1, 4.2 Hannigan, 2008

5 Technical Communication Management

Learning Objectives

- LO-5.1 Recognize the different roles to be involved in content creation process (K1)
- LO-5.2 Recall the typical factors that influence the effort related to technical communication (K1)
- LO-5.3 Summarize how configuration management supports technical communication (K2)
- LO-5.4 Recall the tasks of typical technical writer, technical communication, product and project managers (K1)

5.1 Technical Communication Professionals and Their Role

In this syllabus, two technical communication roles are covered, technical communication manager and technical writer. The activities and tasks performed by people in these two roles depend on the project and product context, the people in the roles, and the organization.

The role of the technical communication manager may be performed by a project manager, a product manager or the manager of a technical writing group. In larger projects two positions may exist:

- Technical communication leader – for managing small teams of technical communication professionals
- Technical communication manager – for managing large teams or whole departments of technical communication professionals, including leaders

Typical technical communication manager tasks may include:

- Coordinate and plan with project managers and department/team managers and other stakeholders
- Contribute the documentation perspective to other project activities, such as training session planning, which may be handled by other roles
- Plan the documentation – considering the context and understanding the documentation objectives and risks – including estimating the time, effort and cost of documentation, as well as acquiring resources

- Initiate the specification, preparation, evaluation and publication of documentation
- Monitor documentation progress, adapt planning accordingly, and take any actions necessary to resolve problems
- Set up any adequate configuration management of documentation
- Decide what should be automated, to what degree, and how (e.g. table of contents, indexes, glossaries, and applying templates)
- Select tools to support documentation and organize any training on tool use for technical writers
- Decide about the implementation of the documentation environment

Typical technical writer tasks may include:

- Review and contribute to documentation plans
- Analyze, review and assess user requirements for documentation
- Set up documentation environment (often coordinated with system administration and network management)
- If necessary, prepare and acquire any prerequisites necessary for the functioning of the product for documentation purposes
- Conduct or participate in information research and design
- Conduct or participate in content development
- Evaluate documentation developed by others
- Contribute to documentation automation initiatives in the organization

5.2 Project Management

5.2.1 Documentation Planning Activities

Documentation planning activities for a product may include:

- Identifying the objectives and scope of documentation
- Determining documentation process and its interfaces to the product life cycle activities
- Identifying the risks and possible mitigation and contingency actions
- Assigning roles and resources for the defined activities
- Scheduling documentation phases, from documentation project planning and information research and design, through content development and improvements and corrections, to document publication and maintenance
- Deciding how the results will be verified, validated and evaluated
- Defining the amount, level of detail, structure and templates for the documentation
- Calculating budget
- Selecting metrics for monitoring and controlling documentation development

5.2.2 Documentation Task Estimation

Task estimation is a two-fold process and consists of:

- 1 Size estimation
- 2 Effort estimation

Two common approaches for the estimation of the documentation size are:

- The expert-based approach: estimating the documentation size based on predictions made by the owners of the tasks or by experts
- The metrics-based approach: estimating the documentation size based on historical data from similar projects or based on industry standard values

The documentation effort may depend on a number of factors, including:

- Characteristics of the product:
 - Size
 - Complexity of the problem domain
 - Quality of the specification
- Characteristics of the development process:
 - Development approach/methodology
 - Organization stability
 - Documentation process
 - Tools used
 - People skills and required trainings
 - Time constraints
- The outcome of documentation verification, validation and evaluation:
 - Number of issues identified by testers and reviewers
 - Amount of rework required

Once the effort is estimated, resources can be identified and a schedule can be drawn up.

5.2.3 Documentation Progress Monitoring

The purpose of documentation process monitoring is to provide reliable status updates and feedback regarding documentation activities. Information to be monitored may be collected manually or automatically and may be used to assess progress against the planned scope, schedule, budget, and quality goals. Common documentation metrics include:

- Percentage of work done in each stage of content creation process
- Total time, effort and cost required to complete a document
- Remaining time, effort and cost to complete a document
- Time, effort and cost spent versus planned
- Number of identified issues or corrections needed

5.3 Configuration Management

The purpose of configuration management is to establish and maintain the integrity of the products (components, data and documentation) of the software or system through the project and product life cycle.

For documentation, configuration management should ensure that all documentation items are:

- Uniquely identified
- Version controlled
- Tracked for changes

Additionally, configuration management should provide information on possible relationships between documents within a documentation set, as well as between documentation items and product development items.

During documentation planning, the configuration management procedures and infrastructure (tools) should be chosen, documented and implemented. For more information on tool support, please refer to *6.1.2 Tool Support for Configuration Management*. Potential benefits and risks of configuration management are described in *6.2 Potential Benefits and Risks*.

The products of configuration management should be audited periodically in order to ensure that the implemented solution satisfies the identified needs of documentation at different stages of the project.

References

5.1, 5.2 Hamilton, 2009

6 Tool Support for Technical Communication

Learning Objectives

- LO-6.1 Classify different types of tools supporting technical communication according to their purpose (K2)
- LO-6.2 Summarize the potential benefits and risk of automation and tool support for technical communication (K2)
- LO-6.3 Recall special considerations for content edition and management tools (K1)
- LO-6.4 State the main principles of introducing the tool into an organization, goals of a proof-of-concept for tool evaluation and a piloting phase for tool implementation (K1)
- LO-6.5 Recognize that factors other than simply acquiring a tool are required for good tool support (K1)

6.1 Types of Technical Communication Tools

6.1.1 Tool Support for Word Processing

These types of tools provide interfaces for editing and formatting text. The features offered by these tools should include, among others, grammar and spelling checker, use of templates, styling definitions, export possibilities to different output formats, etc. When creating documentation, technical communication professionals may also use word processing tools for automatic generation of tables of contents and indexes, automatic cross-referencing, and creating variables (for product names, version and model numbers, etc.).

6.1.2 Tool Support for Configuration Management

Configuration management tools are necessary in order to support technical communication in terms of storage and version management of documentation and related deliverables, especially for more than one hardware/software configuration in terms of operating systems, databases, browsers, etc.

6.1.3 Tool Support for Content Management

The development of documentation may be supported by a content management system (CMS). Such system typically integrates different types of tools into a set with a central interface that gives possibilities like:

- Storing master documentation and working copies in separate secure locations
- Documentation version control
- Collaboration with editors, reviewers and other necessary roles
- Assigning appropriate levels of access and modification rights to authorized collaborators

6.1.4 Tool Support for Graphic Design

Graphic design tools support technical communication in terms of screen capturing and editing, as well as creating diagrams, schemas and illustrations. In case of specific needs, graphic design tools with support of video capturing and editing may be used.

6.1.5 Tool Support for Training

Training tools support technical communication in training materials development, as well as in conducting training sessions. They provide technical communication professionals with the functionality necessary to create and conduct:

- Presentations, including multimedia content
- Exercises (laboratories)
- E-learning sessions, including interactive audiovisual content
- Webinars using webcast technology
- Tests and quizzes for evaluation of trainees' progress
- Satisfaction surveys for gathering trainee's feedback

6.1.6 Tool Support for Translation

The process of translation should be supported with the use of computer-assisted translation (CAT) tools. Such tools facilitate translation by means of using such features as searchable translation memory, language search-engine, terminology management, as well as translation project management.

6.1.7 Tool Support for Help Authoring

Help authoring tools (HATs) are specialized suites for end-to-end production of technical communication deliverables. Depending on the vendor, this type of software may combine the features of all aforementioned tool types, or support easy integration with them. A typical HAT allows importing various input formats for content, includes a word processor and a simple graphic design tool, but also integrates with configuration management, content management, training and translation tools. HATs make it possible to publish content from a single source to multiple output formats, including online, mobile, printable, presentation, etc.

6.2 Potential Benefits and Risks

Before choosing suitable tools for use in a particular organization, it is necessary to carefully consider the consequences of such decision. In order to be successful with a

tool, a technical communication professional must first identify and understand the implied benefits and risks.

6.2.1 Benefits

The use of technical communication tools helps the organization to:

- Avoid confusion and clearly indicate each piece of documentation
- Improve the efficiency of content creation
- Reduce manual work (e.g., spelling corrections, rewriting similar sections for multiple versions, etc.)
- Prepare an infrastructure for maintenance of released versions of documentation
- Prepare an infrastructure for creation of new documentation
- Improve the visibility of product coverage and work progress in documentation projects
- Facilitate team collaboration on the same pieces of documentation
- Facilitate the maintenance of cross-dependencies between documents

6.2.2 Risks

The risks of using technical communication tools include:

- Misjudging the tool's functionality
- Misjudging the level of expertise required in order to successfully operate the tool
- Misjudging the implementation possibilities for the tool
- Misjudging the scope of modifications required within the organization in order to successfully introduce the tool (including documentation process rework)
- Misjudging the maintenance effort required to keep the tool operable and efficient
- Placing too much confidence in the tool (e.g., replacement for documentation evaluation, or use of automated translation where manual translation would be better)
- Overseeing the dependencies between tools, such as content edition tools, graphic design tools, version control tools, translation tools, defect tracking tools and tools from multiple vendors
- Change in the tool's further development direction, or in the list of supported environments in its future releases
- Discontinuing the tool by its vendor
- Insufficient support from the vendor in case of issues

6.3 Introducing a Tool into an Organization

The main considerations in selecting a tool for an organization include:

- Identification of documentation process and opportunities for improvements to be achieved by usage of the tool
- Evaluation against clear and objective goals, requirements, and criteria
- Assessment of organizational maturity, strengths, weaknesses, and existing skill set
- Estimation of a cost-benefit ratio based on a concrete business case (ROI – return of investment)
- Evaluation of the vendor (including support, training and commercial aspects) or support possibilities in case of non-commercial tools
- Identification of internal requirements for coaching and mentoring in the use of the tool
- Evaluation of training needs considering the current documentation team's automation skills
- A proof-of-concept, by using a documentation tool during the evaluation phase to evaluate whether it improves the product and the effectiveness of the current process, or to identify product and process changes needed to effectively use the tool

Introducing the selected tool into an organization starts with a pilot project, which has the following objectives:

- Assess whether the benefits will be achieved at reasonable cost
- Learn more detail about the tool
- Evaluate how the tool fits with existing processes and practices, and determine what would need to change
- Decide on standard ways of using, managing, storing and maintaining the tool and the documentation assets (e.g., deciding on naming conventions for files and sections)

Once the pilot project is completed and results evaluated, wide deployment of the tool can start. Success factors for the deployment of the tool within an organization include:

- Incremental implementation of the tool to the rest of the organization
- Adapted and improved processes
- Training and coaching/mentoring for new users
- Usage guidelines definition
- Support for the documentation team for a given tool
- Constant feedback from the tool's actual users
- ROI (return of investment) monitoring

7 References

This chapter lists external references used to support the content created by ITCQF®.

- 1 [ISO 26514, 2008] ISO/IEC 26514:2008(E), *Systems and software engineering — Requirements for designers and developers of user documentation*
See section: 3.1, 3.2, 3.4, 3.5
- 2 [Hannigan, 2008] Hannigan C. et al. (2008) *Technical Writing: A Resource for Technical Writers at All Levels*, Kaplan Publishing: New York
See sections: 1.1, 1.2, 4.1, 4.2
- 3 [Alred, 2009] Alred G., Brushaw C., Oliu W. (2009) *Handbook of Technical Writing* (9th edition), St. Martin's Press: Boston
See section: 2.1, 2.2, 2.3
- 4 [Hamilton, 2009] Hamilton R. (2009) *Managing Writers: A Real World Guide to Managing Technical Documentation*, XML Press: Fort Collins
See sections: 5.1, 5.2



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