

## 21. CONTENT PRODUCTION FOR e-LEARNING

*This Module allows to acquire the general elements that characterise the production of multimedia content for e-Learning in the TES Model. Starting from a general analysis of the issue regarding the production of content and of the various figures that work for the production of eContent it describes, from a general standpoint, the individual components of an e-Learning Course in the TES Model: the Course, Module, Chapter, Paragraph, Multimedia Contributions, In-depth analyses and the Tests.*

*Each component is provided with the base features that must comply with the TES standard. The Module also illustrates the importance that the knowledge of standards takes on for the Author of e-Learning content, emphasising how this knowledge allows the entire productive system of eContent to guarantee a result that completely complies with the educational expectations of the author in output.*

### 21.1. e-Author, e-Editor and e-Publisher

*In the production of eContent for e-Learning almost always the Author of this content (which we will call e-Author) and whoever publishes the content with the e-Learning Platform (which we will call e-Publisher), are two operationally (perhaps even physically) diverse figures. Since e-Publisher is bound by the standards defined by the Platform, the more the content produced by the e-Author is far from these standards, the more the e-Publisher must act upon the content itself in order to work in changes on the content to adapt them to the reference standard. At times these interventions do not affect the content itself, but often it may distort its set-up and, even, the same knowledge it wants to convey. This problem is limited and, in some cases, eliminated if the e-Author produces the content already according to the reference standard.*

*The Chapter faces the problem and illustrates the effects on the production process of eContent.*

#### 21.1.1. *The production of eContent for e-Learning*

Content for e-Learning makes up the main component of any Distance Learning System. Obviously, we are referring here to those systems that assume the existence of a Content Delivery Platform and of an Organisational System in support of the Trainees' learning process. Whatever the structure and form the content takes on within the platform, the **e-Content production process** is basically the same:

- Production of the content (**e-Authoring**)
- Transformation of the content into insertable formats in the platform (**e-Editing**)
- Insertion of the modified content into the platform (**e-Publishing**)

The first phase is achieved by a figure we can define, generally, as **e-Author**, the second, as **e-Editor** and the third, **e-Publisher**.

We will call this publishing production process as : **e-Publishing Process**

The "e-" prefix is functional to the distinction of the publishing process to production of "usable content by using hypermedia contexts, even telematic ones" (eContent, that is) by a generic production process of "usable content within the field of traditional publishing" (Books, for example).

**From now on, in any case, we will without distinction use the names with or without the e- prefix for the figures involved, hoping this does not cause confusion.**

#### 21.1.2. *e-Authoring*

In the eAuthoring process the author or authors realise the base material for producing eContent. We will call these intermediate products: **Content**.

Obviously, in a proper e-Learning system the production of Content is already achieved taking into account the foreseen standards by the available Platform. Only

an “inconsiderate” approach may allow producing content regardless of any constraint imposed by the **e-Publishing Process**.

In a proper process instead, the author will take into account only the *forms* and *structures* foreseen by the reference Platform. When we refer to **form** of content we do not mean just publishing ones, but electronic ones too (types of documents, types of images, dimensions, etc.). In the same token, when we talk about **structure** we mean those that articulate the different content (hierarchies, networks, hypertext, etc.)

#### 21.1.3. *The e-Authoring tools*

Various tools are used in producing Content, since content may take on different forms. It can go from **wordprocessing** to **Computer Graphics** environments, to those for the **production of brief films** or **animations** to those for the **production of hypertext**. Obviously, alongside these we find **specialist type informatic production**, linked that is to specific professional figures, but we must not lose track of the fact, generally, that eContent is made up of text and pictures (or films) and therefore all content tends to take on one of the forms mentioned above. Obviously, there can be content of particular nature and that go to make up what we call **In-depth analysis**, but there’s time to talk about this later, just as, within the e-Learning sector those eContent that represent **Follow-up Tests** assume a specific feature, but again we will deal with these in a special chapter later on.

#### 21.1.4. *e-Editing*

The Editing phase represents the first step for the publishing of content on an e-Learning Platform. In it the e-Editor (that is the *eContent Editor*) works on the Content provided by the authors and takes care of transforming it into still to be published eContent. At the same time with this operation the e-Editor checks the structural and formal correctness of the content. This control consists in verifying that the content complies with all the production standards foreseen. In this sense all the **technical aspects** can be monitored (text quantity, picture size, “weight of the films”, correctness of the hypertext links, etc.), as well as the **structural aspects** (compliance with the hierarchical and reticular structures, clarity in defining the connection between texts and multimedia contributions, compliance with the rules for file denomination and of their organisation into folders, etc. ).

From a strictly methodological viewpoint, this phase may also affect the linguistic control of the texts (grammar) and on the quality of the other media, but we will ignore this aspect in our discussion and assume the e-Author to be performing this type of control.

#### 21.1.5. *The tools of e-Editing*

The e-Editor will use, for Content control, analogous tools to those used by the e-Author to produce them.

These tools are joined by certain specific ones aimed at the *transformation of the Content into eContent*. These tools are, usually, already integrated into the e-Learning Platform (they represent one of the modular components) and are defined: **Authoring Management Environments** or **Storyboard Management**.

These environments allow to insert the various parts that make up the content within the predetermined and allowed **Layout** (or **Template**) by the Platform, that is, in specific schemes that characterise the interface between the Course and the Trainees.

Obviously, at the time of insertion of the eContent through the Authoring Management Environment, the e-Editor performs a further check on the content in regards to compliance with standards.

### 21.1.6. *e-Publishing*

This is the last phase of realisation of eContent. With this phase the eContent is integrated into the delivery system of the same on the network. Therefore, all the general tools available on the Platform for delivery, control, support are associated to it.

In addition, in many cases, this phase entails integrating, within the same Course, Components which are developed separately, as will be seen further on.

### 21.1.7. *Standard Characteristics and the TES Standard*

When we talk about eContent standards for e-Learning we refer to the structure that the content delivered must comply to. This structure is strictly linked to the delivery and usage methodology used by the e-Learning Platform. The methodologies are very different and correspond to different paradigms of Distance Learning. These are included between two extremes. The first sees a strict tool of administration aimed at complete control of the usage process of the Courses. The other, on the contrary, assumes a complete freedom of eContent typologies offered where the Trainee is free to “navigate” with no constraints, but rather building his/her own path in relation to organisational capacities and personal motivations. The later paradigm is not very functional to the assessment principle of usage (not in the sense of the results reached, but in the process used to reach them).

The main standards of Platforms for e-Learning retain, instead, the need to monitor the process, in addition to that of the results. For this reason, they tie the delivery of the eContent to the monitoring of their usage. This means the opportunity for the System to *record all the actions that the Trainee carries out in its usage*.

Since a too strict model makes the Platforms for special training typologies inapplicable, the ideal solution is made up by a model, that is the one taken on by TES, which places alongside controllable eContent (in the sense of process) free eContent, allowing the trainee to “deepen” the knowledge acquired through the first typology of eContent. In order to reach this goal, these Platforms allow the running of **Libraries** that house **free eContent** whose usage is not monitored, if not through Follow-up Tests.

## 21.2. The structure of the TES Courses

*The development of eContent by the author must call for a broad phase of designing where the following are identified: general structuring of the content, multimedia contribution, etc. This designing is strictly linked to the type of Standard used, for which reason, in order to describe the eContent for the e-Learning Production Process we must describe our Standard of reference, that is the Standard of the TES eContent. The Chapter describes, therefore, the structure of a TES Course and relative eContent, but also an example of the interfaces (Templates) that can be utilised for their delivery.*

### 21.2.1. *The Course*

A TES **COURSE** is set up into **Modules**. The modular structure of the courses allows for the re-utilisation of a same Module within more multiple courses. Of course, the individual courses may be referred to different Targets, for this reason a same Module may not be suitable to the different targets of the different courses. But the Modular set-up allows to act more structurally and correctly on the content, since the adaptations are referred to individual Modules and not the entire Course. Being this set-up as it is, the problem of developing eContent can be referred to the Module. For this reason all the *Production Rules of TES eContent* will be referred to an individual Module.

### 21.2.2. *The Module*

A **MODULE** represents the basic element for the designing and developing of a complete eContent in TES.

A Module is a closed informative unit that provides a complete competence/knowledge on a specific topic. It can be detached from a Course and used within other Courses, obviously with due adaptations and connections, if necessary.

A Module is set up into **Chapters**, and in turn divided into **Paragraphs** that contain the actual content of the Module. The Chapters of a Module have at least one **TEST**. The Test Chapter has its own specific structure, different from the content Chapters. The structure of the eContent of a Module is therefore hierarchic, but a series of free eContent falls alongside it that represent the **In-depth analyses**.

### 21.2.3. *The Chapter*

The identification of the Chapters in a Module allows to set up the content in a flexible manner for usage. Usually the **CHAPTER** is assigned with a duration, as we will see further on, that corresponds to a complete session of the Trainee, without interruption. For this reason the set up into chapters is not only linked to debatable aspects and development of the Module theme, but even to methodological aspects regarding the delivery/usage modalities.

### 21.2.4. *The Paragraph*

The concept of **PARAGRAPH** is different from what we are usually accustomed to when thinking of a *book*. The Paragraph in the TES Courses is a single frame of the Module. As such, a paragraph is not made up of multiple frames, but of a single frame where the multimedia contributions, as well as textual component, are displayed. The latter must, generally, comply with a series of constraints, that will be described later on. We can, however, advance the notion that a significant tying element is the length of the textual contribution. This tie is linked to specific aspects of methodological nature determined by the usage dynamics that a typical Trainee activates and is necessary to guarantee the maximum effectiveness of the training action of the content, minimising the risks that may derive from fatigue, habit, boredom.

### 21.2.5. *In-depth analyses*

As we have had the opportunity to observe previously, the role of **IN-DEPTH ANALYSES** is crucial to guaranteeing breadth and depth to the learning process. In-depth analysis represent all that content that can be used off-line, or in any event, outside the standard environment of eContent delivery. Therefore, in addition to guaranteeing discussion extension referred to the topic dealt with in the Module, it represents an element of communicational variety for the Trainee. With the In-depth Analyses the Trainee completely changes the usage environment, going to a traditional area, in the event the analyses are of textual nature (in the case of manuals, guides, text, bibliographies, exercises, etc.) or different multimedia field (hypermedia, web sites, etc.).

### 21.2.6. *Tests*

In finalised and monitored e-Learning, **TESTS** represent a fundamental component both for the Trainee as well as the training system. The Tests affect the comprehension follow-up of the topics treated in the Module and allow the Trainee to check his own level of comprehension. Furthermore, it allows the Training System to monitor the effectiveness of the training action on the Trainee. Through the Tests one can define what support actions are needed for the Trainee who does not meet the determined minimum levels.

In addition, the Tests are an essential component in any Certification system of competencies. Obviously, it cannot be the only component, for the obvious limits of certainty determined by the virtuality of the training environment, but are certainly a non disposable component of the test process.

The types of **Tests** vary and we will describe them in the following chapter as used by TES.

#### 21.2.7. *The designing of the eContent of a Module*

When the eContent of a Module must be created, the e-Author must first of all design them and plan their development. The phases of design/planning of the eContent of a Module are, generally, the following:

1. Structural design of the Module (**Fig. 1**)
2. Design of the Textual Content (**Fig. 2**)
3. Design of the Multimedia content (**Fig. 3**)
4. Definition of the connection between Textual and Multimedia Content (**Fig. 4**)
5. General Design of the In-depth analyses (**Fig. 5**)
6. Definition of the connection between Textual content and In-depth analyses (**Fig. 6**)
7. Definition of the connection between textual Content and Hypermedia and Telematic Content (**Fig. 7**)

This design entails not only attention to the fundamental content, topical and communicative aspects, but also, as we will see later on, the technical aspects of the operational realisation of the Content and their organisation to guarantee a correct e-Editing of the same.

The in-depth analyses contain a document in PDF format that contains the entire textual contribution of the actual Module. The name of the document is:

**“TES-Content-21-Text”**