

LESSON D1_EN. THE PRACTICAL AND DIDACTICAL BASE FOR THE APPROACHING THE eLEARNING.

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After learning this lesson you will be more familiar with the following knowledge:

- how eLearning functions, how people can learn from eCourses, their needs and requirements for the use of graphics, figures, dynamic figures / animation, multimedia audio/video, colours, etc.,
- the golden rules of eLearning,
- important independent components of the eLearning activities.

CONTENT OF THE LESSON

1. VOCATIONAL EDUCATION AND TRAINING.
2. TYPES OF eLEARNING.
3. DIDACTIC BACKGROUND.
4. THE TYPES OF eLEARNING OCCUPATIONS IN THE FLUX OF PRODUCING AND USING eLEARNING PRODUCTS.

LEARNING OBJECTIVES:

After learning this lesson you will accomplish the ability to understand:

- How eLearning functions.
- How people learn from eCourses.
- The needs and requirements for the use of graphics, figures, dynamic figures / animation, multimedia, colours.
- The needs and requirements for the use of as short as possible a distance between the text and related images, between the text and related figures etc.
- The use of audio materials.
- The selection of the writing style: the conversational style.
- The importance of working examples (as an important separate aspect).
- How to approach activities in the flux of eLearning activities.

1. VOCATIONAL EDUCATION AND TRAINING.

1.) How eLearning functions.

Through eLearning it is understood [1.] the learning or training procedure:

a). based on the delivery of the lessons from the electronic support or media, such as from:

- CD-ROMs
- Internet,
- Intranet,
- PC, laptop, PDA memories,
- Other eSupports (electronic storage elements);

b). and the received content of which refers to:

- b.1)- the training content which is intended to be transferred to people,
- b.2)- the supplementary specific training methods consisting in:
 - examples, practical examples, practical exercises to help the assimilation of knowledge,
 - practical and very penetrative and suggestive presentations, such as: words, figures, dynamic figures, images, video-images, sounds etc.

c.) and which can include new knowledge or skills, acquired for the respective topic.

Following this definition, eLearning lessons include:

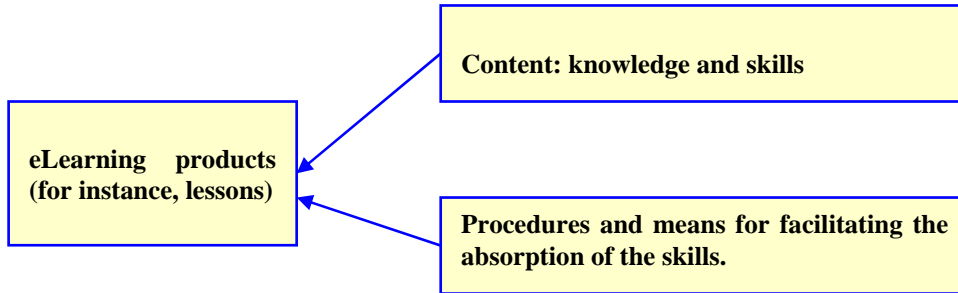


Fig. 1.1. Types of input in the eLearning products.

eLessons have to [1.]:

- include the right skills for the respective job, and at a level which should allow immediate employment in the respective job,
- be at the necessary level, so that the knowledge transfer should not be disrupted, as a consequence of the too high level,
- avoid the situation in which the learner left the training before the ending of the courses.

The flux of the elaboration of eLearning products is the following (some aspects after the ideas from [1]):

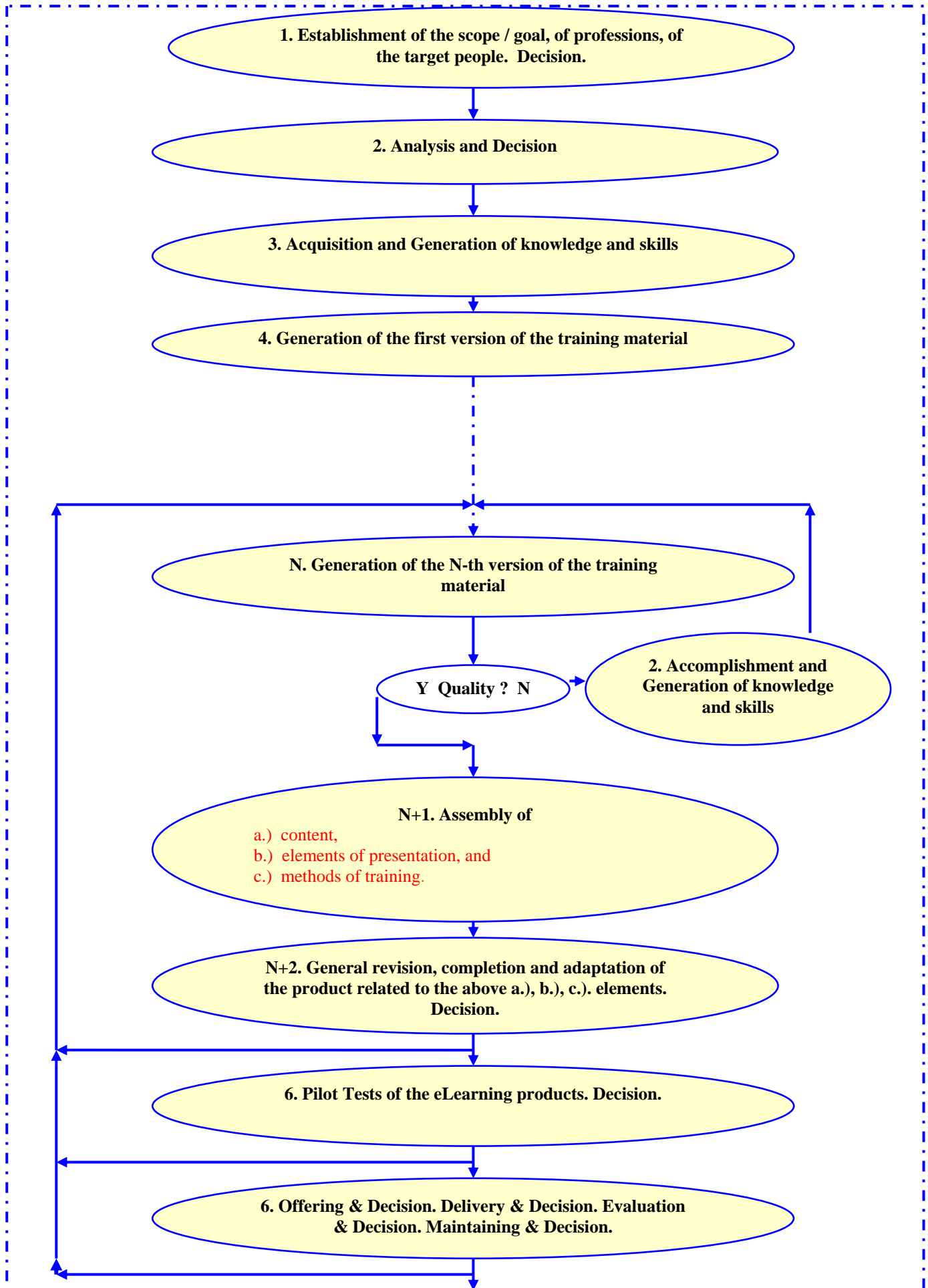


Fig.1.2. The flux of elaboration of the eLearning products.

2.) How people learn from eCourses.

Through eLearning, people acquire knowledge and skills of these types:

- generated to inform (to train people about the knowledge),
- generated to train people about practical skills, that is, to help the people practice the respective job or activity.

Learning through eLearning has some similitude with learning from the normal printed book.

The difference between learning and eLearning is created by:

- the supplementary procedures of instruction, present in eLearning, for instance through the use of animations, movies etc,
 - the special tools and special possibilities offered by eLearning, used for the facilitation of the quick absorption of knowledge, for instance presentations on screens, special images and effects etc,
 - the possibility to use exceptionally large size eLearning supports, for instance the present CDs or DVDs.
 - the possibility to use exceptionally large size eLearning supports, for instance the present CDs or DVDs.
- Offering more information and helping tools is facilitated by the large memory capacity of the supports used in eLearning.

A large part of these tools, as well as of the supplementary procedures of instruction, is not usable with traditional learning, but only with eLearning.

For instance: the dynamic figures, video images, sound, use of simulations, etc.

eLearning may accomplish a quicker transfer of knowledge and skills than traditional learning.

The facility is based on the use of

- supplementary procedures of instruction and
- special tools.

The mode of learning of eCourses may be considered as similar with learning courses. But important supplements are added, offered only by eLearning.

These supplementary facilities offered by eLearning lead to new procedures in the training process. These new procedures, proper of eLearner, may include one or more of the following aspects:

□ Efficient guiding of the learner during eLearning.

The guiding is achieved with:

- questions waiting for answers,
- guiding towards the right answers,
- images for guiding,
- hyperlinks and supplementary adjacent pages,
- special images,
- audio,
- **feedback**,
- others.

□ The presentation of knowledge and skills to be learned, under the form of images or figures which self-explain complex processes to be learned.

□ The use of other methods to accelerate the skills absorption, such as:

- simulation,
- simulation through images and figures,
- electronic games,
- others.

□ The use of possible cooperation through:

- the creation of communication possibilities, such as:
 - Internet chat,
 - Hyperlinks,
 - Teleconferences,
 - E-mails,
 - Others.

The eLearning process: Practically, the eLearning process runs as follows:

- a.)- The learner becomes aware about the aspects which will be learned and will start to read the text and examine the images.
- b.)- The learner repeats the above aspects in:
 - own working memory and
 - integrate the acquired knowledge from his/her own working memory in his/her own long-time memory.

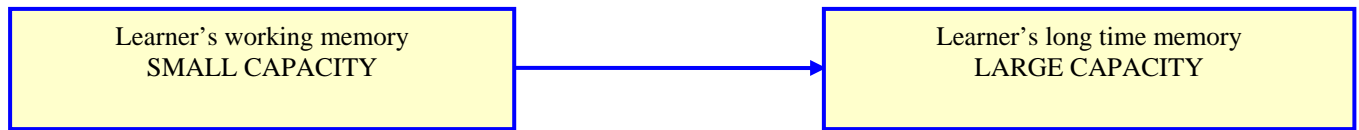


Fig.1.3. The learner initially uses the of low capacity working memory.

Surpassing the capacity (overload) of the learner's working memory may lead to negative results.

Following this requirement, effective measures have to be applied for the avoidance of the overloading of the learner's working memory capacity.

The aspect is very important, especially in cases of:

- newcomers to be trained,
- inexperienced learners,
- learners with a low level of initial knowledge in the field,
- others.

Therefore, for all general cases, long lessons should be avoided.

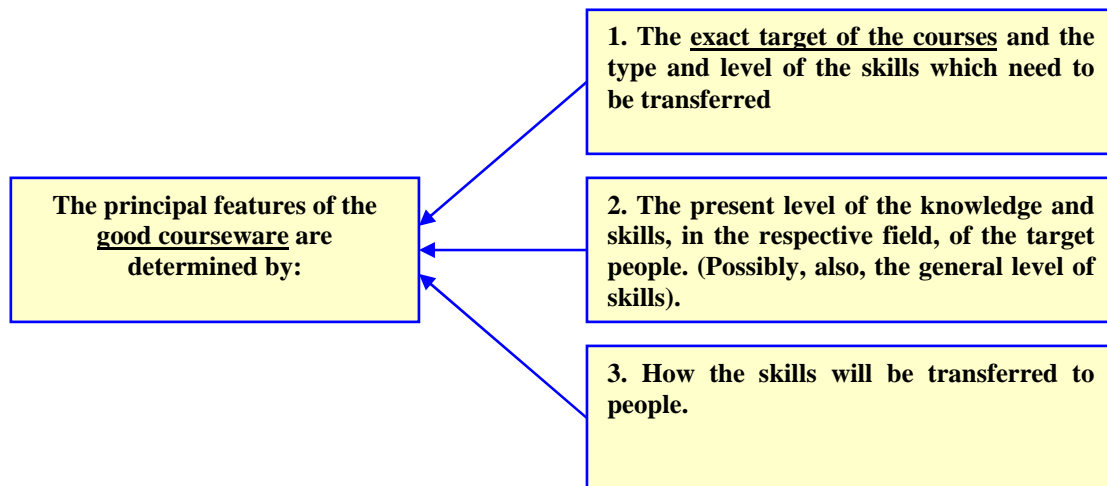
Only short lessons (of about up to 10 A4pages) may be efficient.

- c.)- Finding the absorbed knowledge for the job.

In order to find the knowledge for the job, the lessons have to be job-oriented.

- d.)- Some effects of the generalization of knowledge and the creation of connections.

Which features in e-learning help people learn. The features of the good courseware.



GOLDEN RULE no. 1:

For all cases, it is recommendable [1.] that the eLessons / courseware should include:

- text and
- graphics in excess, such as:
 - explanatory graphics,
 - for teaching content,
 - for organizing the topic,
 - for relations and connections,
 - for different presentations

- others.

- colors in excess, (with the observance of the rules regarding the use of colors and the limited number of colors per page)
 - **for the significant reduction of the time for understanding the topics,**
 - for the understanding of the content,
 - for the clarity of graphics,
 - for the clarity of the teaching contents,
 - for enhancing the lesson's attractiveness,
 - others.
- Images, dynamic figures, animation, scenarios etc.

GOLDEN RULE no. 2:

The learning (eLearning process) consists:

- not only in the transfer of skills to the learner, but
- also in the mode in which these skills are transferred to the learner, namely
 - in the mode in which the learner constructs mental
 1. representations and
 2. connections,
 - in the training skills, for instance through the use of images, dynamic images, multimedia and others

GOLDEN RULE no. 3:

Learning (the eLearning process) has to include interactive elements, for the learner, so that the learner could be actively involved in understanding the lesson's key aspects.

With this in mind, such elements are used interactively as:

- Quiz (questions with multiple answers),
- Other interactive means of evaluation,
- Other interactive means.

GOLDEN RULE no. 4:

The 3 elements of the courseware quality [1.].

The principal 3 elements of the courseware quality take into consideration:

- the goal of the training,
- the learner's prior knowledge,
- the environment in which and with which the transfer of knowledge will be achieved.

2. TYPES OF eLEARNING.

2.1. THE CLASSICAL TYPES OF eLEARNING [2.].

1.) Informal.

It consists of the on-line identification of information. It is not exactly training. That is so because neither formal instructional strategy, nor elements belonging to formal learning (such as: presentation of material, application exercises and feedback) are included.

2.) Self-paced.

The self paced eLearning process consists in the use, at the rate and time selected by the learner, of elements of CBT – Computer Based Training or WBT – Web Based Training.

The learner uses the lessons stored inside the computer or the learner uses the lessons from the CD-ROM or DVD.

The learner has the following interesting possibilities:

- to travel in both senses of the presented knowledge (inclusive backwards, towards the starting point),
- to stop anywhere within the lesson,
- to restart the training and to repeat the training sequences,
- others.

3.) The Leader led eLearning.

The Leader-led eLearning is based on eLearning monitoring or eLearning direct assisting through the involvement of:

- one leader, or
- one trainer or instructor, or
- one mediator or coach, or
- another person.

The Leader led eLearning is of two types:

3.1.) Working synchronously. The synchronic, real time work of the learner and of the trainer,

3.2.) Working asynchronously. The learner receives materials, off-time, but has the possibility to ask questions for which, normally, the answer arrives after a while.

4.) eLearning based on supporting tools.

The supporting tools consist in a multitude of usable elements such as: wizards, special electronic means (large digital interactive screens), and others.

Wizards are efficient tools.

Other tools may help the quick transfer of knowledge.

5.) Mixed / hybrid procedures.

The mixed / hybrid procedures use a combination of the above methods and tools.

6.) Blended types. Combinations between learning and eLearning.

In some situations, combinations between learning and eLearning may be very efficient.

Also, combinations of different procedures from the above points 1.) to 4.) may add benefits.

Examples:

- learning with a tutor in the morning and the completion of learning, in the afternoon, through eLearning,
- based on the use of eLearning elements, correlated with the aspects learned in the morning, for instance exercises.

2.2. THE CLASSIFICATION OF eLEARNING COURSES AND PROGRAMS [1.]:

1.) Formal (Perform programs)

by which is one learns, step by step, how to do (one special activity, or action, or procedure, etc).

Perform eLearning programs and lessons include 2 types:

- Procedural transfer, named 'near transfer', for instance during the step by step training for a software language. The fact that the steps of learning are (nearly) similar to the steps of a job, has led to the name 'near transfer'.
- Principle-based lessons, named 'far transfer'. In this case the learner is trained for different possible situations, in which the learner has to judge and to adapt his reactions.
When applying, in real life situations, training by far lessons, the knowledge transfer is achieved by means of making the learner use judgments.

2.) Informal.

Within informal learning, the learner tries to find the information and knowledge by means of their own web navigation inside the virtual world.

3.) Mixed.

eLearning courses include both informal and formal (perform) aspects.

2.3. THE CLASSIFICATION ACCORDING TO THE MODE OF TRANSFER [1.]:

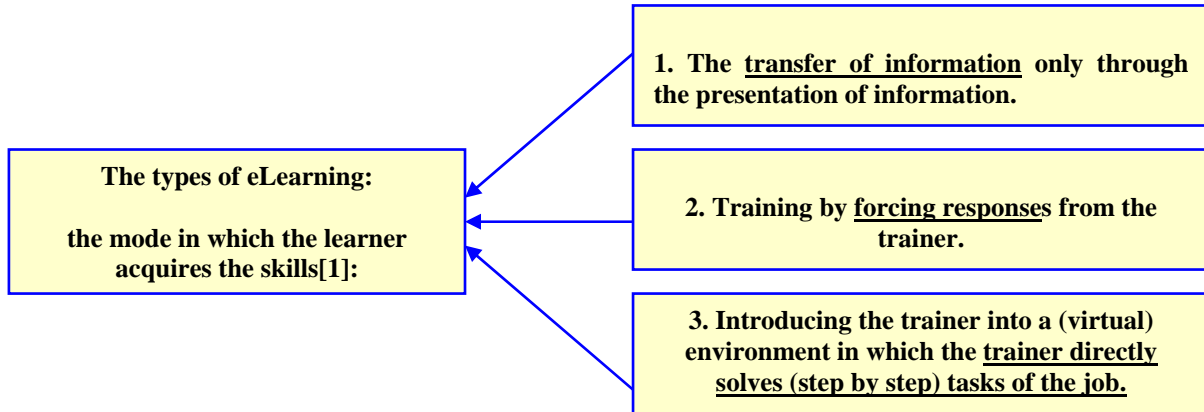


Fig. 2.1. Types of eLearning from the point of view of the mode of knowledge transfer.

3. DIDACTIC BACKGROUND.

Ruth Colvin Clark and Richard E. Mayer in [1.] have presented 8 principles of eLearning. These ideas are underlined in the following points 1.) to 8.) .

1.) The needs and requirements for the use of the graphics figures, dynamic figures / animation, multimedia, colours.

GOLDEN RULE no. 5.

For eLearning efficiency it is recommendable:

- to use **text and images simultaneously**,
- to create the premises for **an active and interactive learning**, namely through the involvement of the learner in the learning process,
- the images have to be effective and explanatory for the creation of an active learning process, not decorative:
- **the images must have one explanatory role, not a decorative role.**

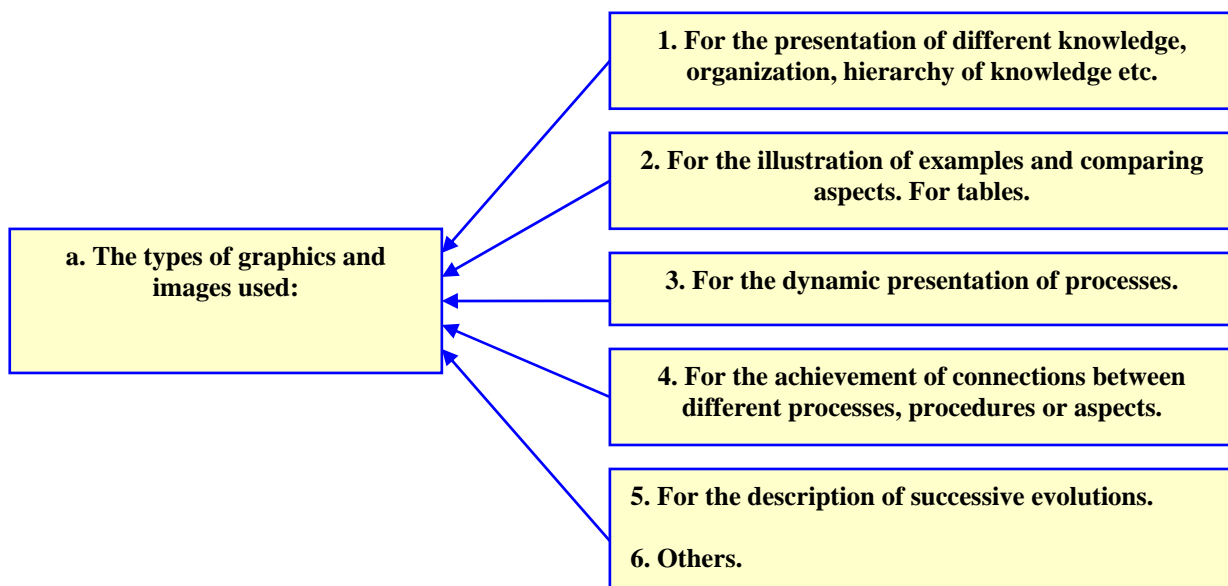


Fig. 3.1. The types of graphics and images used.

2.) The needs and requirements for using a minimal distance between the text and related images, between the text and related figures etc.

GOLDEN RULE no. 6.

- The texts and related figures, graphics, images etc. have to be close and on the same page.
- Do not make the learner go from the text they are reading to another section of the page or (in the worst case) to other pages.

- When considered useful, it is recommendable to use the “roll-over” procedure, based on which, at the positioning of the mouse on a figure, supplementary figures or new text are launched on screen. The graphic has to remain visible when the explicative text is launched.

Among the wrong situations, the following may be cited:

- the covering of the graphics when the text is read, or vice-versa,
- spatial jump (in the printed or displayed material) between the related or referred aspects, (for instance, placing of the directory of topics remotely in other pages than in the page being read), etc,
- the overlapping of elements which are better viewed simultaneously. For instance, overlapping of different directories of the respective actions to be achieved,
- others.

From a psychological point of view, the above aspects, regarding the non-separation between the related text and graphics, wrongly solved, may influence negatively the absorption of knowledge, by interrupting the process of forming mental representations of the content.

Solutions to avoid these wrong situations are elaborated.

For instance, by different technologies, using two (or several) separate, simultaneous display of separate elements on the same screen.

Through these actions the overlapping is not produced, or is present only in a part of the separate windows (or frames), or only in an insignificant zone.

3.) **GOLDEN RULE no. 7.** The use of audio materials enhances the absorption of knowledge.

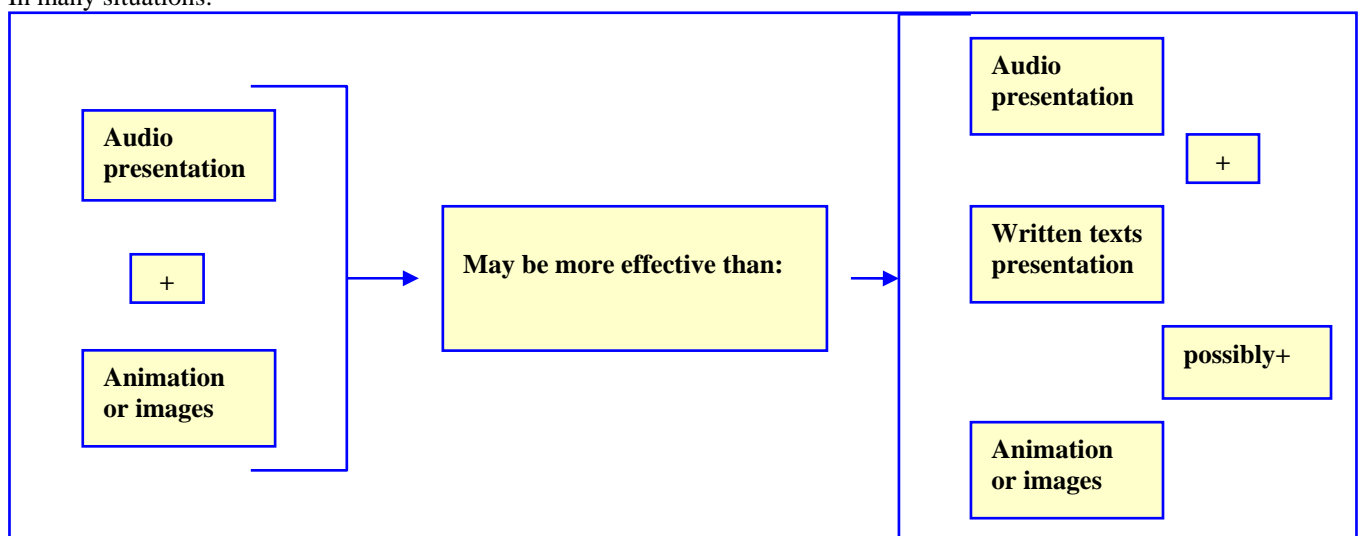
Improving the level of knowledge transfer is accomplished based on the fact that some people are sensitive to the audio learning procedures.

A requirement needs to be taken into consideration regarding the non-simultaneous presentation of the audio and of the text. Audio works well with graphics.

4.) **GOLDEN RULE no. 8.** The use of the audio presentation in succession with the appearance of texts on screen and in parallel with graphics and images.

- The audio presentation **must not be** presented at the same time with the written text. Otherwise, the audio may disturb the learner.
- The learner does not have the possibility to follow the audio description related to a text when she or he looks at the written text.

In many situations:



5.) **GOLDEN RULE no. 9.** The insertion of supplementary elements, non-connected or loosely connected with the lesson topics disturbs the learners.

The insertion of supplementary elements, such as:

- text,

- images,
- audio,
- words, exaggerated and/or without connection with the topic or aspects,
- audio or images and/or without connection with the topic or aspects,

as material irrelevant to the topics has to be avoided.

6.) GOLDEN RULE no. 10. The selection of the style of writing: conversational style.

eLearning may be more efficient by the use

- of the conversational 1st person and
- of the conversational 2nd person,

in the presentations.

7.) GOLDEN RULE no. 11. The importance of the working examples (as important separate aspect).

GOLDEN RULE no. 11.

The eLearning process may be substantially improved by the use:

- of examples, especially of working examples,
- of examples focused “on the real job”,
- of the detailed explanation of real working examples, and of practical work.
- of examples of the learner solving practical aspects related to the job.

4. THE TYPES OF eLEARNING OCCUPATIONS IN THE FLUX OF GENERATING AND USING eLEARNING PRODUCTS.

The flux of generating eLearning products and the flux of using eLearning products include multiple phases and steps.

Consequently, many types of occupations have been generated, such as:

- People who identify the user needs,
- Courses’ managers,
- Contents monitors,
- People who prepare the content,
- Contents designers,
- Contents elaborators,
- Contents editors,
- Translators of contents,
- People who convert the contents, between different formats, based on different software tools.

For instance: from Power Point to Flash, from Word to XHTML etc.

- People who design the eLearning lessons,
- People who transfer the lessons into the necessary language and format,
- People who design the eLearning CBT /WBT presentation,
- People who design or use a certain kind of technology for eLearning, especially software languages,
- People who generate elements of multimedia, images, movies,
- People who test the eLearning lessons,
- People who train with eLearning,
- People who train the trainers in eLearning,
- and others.

Example:

One eLearning creator generates the primary text in MS Word and converts this text into the XHTML based on CSS – Cascade Style Sheets.

Because he uses CSS style sheets, the activity requires a long time (copying and pasting), completed with the taking into consideration of the pre-selected Style Sheets.

One person may achieve these tasks professionally.

The following lessons offer training in the use of advanced tools used in the flux of creating the eLearning products.

Key Point Summary Conclusions and Recommendations

eLearning is a relatively new science, with multiple facets and multiple possible pitfalls.

Some principles of learning are interpreted in the specific mode in eLearning.

The quick eLearning represents one important pragmatic trend.

eLearning generates a large number of important occupations and sub-occupations.

Study Guide

ESSENTIAL QUESTIONS TO EVALUATE THE ACQUIRED KNOWLEDGE

1. Please indicate minimum 10 distinct eLearning activities.
2. Please indicate minimum 5 procedures for the improvement, through eLearning, of the transfer of skills and knowledge.
3. How may interactivity be accomplished in eLearning courses?
4. Which are the types of eLearning?
5. Is blind learning recommendable?
6. Is the procedure in which the text is presented simultaneously with the audio recommended?
7. When is the audio going well?
8. How should the images / graphics and the related text / explanations be presented?
9. Are decorative elements of the screen etc. recommended in eLearning courses?
10. Which are the main three general elements which influence the quality, success and the mode of application of eLearning?

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IMPORTANT SUPPLEMENTARY BIBLIOGRAPHY. REFERENCES. (www)

It is recommendable that you should also consult (under the reserve they are available at the respective time):

<http://www.wbtworld.net/en/quest.php>
<http://www.wbtworld.net/>
www.clarktraining.com and others.

SUPPLEMENTARY INDICATIONS ABOUT THE CONTENTS OF THE LESSON

The learner is important to establish which segment for the production of eLearning materials is more appropriate for his possible job activities.

ANSWERS TO QUESTIONS

1. People who: design the eLearning lessons; who transfer the lessons in the necessary language and format, who design the eLearning CBT /WBT presentation; who design or use the precise kind of technology for eLearning; especially software languages; who generate the elements of multimedia; images, movies; who test the eLearning lessons; who train with eLearning; who train the trainers in eLearning; and many others.
2. Through the initial presentation of what will be learned, using of interactivity, respective by the active the involvement of the learner, through the use of examples, scenarios, images, animations, movies, special presentations, special effects, on-line guiding and others.
3. Through the using of the quiz, questions, chats, forums and evaluations.
4. Informal, self paced, trainer led, using the pallet of eLearning tools and blinded.
5. The blind learning may add important benefits.
6. No.
7. At the presentation together with the graphics.
8. In very close vicinity, so as fragmentations should be avoided.
9. No. All supplementary and decorative elements may distract the learner.
10. The goal of the training (and the reflection of the goal in courses), the prior knowledge of the learner, the environment in which and with which will be achieved the transfer of knowledge.

WORDS TO THE LEARNER: “Do not wait for opportunities. Create them.” (After Bernard Shaw)

