



dokeos®
e-learning architects

THE DOKEOS E-LEARNING PROJECT MANAGEMENT GUIDE



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I. INTRODUCTION

This guide is the result of a series of meetings with companies HR management teams and training departments. In most cases, the team plans to launch an e-learning programme so as to improve flexibility, accessibility and productivity of learning processes. The document defines guidelines for the pilot phase of such kind of projects.

II. QUALITY MANAGEMENT

Some 70% of e-Learning projects fail. Participants give up, competences are not acquired or the project is not financially sustainable. It is, consequently, important, to pay attention to the threats and dangers of such kind of projects. Weakness of learning analysis and design being the most obvious.

Analyse the need for training, the target audience and resources available but also delve into a reasonable understanding of norms and standards at stake : SCORM, W3C, assessment norms and also norms that are internal to the organisation starting the e-learning project : production quality standards, processes normalisation and quality control.

In one of our cases, the organisation's training project is driven by the necessity to comply with recently introduced quality standards like PALAS and CMMI. The e-Learning pilot project should be an opportunity to delve into these norms and see how PALAS and CMMI propose their own validation protocols as guidelines for the training scenario, course material and targeted competences.

III. CONTENT VS COMPETENCES

If most learning experts recommend that training programmes focus on *competences* (what can participants do) instead of *contents* (what do participants know), this is even more true for e-Learning programmes. Transferring part of your training to web-based sequences leads you to describe the process step by step in terms of activities and tests and you are automatically invited to describe what the test validates in terms of competences.

Classroom training objectives may tolerate that you describe them in terms of : « at the end of the session, participants should know the main quality standards of the organisation » where the same session online in an e-learning programme will lead you to describe how participants will prove in tests that they are able to deal with the rules in terms of :

- associate a universal rule with a particular situation
- define what lies within the scope of the rule what lies outside it
- compare two results and decide which one complies most with rule X



One of the most useful exercises for training managers at start will be to re-describe the course and lessons objectives in terms of actions and measurable behaviours instead of mental states like « know », « understand » or « apply ».

Content-oriented description		Competences-oriented description
Know the PALAS rules	➔➔	Be able to list the PALAS rules
Understand the PALAS rules	➔➔	Succeed in a multiple choice about PALAS rules
Apply the PALAS rules to a particular situation	➔➔	Point out mistakes in a bad PALAS application Fill a PALAS form about a particular situation

The reference to Bloom's taxonomy will help detail the process lesson by lesson and analyse the course in terms of competences following a table that will look more or less like this :

Category	Example and Key Words
Knowledge: Recall data or information.	Examples: Recite a policy. Quote prices from memory to a customer. Knows the safety rules. Keywords: defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states.
Comprehension: Understand the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.	Examples: Rewrites the principles of test writing. Explain in one's own words the steps for performing a complex task. Translates an equation into a computer spreadsheet. Keywords: comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives Examples, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates.
Application: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.	Examples: Use a manual to calculate an employee's vacation time. Apply laws of statistics to evaluate the reliability of a written test. Keywords: applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses.
Analysis: Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences.	Examples: Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gathers information from a department and selects the required tasks for training. Keywords: analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates.
Synthesis: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.	Examples: Write a company operations or process manual. Design a machine to perform a specific task. Integrates training from several sources to solve a problem. Revises and process to improve the outcome. Keywords: categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes.



<p>Evaluation: Make judgments about the value of ideas or materials.</p>	<p>Examples: Select the most effective solution. Hire the most qualified candidate. Explain and justify a new budget.</p> <p>Keywords: appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports.</p>
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IV. STORYBOARDING

E-Learning design starts when the course design team is able to express the competences at stake in terms of activities. The following table (and its example) will help progress from objectives to tools through method, steps (or SCORM objects) and media.

Our example lesson here is taken from the company's internal documentation process. To deliver a development internally, the development team has to provide a documentation called a « Delivery » filling a compulsory template form. The lesson here bears on « How to fill the delivery form? »

One of the advantages of this method is to analyse the lessons learning object by learning object, page per page and media per media. The next step being to determine the needed tools to produce the media.

Objective	Method	Steps (SCOs)	Media	Tools
Fill the delivery form.	Case study and problem based learning.	List PALAS rules	Multimedia presentation of PALAS rules set	Flash video and/or Dokeos web page authoring
Cognitive competences			Multiple choice	Dokeos test tool
<p>Knowledge : list the PALAS rules</p> <p>Comprehension : associate particular situations with PALAS rules</p> <p>Application : apply PALAS rules to a new situation</p>		See a completed form and prove you understand how it complies with PALAS.	Completed form presentation : video or text.	Flash video and/or Dokeos web page authoring
			Multiple choice	Dokeos test tool
		See a form with PALAS mistakes in it and detect them.	Wrong form presentation : video or text	Flash video and/or Dokeos web page authoring
			Multiple choice	Dokeos test tool
		See a form with blanks and fill them	Incomplete form presentation : video or text	Flash video and/or Dokeos web page authoring
			Fill the blanks test	Dokeos test tool
		Compare two forms and provide expert remarks	Two forms presentation : video or text.	Flash video and/or Dokeos web page authoring
			Multiple choice	Dokeos test tool



		Fill an empty form	Reminder of PALAS rules set as defined in first step.	Flash video and/or Dokeos web page authoring
			Open question based on form template	Dokeos test tool and individual reporting and coaching

V. THE 4 C REQUIREMENTS

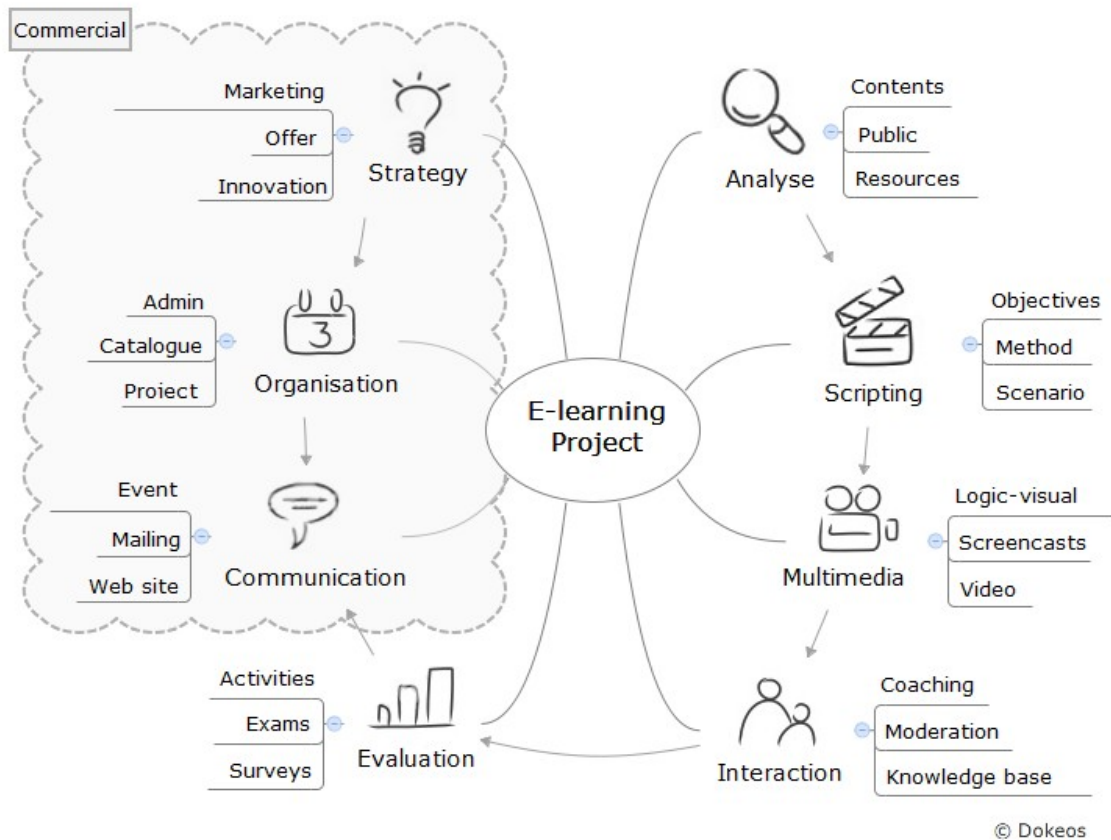
To get started with an e-Learning project, the organisation should check if it can rely on the four C minimal requirements:

	4 C	Questions	Answers
01	Connectivity	Will the IT infrastructure guarantee the project to happen in acceptable conditions	Agreement with IT system managers SCORM compliance W3C web rules compliance bandwidth check loudspeakers check
02	Competences	Will we provide the expected and relevant courses, tests, activities and assessment protocol?	e-Learning Cases study Competences analysis Audience analysis Instructional design Multimedia development : buy or do? Coaching interaction deployment
03	Capability	Are all the actors of the system able to enter the project	End users tests Trainers training Management agreement and support Budget handling
04	Culture	Are all the actors of the system eager to enter the project	Communicate on project internally Detect trainees motivation Provide guarantees to trainers Validate with a certificate Promote collaboration in learning process

VI. ANALYSIS, DESIGN, DEVELOPMENT, INTERACTION, EVALUATION

A common practice is to work during the 6 first months on a pilot project so as to get familiar with the e-learning project management methodology and go through all its phases to get familiar with the *Strengths, Weaknesses, Opportunities and Threats* of e-Learning.

During this phase, the core team should go through the 4 phases of e-Learning project management : **Analysis** (see what we need), **Design** (decide how to do things), **Development** (create courses and associated media), **Interaction** (give courses, coach and assess trainees).



VII. A PROJECT FOLLOW-UP DASHBOARD

To manage a large scale e-Learning project, the organisation might want to start by summarising the decisions in a three-levels spreadsheet :

- E-Learning Project sheet in terms of Analysis, Design, Development, Interaction
- Course scenario sheet in terms of Pre-requisites, Week-by week agenda, Assessment protocol and team casting
- Lesson storyboard sheet : SCO by SCO description following analysis of Objectives, Competences and Learning Method.

Download the E-Learning project management dashboard from :

<http://www.dokeos.com/doc/DokeosElearningProjectDashboard.xls>

VIII. MULTIMEDIA AUTHORING TOOLS

To analyse, design, develop, deliver and follow e-courses, the organisation will need a series of IT software. The Dokeos LMS or another SCORM compliant LMS might be the base. It will

be completed in particular with a series of multimedia authoring tools. Here is a first list of tools that you may want to choose from.

Dokeos promotes the use of open source software when possible for more flexibility, sustainability and a quicker deployment.

Task	Closed	Open	Online with Dokeos
Mindmapping Brainstorm, visualize, draw diagrams	 Xmind PRO	 Mind	Download Dokeos Mind for free. It includes e-learning-oriented icons and templates.
Project management Organize and pilot the project	 Excel	 Calc	Download the free Project Dashboard + GANTT templates.
Image manipulation Resize and manipulate photos and screens	 Photoshop	 Gimp	Buy photos at Istockphoto, Fotolia or free from Wikimedia. Import as JPG or PNG.
Audio manipulation Record and edit audio, create podcasts.	 GoldWave	 Audacity	Import as MP3. 64 Kbp s is a good compression rate.
Screencasting Film your screen	 Captive	 Jing	Import as FLV. SWF and MPG are alternatives. Jing is free but not open.
Video editing Cut and convert movies	 Premiere	 VideoSpin	Import as FLV. MP4 and MOV are alternatives.
Avatars Add a viewpoint to training material.	 Sitepal	 Mr Craft	Download the free Dokeos Mr Craft avatars. Import in Document templates.
Storyboarding Sequence course screen by screen	 Powerpoint	 Impress	Download the free Dokeos Scenario Powerpoint template.
Rapid learning Build course from Powerpoint	 Articulate	 Oogie	Convert the presentation online with Dokeos Oogie. Add audio + quizzes and generate reporting.
Authoring Assemble a SCORM course	 Captive	 Author	Add content and activities to a learning path with Dokeos Author and distribute + report.



IX. GANTT AGENDA

The HR or training team will have to agree on a detailed agenda. Here are some typical items for the agenda and a possible time organisation.



Template e-learning project GANTT

Task	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	Company	Dokeos
Infrastructure														
Installation + Setup + support + annual maintenance Dokeos PRO SaaS	12 months - - - >											IT	SLA + 40h assistance	
Analysis														
Validation du contenu Y	0.5												AF, EC	IL
Clarify pedagogical objectives	0.5												AF, EC	JLD, LB
Clarify evaluation objectives	0.5												AF, EC	JLD, LB
Project meeting : who does what, when, with what validation process?		0.5											AF, EC	IL, MP
Selecting multimedia and authoring tools		0.5											AF	IL, MP
Design														
Course storyboard : objectives, screens and navigation screen by screen			4										AF, EC	IL, LB
Evaluation methodology. Quizzes and gaming scenario			2										AF, EC	IL, LB
Workshop : authoring tools. Dokeos, Articulate, Gimp, Flash...			2										AF	IL, ELA
Case studies scenarios : navigation through first case				2									AF, EC	IL, ELA
Quizzes and gaming storyboarding. Each quiz or game described screen by screen.				2									AF, EC	IL, MP
Design of screens, templates, mockups.					2									IL, MP
Multimedia development														
Quiz content with Dokeos Quiz authoring system + Flash development for serious game scenario						6							AF	IL
Page layout and design from max 200 slides							5						AF	DS
Extracting key images and publishing							2						AF, EC	DS, TDP
Feedback resources for quizzes and games								4					AF, EC	IL
Page layout, navigation and usability									3				AF, EC	DS
Image manipulation : contouring, 3D effect, zoom effect + buying images at iStockphoto										2			AF	DS
Flash cut : serious game											4		AF	DS
Adding audio comments to pages in Flash												3	AF	DS
Merge Dokeos quiz and Flash interface												2	AF	IL
CD ROM export													AF	DS
Authoring tools licences : Flash, Articulate														
Forums and social interaction pre-cooking and storyboard														0.5
Communication plan														
Flash animation 1 minute : teaser												2	AF, EC	DS
Newsletter and emailing												0.5	AF	IL
Folder A 2 faces												0.5	AF	TDP
Kick off meeting												0.5	AF, EC	TDP
Interaction														
Weekly coaching, face 2 face meetings, chat with experts.													AF, EC	DS, MP

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Download the Excel file on <http://www.dokeos.com/doc/DokeosElearninGANTT2010.xls>



X. DOKEOS DOCUMENTATION & TEMPLATES

These documents are freely available on <http://www.dokeos.com/en/documentation.php>

Admin manual

The Bible of portal managers.

Case studies

Check out how other organizations handle e-learning

What is e-learning? An empirical approach

Start with this 3 pages overview.

E-learning Project Dashboard

Follow the development project week by week

Screencast tutorials

How to use Dokeos, demonstrated hands-on

Powerpoint e-learning Scenario template

Design screens and a learning sequence

Tips and Tricks

Finetune the use of Dokeos as a content developer / a portal administrator

Trainer manual

All features of a Dokeos training, listed one by one.

X. LINKS

EPIC white papers

In-depth articles on dedicated e-learning topics. <http://www.epic.co.uk/>

Jane's pick of the day

News related to e-learning. <http://janeknight.typepad.com/>

Making Change

Cathy Moore's blog on e-learning. <http://blog.cathy-moore.com/>

SCORM best practices for content developers

A Cornell University document to understand SCORM from a practical viewpoint.

<http://www.dokeos.com/doc/thirdparty/ScormBestPracticesContentDev.pdf>

Scalise & Gifford, **Computer based assessment**, JTLA, June 2006

<http://www.dokeos.com/doc/thirdparty/Computer%20Based%20Assessment.pdf>