

Production and operation of learning objects in the training

Spanish Army

Academia de Logística (Calatayud - Zaragoza)

Subdirección de Enseñanza a Distancia

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La Academia de Logística



Objective

Personnel and material logistic training for officers, NCO and other ranks in the Spanish Army



La Academia de Logística



Subdirección de Enseñanza a Distancia:

a) Distance studies department

Courses to obtain 'Título de Técnico Militar' .

(Equivalent to vocational training for other ranks)



Subdirección de Enseñanza a Distancia

b) ICT Department

- Learning process:

Teachers: teaching through learning virtual environment

No teachers: multimedia resources production



Subdirección de Enseñanza a Distancia:

c) Webmaster in the Spanish Army

- Administration and maintenance of the learning management system (LMS) for Spanish Army courses.



Ministry of Defence Virtual Campus



Standarize eLearning process of the Army, Navy and Air Force.

- * Learning Mananement System: SABA
- * Webinar: Saba Centra
- * Metadata: LOM_MDEF. Design phase.
- * Repository: In project.



Ministry of Defence Virtual Campus





Learning objects



Concept:

(Sánchez Alonso, 2005).

"A learning object is a **didactic unit** in digital format, independent, self-contained, durable and predisposed for reuse in several educational contexts for the inclusion of standardized **metadata**, specifically oriented to the automation of management processes".



Learning objects



Designed by:

- Military teachers: Teacher training is very important in the model
- Companies



Learning process plan



VNIVERSIDAD
D SALAMANCA



Joint project of Universidad de
Salamanca (USAL) and
Academia de Logística (ACLOG)

Basic course on learning virtual environment teaching:
for teachers

Advanced course on learning virtual environment
teaching: for teachers

Course on multimedia resources production: for no
teachers



Basic and advanced courses



Objective: To convert face to face teacher in **tutor online**.

Tutor online is (García & Seoane, 2005) “The teacher and professional figure who **accompanies** a group of students during a part of their training; **guaranteeing the efficiency** of all aspects of the teaching-learning process; working towards achieving goals; acquiring content, **competences and skills**, which will be needed during the training interventions he is responsible for, in a context of **collaborative and active learning**; and evaluating the level of achievement of these objectives, on the part of the students as well as by the training initiative itself (**quality** management)”



Basic course



Modality: on-line (blended learning)

Length:

8 weeks LMS - CVCDEF

5 weeks LMS - USAL

4 days (present lessons) ACLOG: authorizing tool

Subjects:

Instructional design (I)

LMS (I)

Digital files creation: PDF

Learning objects

Tutoring online (USAL)



Advanced course



Modality: on-line (blended learning)

Length:

7 weeks LMS - CVCDEF

3 weeks LMS - USAL

3 days (present lessons) in ACLOG

Subjects :

Instructional design (II)

LMS (I)

Graphic design theory

Introduction to digital audio and video

Project management (USAL)



Course on multimedia resources production



Modality: on-line / face to face lessons (mixed)

Length:

12 weeks LMS - CVCDEF

2 weeks LMS - USAL

3 weeks (present lessons) in ACLOG

Subjects online period:

Graphic design theory

Camerman (I)

Digital audio edition (I)

Digital video edition (I)

Animation with Flash (USAL)



Course on multimedia resources production



Subjects face to face lessons period:

Photoshop Elements

Digital audio edition (II)

Digital video edition (II)

Cameraman (II)

Project



Learning objects

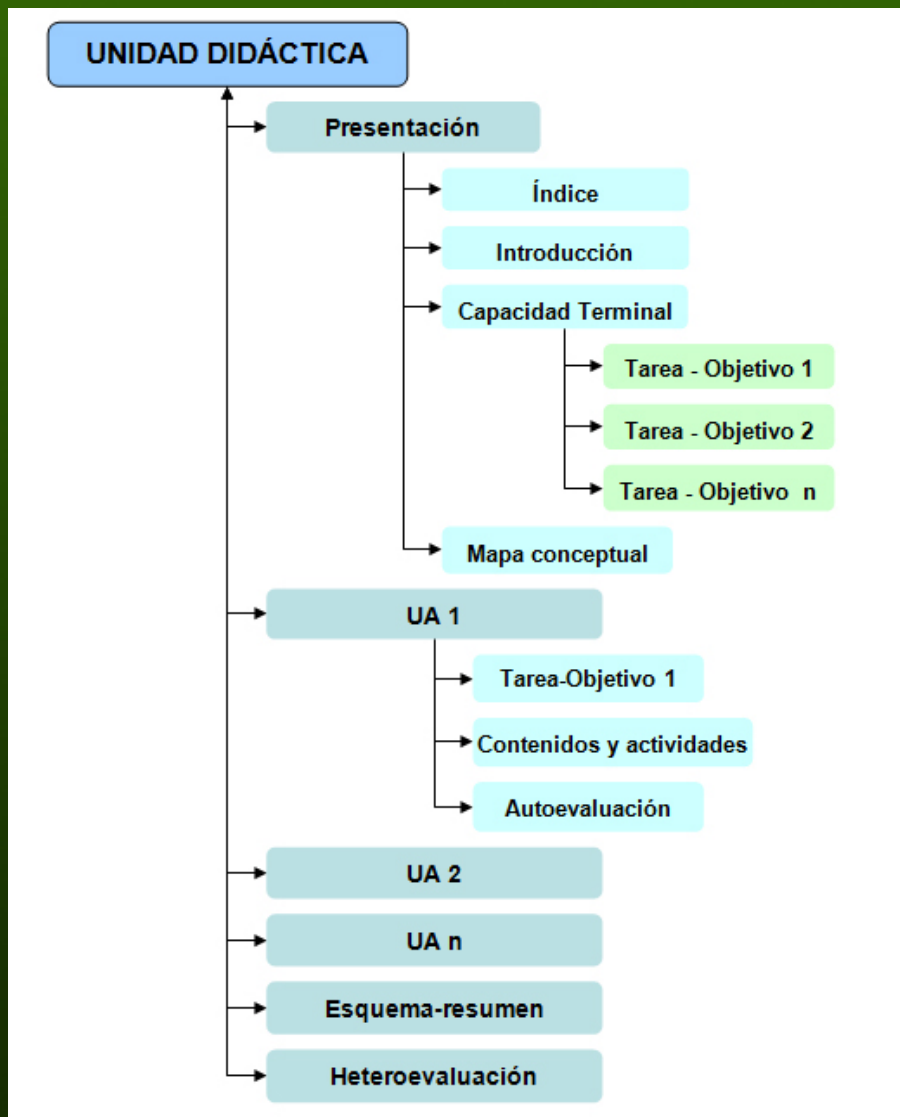


Instructional design in CVCDEF:

- It defines a procedure for LO' s design.
- Pedagogical concepts to take into account to design LO' s



Learning objects: structure





Learning objects



Authorizing tool:

- EasyProf: Easy to use and public in SCORM



Learning objects



Authorizing tool:

The screenshot shows the EasyProf 3.6 software interface. The main window displays a page titled "UD. Objetos de aprendizaje" with a sub-section "UA2. Objetos de aprendizaje". The page content includes a list of sections on the left and a main text area on the right. The text in the main area discusses the use of XML and repositories for learning objects, stating that they are digital entities described externally by metadata. Below the text is a diagram illustrating the relationship between educational content units, metadata, and learning objects.

UD. Objetos de aprendizaje > UD. Objetos de aprendizaje > UA2. Objetos de aprendizaje

UA2. Objetos de aprendizaje

- Objetivo
- Actividad
- Introducción
- Introducción 2
- Introducción 3
- Reutilización
- Reutilización 2
- Reutilización 3
- Justificación económica
- Justificación técnica
- Definición
- Definición 2
- Definición 3
- Info. adicional
- Autoevaluación UA2

El lenguaje elegido es XML y una de las herramientas tecnológicas más destacables son los repositorios de OA,s en los que se almacenan recursos educativos para su posterior reutilización. Por tanto, se puede plantear que:

Los objetos para el aprendizaje son entidades digitales descritas externamente por metadatos

y por tanto, la **calidad**de un OA dependerá tanto de su diseño pedagógico como de la calidad de sus metadatos, que serán utilizados para la construcción de tecnologías orientadas a mejorar los procesos de búsqueda (entre otros) de recursos para el aprendizaje.

Diagram illustrating the relationship between educational content units, metadata, and learning objects:

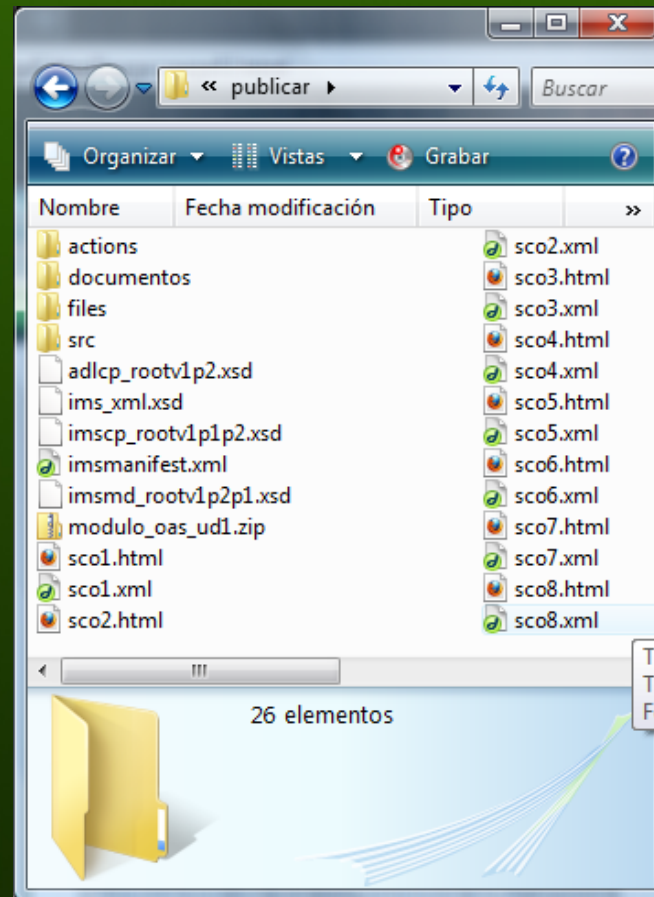
Unidad de contenido educativo + metadatos = Objetos de Aprendizaje



Learning objects



Authorizing tool:



Package SCORM



Learning objects



Style guide:

CVCDEF disposes of a style guide whose main aim is to define graphic aspects of contents, the elements which to compose the interface and its distribution.

This guide is embodied in **templates** that are provided to developers.



Learning objects



Style guide:

The screenshot shows a web browser window titled "UD. Objetos de aprendizaje". The header includes the logo of the "Dirección de Enseñanza Academia de Logística" and a navigation breadcrumb: "UD. Objetos de aprendizaje > UD. Objetos de aprendizaje > UA1. Lenguajes de marcado >". A sidebar on the left lists the navigation menu, with "HTML. Tipos de etiqueta 2" selected. The main content area is titled "b) Etiqueta con atributos" and contains the following text:

Añade, a lo descrito en el apartado anterior, la posibilidad de incluir propiedades que pueden adoptar distintos valores:

```
<nombre etiqueta atributo1="valor" atributo2="valor"> ... </nombre etiqueta>
```

** Pulse aquí **

En este caso el código crea un enlace con otro documento. La etiqueta utilizada es "a", que significa "anclar", y el valor del atributo "href" es "html1.pdf". Como resultado, al pulsar sobre la cadena de caracteres "Pulse aquí", se abrirá el documento "html1.pdf". Observe que esta cadena se muestra en pantalla en otro color y subrayada para indicar que es un hipertexto.

An inset window shows a "C:\Documents and Set..." window with a menu bar (Archivo, Edición, Ver, E, >>) and navigation buttons (Atrás, Ir, Vínculos). The address bar contains "Pulse aquí" and the status bar shows "Mi PC".

Screen designed according to style guide



Technological quality test:

“ADL Conformance Test Suite” is used for quality control of SCORM packages.

This test allows to certificate that a SCORM package fulfils the norms and rules defined by the standard.



Learning objects



Technological quality test:


ADL SCORM © 2004 4th Edition Test Suite Version 1.1.1 - Mozilla Firefox

Archivo Editar Ver Historial Delicios! Marcadores Herramientas Aviaary Ayuda

UD. Objetos de aprendiz... Advanced Distributed L... Advanced Distributed L... ADL SCORM © 2004 4th ...

file:///C:/ADL/SCORM_2004_4th_Ed_TS_V1.1.1/TestSuite/rn

Google

 **Welcome to the Advanced Distributed Learning (ADL) Sharable Content Object Reference Model (SCORM®) 2004 4th Edition Test Suite**

Version 1.1.1

[About the ADL SCORM 2004 4th Edition Test Suite](#) [View the ADL SCORM 2004 4th Edition Conformance Matrix](#)

Certification Note: Successful outcome of this test does not constitute ADL Certification unless an ADL Certification Auditor conducted the test.

Conformance Tests:

- [Learning Management System \(LMS\) Conformance Test](#)
- [Content Package Conformance Test](#)

Utility Tests:

- [Sharable Content Object \(SCO\) Run-Time Environment \(RTE\) Conformance Utility Test](#)
- [Manifest Utility Test](#)
- [Checksum Utility Test](#)



Learning objects



Technological quality test:

Launch LO with “RELOAD SCORM Player”.

- Simulates LMS: Error detection.
- SCORM variables control.
- Test SCO,s.



Learning objects



Technological quality test:

Reload Scorm 1.2 Player

File Run Server Tools View Help

Imported Scorm Packages

- guia_didactica
 - ud_1_objetos_aprendizaje

Organizations

- UD. Objetos de aprendizaje
 - UD. Objetos de aprendizaje
 - Introducción (sco)
 - UA1. Lenguajes de marcado (sco)
 - UA2. Objetos de aprendizaje (sco)
 - UA3. Metadatos (sco)
 - UA4. SCORM (sco)
 - UA5. Repositorios (sco)
 - Esquema resumen (sco)
 - Heteroevaluación (sco)

CMI Datamodel

Name	Value
cmi	
_version	3.4
core	
_children	student_id,student_name,lesson_location,credit,lesson_status,entry,score,total_time,lesson...
student_id	Reload-001
student_name	User, Reload
lesson_location	
credit	credit
lesson_status	not attempted
entry	ab-initio
score	
_children	raw,min,max
raw	
min	
max	
total_time	0000:00:00.00
lesson_mode	normal
exit	
session_time	00:00:00
suspend_data	
launch_data	
comments	
comments_from_lms	
objectives	
_children	id,score,status
_count	0
student_data	
_children	mastery_score,max_time_allowed,time_limit_action
mastery_score	
max_time_allowed	
time_limit_action	continue,no message
student_preference	
_children	audio,language,speed,text
audio	0
language	
speed	0
text	0
interactions	
_children	id,objectives,tme,type,correct_responses,weighting,student_response,result,latency
_count	0

Item Information

Attribute	Value
Title	UA3. Metadatos (sco)
Item ID	ITEM_5
Scorm Type	sco
Launch	../course-packages/ud_1_objetos_aprendizaje/sco4.html
Prerequisites	none

Set Organization as default



Learning objects



Developing projects:

- Metadata profile for LO,s: LOM_MDEF
- Create a LO,s repository
- Pedagogical quality test



Spanish Army

We work for the peace in the world



Thank you for your attention

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