

# Practical experiences of reusing LAMS pedagogical templates

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# Overview

Domain specific  
content

Reuse

Author – Tutor –  
Course Designer

Roles

Learner

Training

Learning

Traditional

Blended

LMS – Moodle + LAMS

LAMS

Pedagogical  
templates

*Reusing  
Pedagogical  
templates*

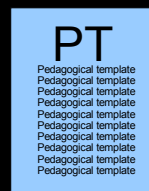
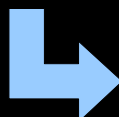
Exp.1 WasteTrain

Exp.2 Distributed Application

# Two Experiences of Use of LAMS

- different domains and course typology

	WASTE TRAIN course	DISTRIBUTED APPLICATIONS course
Course typology	vocational	academic
Domain	waste management	ICT - Comp. Science Eng.
Development stage	concluded 1 <sup>st</sup> run	in progress
Delivery mode	blended	face-to-face
Learners' features	heterogeneous	homogeneous



# Technical solutions (1/2)

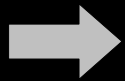
- To integrate LAMS in the Moodle platform
- Both free open-source
  
- Moodle
  - to create and manage on-line courses
  - to organize and provide students with the didactic resources
  - to promote effective on-line learning communities with wide interaction possibilities (e.g. forum, blog, wiki, chat)

# Technical solutions (2/2)

- LAMS
  - to design, manage and deliver appropriate learning activities for different student groups
  - to allow the course to be delivered in blended learning mode

# Rationales

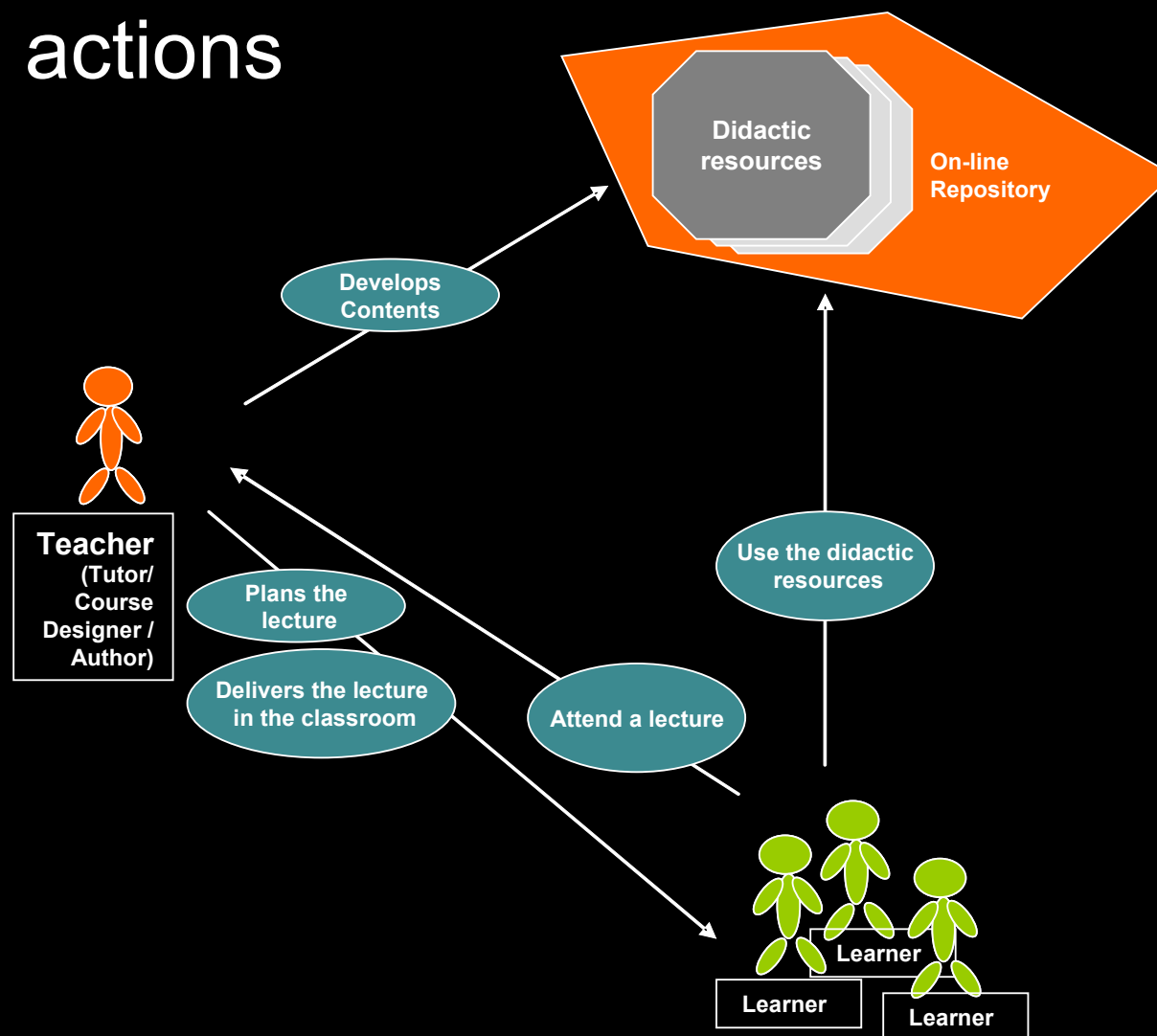
- “in order for meaningful learning to occur, the **task** that **students** pursue should **engage active, constructive, intentional, authentic, and cooperative activities**” (Jonassen et al 2008)



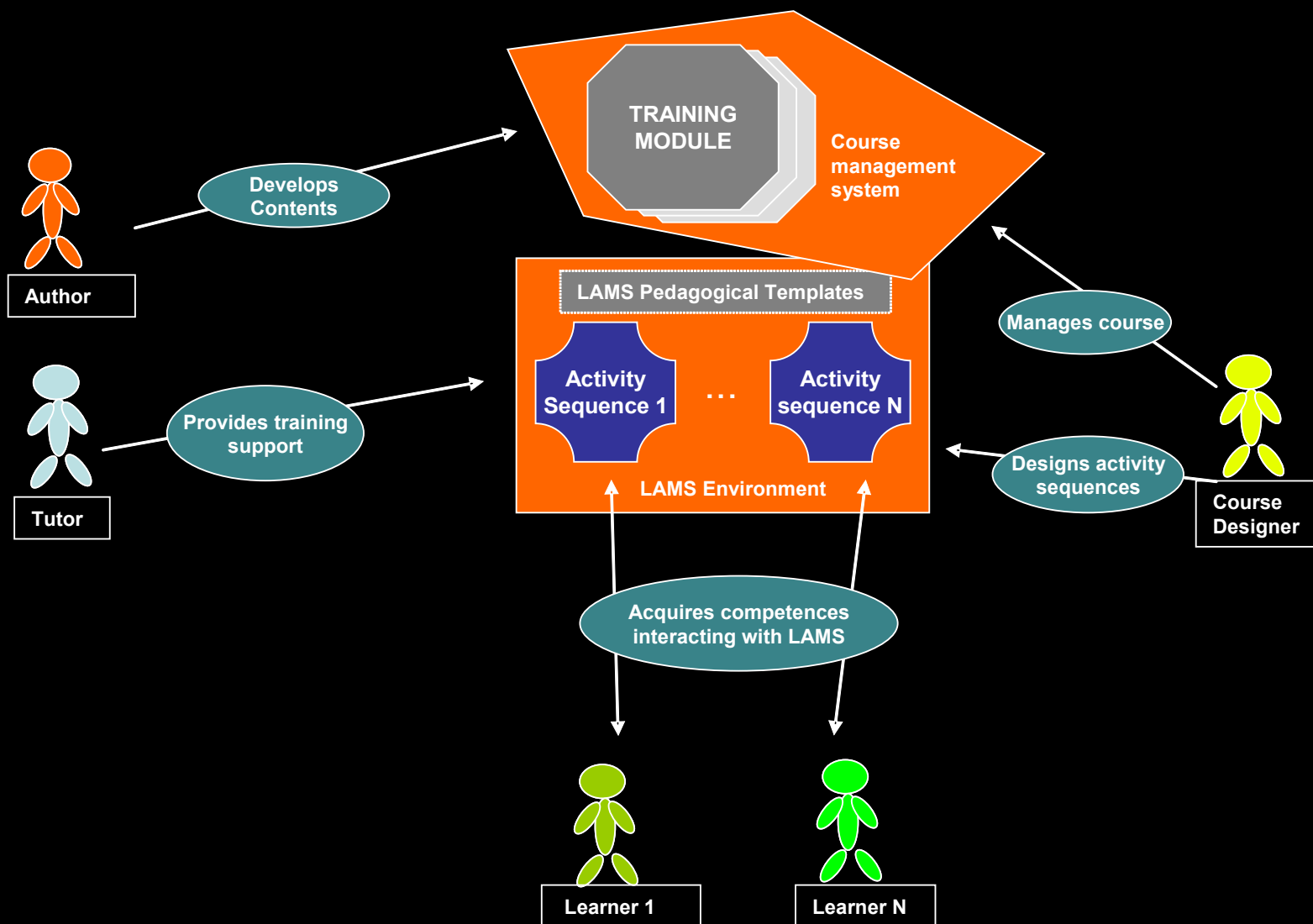
well supported in Moodle and LAMS

# The training environment in traditional learning

- actors and actions



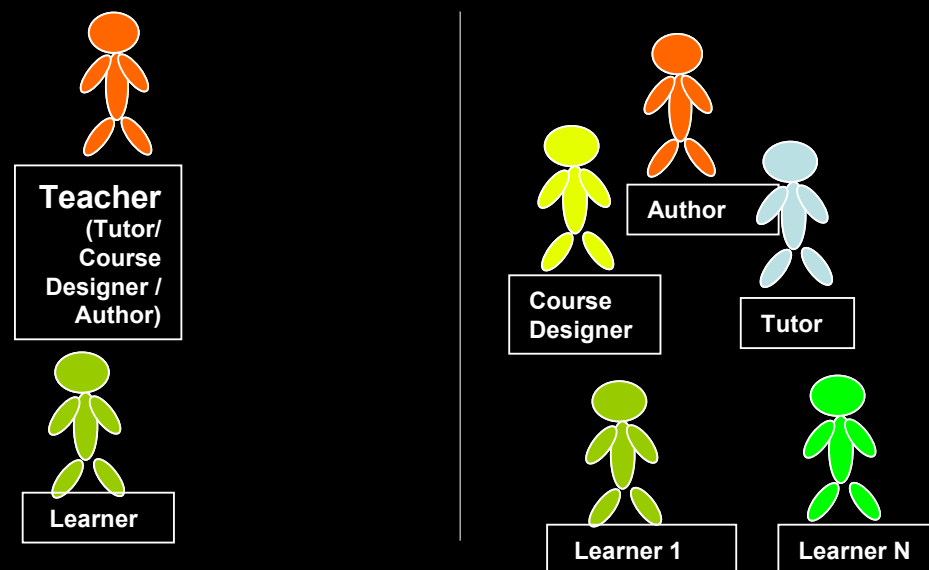
# The training environment in blended learning





# Comparison between traditional and blended learning

	<i>TRADITIONAL</i>	<i>BLENDED</i>
<i>Personalization</i>	limited	high
<i>Number of actors</i>	low	high
<i>Role separation</i>	No (1 actor many roles)	Yes (1 actor 1 role)



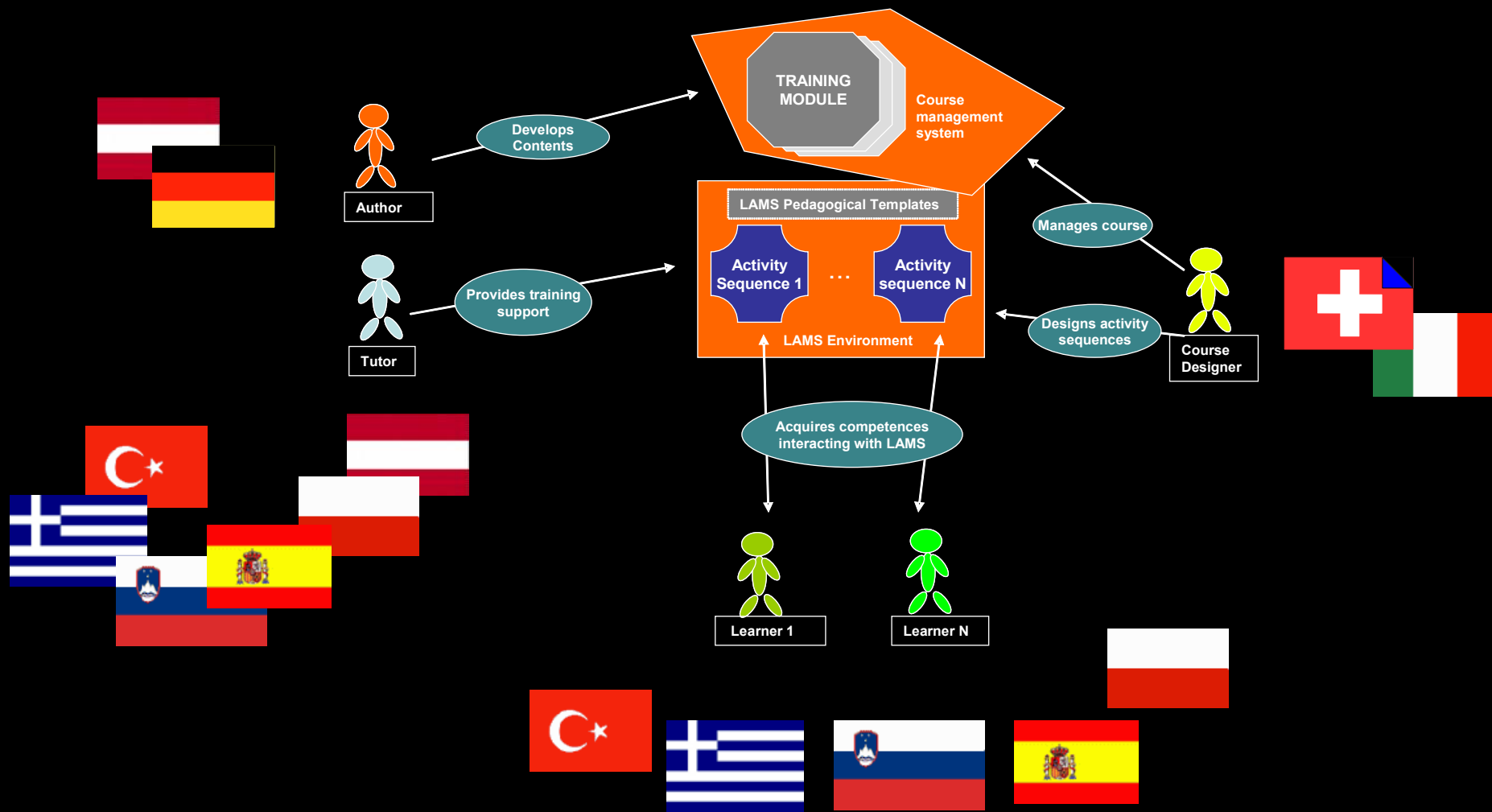
# The WasteTrain Project

- EU Leonardo project
- development of training courses in the field of Modern Solid Waste Management
- academic and industrial partners from 9 different countries, speaking 8 different languages



- role of the actors described in figure 2 is played by different partners according to their competences

# The training environment in WasteTrain



# LAMS for the WasteTrain course

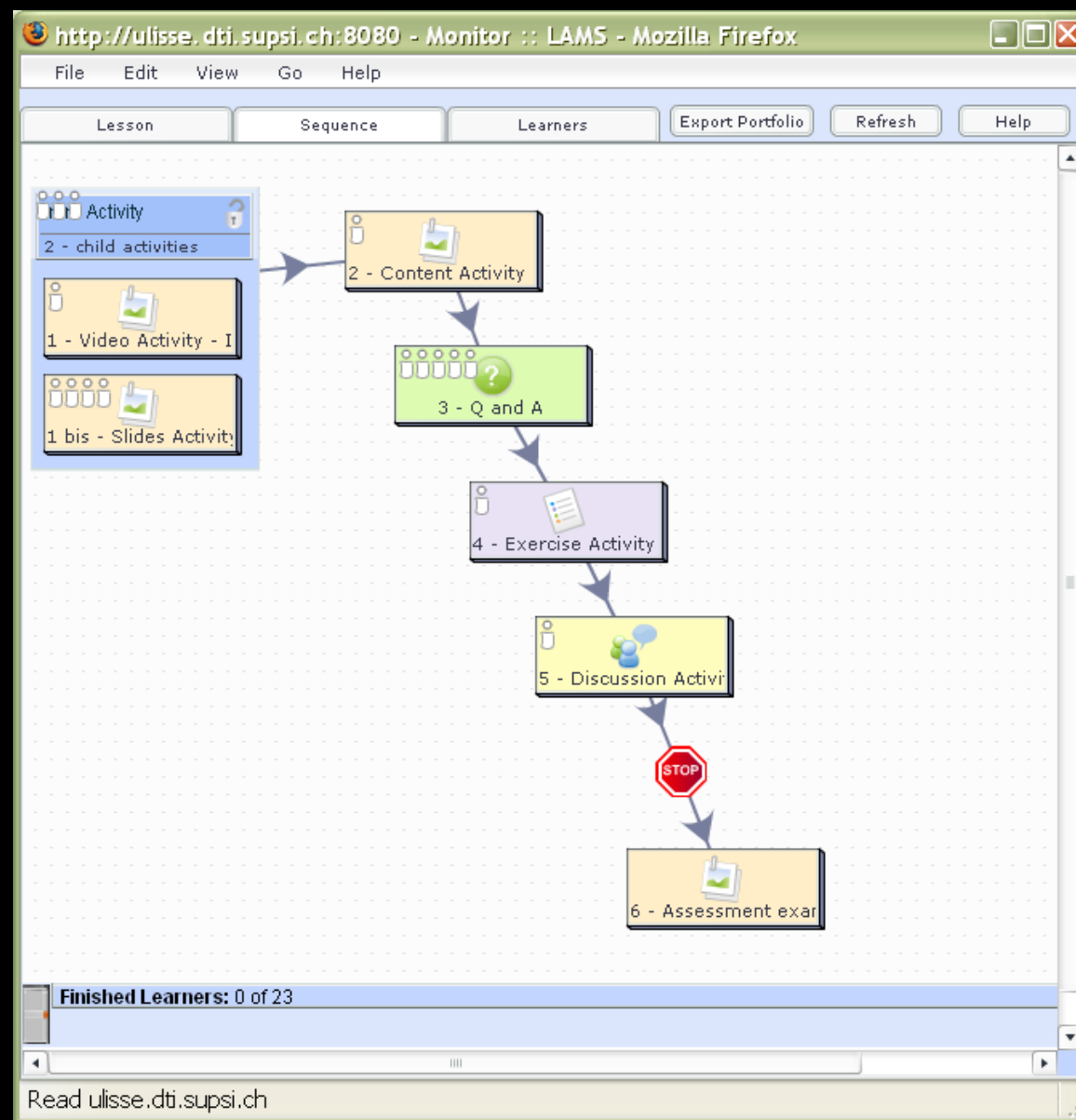
- Heterogeneous types of target users, the need for personalized training
- Personalization was implemented by creating different course typologies on the same subject
- Two main pedagogical templates:
  - basic
  - Advanced
- in order to have two different uses and deepening levels of the same material or resources

# The WASTE TRAIN modules in Moodle

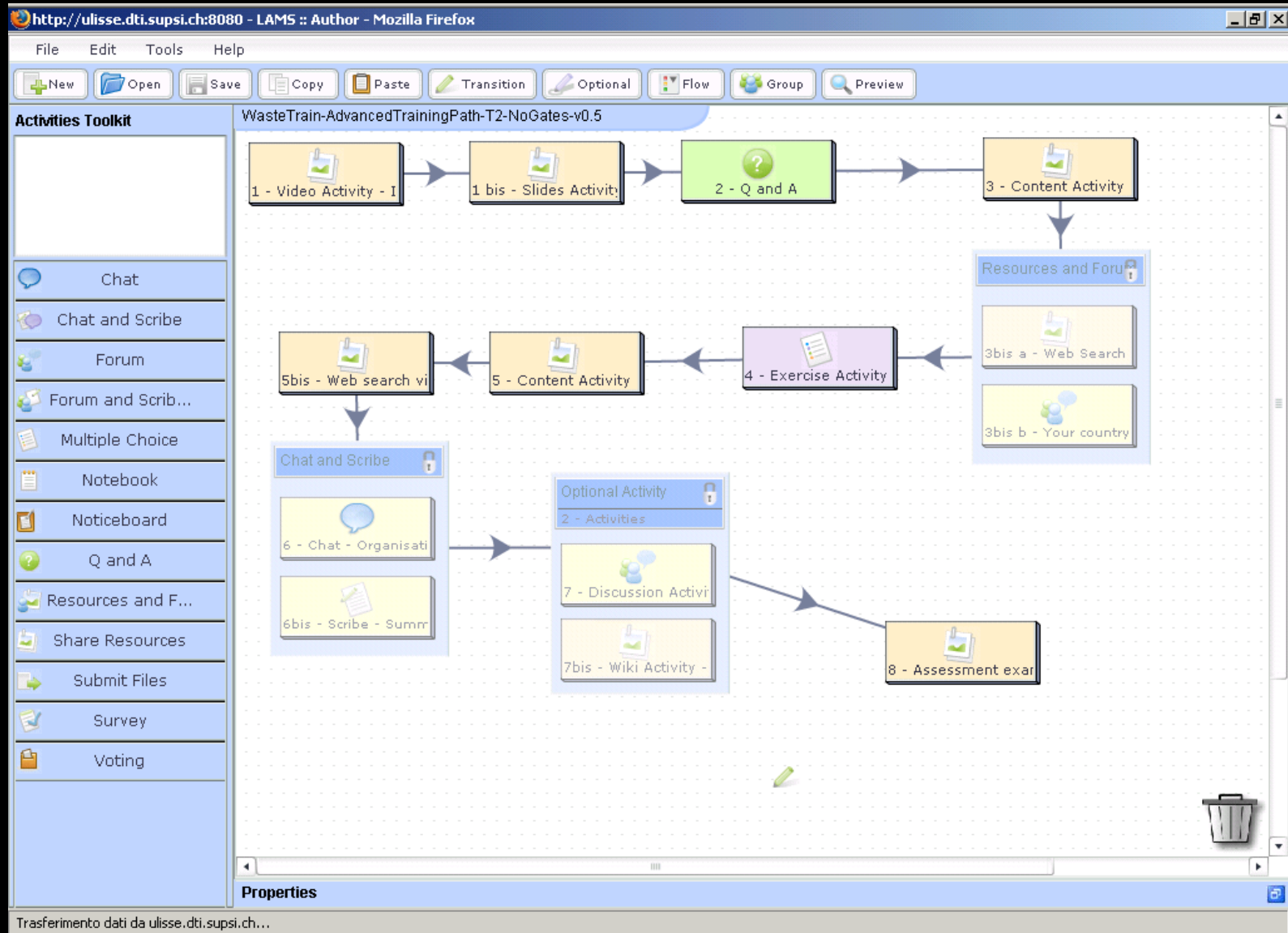
The screenshot displays a Moodle course interface for 'Waste Train'. The browser window title is 'Course: Waste Train - Mozilla Firefox'. The course is titled 'Course: Waste Train' and the user is logged in as 'Lorenzo Sommaruga'. The course ID is 'SP.EU03'. The page is divided into several sections:

- Calendar:** Shows a calendar for February 2008. The 4th of February is highlighted. Below the calendar are filters for 'Global events', 'Course events', 'Group events', and 'User events'.
- People:** A section for 'Participants'.
- Administration:** A list of administrative tools including 'Turn editing on', 'Settings', 'Assign roles', 'Groups', 'Backup', 'Restore', 'Import', 'Reset', 'Reports', 'Questions', 'Scales', 'Files', 'Grades', and 'Unenrol me from SP.EU03'.
- My courses:** A list of other courses the user is enrolled in, including 'Architettura orientate al WEB (C02018.01)', 'Programmazione di applicazioni distribuite (C02021.01)', and 'DTI 1.19 Unified Modelin'.
- Topic outline:** The main content area, titled 'Topic outline', contains:
  - A welcome message: 'WELCOME to the e-learning training course for Waste train Project'. It lists 'Leonardo da Vinci project' and 'WASTE TRAINing Forum News'.
  - A note: 'If you would like to change language please click on the flags below (Active after translation of modules - 15th Jan. 2008)'. Below this are flags for the United Kingdom, Turkey, Germany, Greece, Italy, Poland, Romania, and Spain.
  - Section 1: 'README - INSTRUCTIONS'. It includes a large green 'README - INSTRUCTIONS' link and a document icon for 'Software and Browser requirements'.
  - Section 2: 'Table of CONTENTS'. It lists nine modules: 'Introduction', 'Module 1. What is Waste?', 'Module 2. Responsibilities', 'Module 3. Consequences of inadequate dealing with waste', 'Module 4. EU: Principles, Policies and Directives Resource', 'Module 5. Waste generation', 'Module 6. Waste collection systems', 'Module 7. Basic elements of waste treatment', 'Module 8. Waste management concepts / planning tools', and 'Module 9. PR work of communities to increase waste awareness'.
  - Section 3: 'Glossary'. It includes links for 'Waste TRAINing Glossary (EN)' and 'Glossario Italiano (IT)'.
  - Section 4: 'Evaluation Form' (partially visible).

# BASIC course sequence in the LAMS monitor environment



# Advanced course sequence in the LAMS author environment



Trasferimento dati da ulisse.dti.supsi.ch...

# LAMS for the Distributed Application course

- Since 2004-2005 A. A., the “Distributed Application” course has been delivered in the traditional way (“face-to-face”)
- Target students: homogeneous group of learners (Computer Science Bachelor curriculum)
- **Objective**
  - Transforming this academic course into a blended learning course using LAMS (in progress)
  - verifying whether and how the original templates were re-usable in a new domain and for a new target



# Distributed Application (DA) course in Moodle

Course: Applicazioni distribuite (C02021.01) - Mozilla Firefox

You are logged in as Lorenzo Sommaruga (Logout)

e-courses ► OPZ02021

Switch role to... Turn editing on

**People**  
Participants

**Activities**  
Assignments  
Forums  
Resources  
Wikis

**Search Forums**  
Go  
Advanced search

**Administration**  
Turn editing on  
Settings  
Assign roles  
Groups  
Backup  
Restore  
Import  
Reset  
Reports  
Questions  
Scales  
Files  
Grades  
Unenrol me from  
OPZ02021

**My courses**  
Atelier 3 Interazione (DACD lcv Moduli V620)  
Architetture orientate al WEB (C02018.01)  
Applicazioni distribuite (C02021.01)  
DTI 1.19 Unified Modelin Language e Rational Unified Process  
DTI 1.23 Semantic Web  
V620 - Atelier III

**Topic outline**

## Corso di Applicazioni distribuite I3.01

Docente: Lorenzo Sommaruga  
Modulo Architetture Software di Rete 2

Intro Corso - Obiettivi Apprendimento

Forum News

**1** **Sistemi distribuiti ed Architetture SOA**

Presentazione dei concetti fondamentali dei sistemi distribuiti e delle Architetture Service Oriented (SOA)

Obiettivi

- (BI.-1,2) Definire e comprendere i concetti fondamentali dei sistemi distribuiti
- (BI.-1,2) Definire e comprendere i concetti fondamentali di SOA
- (BI.-3) Applicare i concetti e sviluppare un semplice servizio web

Intro videos a SOA - Service Oriented Architecture (2'28", 1'27")

Web services e SOA

Esempio completo EUROCONVERSOIRE (codice servizio, wsdd, wsdl, Client Java, ClientMS-Javascript)

Installazione Soap server Apache Axis

Client Php

MS SOAP toolkit per client MS IExplorer

**2** **Web Services, SOAP**

Presentazione delle caratteristiche dei servizi web e del protocollo SOAP

Obiettivi

- (BI.-2) Comprendere le caratteristiche principali dei servizi web
- (BI.-2) Comprendere il protocollo SOAP
- (BI.-6) Valutare una possibile applicazione di servizi web

Sintassi SOAP

**3**

**Latest News**  
Add a new topic...  
(No news has been posted yet)

**Upcoming Events**  
There are no upcoming events  
Go to calendar...  
New Event...

**Recent Activity**  
Activity since Sunday, 24 February 2008, 12:17 PM  
Full report of recent activity...  
Nothing new since your last login

Find: Next Previous Highlight all

# Issues in Re-using LAMS templates in DA course

- Need to produce new didactic resources, not initially foreseen (e.g. intro video)
  - useful to improve the course with the integration of material not originally designed
- Need to clean up templates to make them generic
  - E.g. if the template form contains specific terms, the suggestion for template developers is to try to be as generic as possible

# Specific vs. Generic Templates

The screenshot shows a web browser window titled "http://ulisse.dti.supsi.ch:8080 - Q and A - Mozilla Firefox". The page content includes a "Questions and Answers" section with tabs for "Basic", "Advanced", and "Instructions". The "Basic" tab is active, showing a "Title:" field containing "Q&A" (circled in red) and an "Instructions:" text area containing "Answer questions and have a look at others' answers". Below this is a "Questions" list with two entries: "Why do you think waste collection is necessary?" (circled in red) and "What are its pros and cons?" (circled in green). A "Create Question" button is at the bottom left, and "Save" and "Cancel" buttons are at the bottom right. Annotations include a large speech bubble pointing to the title field with the text "instead of using a specific title such as 'Q&A: waste train ...' it is better to write a generic title 'Q&A' without any reference to the specific course", and two smaller speech bubbles pointing to the two questions with the labels "Specific question" and "Generic question".

# Lessons learned 1

- LAMS pedagogical templates are not generic models but are sequences “instantiated” with a specific content
  - no separation between contents and activity structures
- ¿ ... Pedagogical planners ... ?

# Lessons learned 2

- Re-using pedagogical templates:
  - they can be applied to different domains, but the process is not direct and immediate
  - try to be as generic as possible in the definition in order to minimize adaptations and changes
  - domain specific content should be avoided in the definition of LAMS sequences and should be delegated only within each learning resource

# Lessons learned 3

- LAMS tool helps in conceptualizing the teaching process
  - in terms of sequences of learning activities
- Very useful in converting a conventional academic course into a blended learning course

# Lessons learned 4

- Important distinctive role of the  
  
course designer
- Aggregator / Integrator / Mediator

# Conclusions

- Role separation
  - In large-scale contexts it is indispensable because it involves different entities and organizations geographically distributed with clear delineated competences
- Pedagogical patterns design
  - As in the field of software development, where good design patterns have been developed across years of experience, in pedagogical template design additional experience is necessary to identify the best design pedagogical patterns and to be able to draw out generalized learning design principles