

Adaptation & Standards in aLFAnet

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Adaptation & Standards in aLFAnet

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SAGE, UNED, OUNL, ACE-CASE, KLETT, EDP

Introduction

- 1a. Adaptation: a definition
- 1b. Adaptation - a full life cycle
- 1c. Adaptation supported by standards
2. A close up look at the adaptation cycle
3. The demonstrations: LD-editor + LMS
4. Conclusions

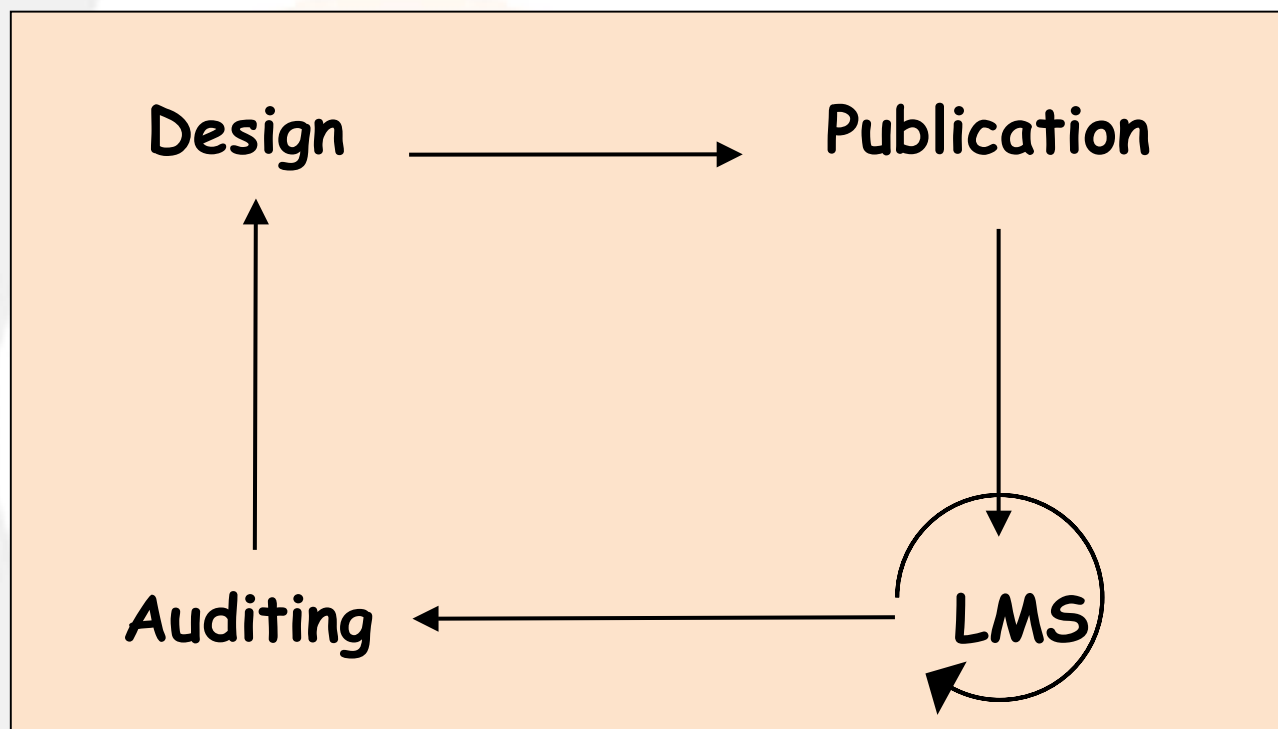
Introduction

1a. Adaptation: a definition

Adaptation is about creating a learner experience that purposely adjusts to various conditions (personal characteristics, pedagogical knowledge, the learner interactions, the outcome of the actual learning processes) over a period of time with the intention to increase pre-defined success criteria (effectiveness of e-learning: score, time, economical costs, user satisfaction)

Adaptation & Standards - introduction

1b. Adaptation: a full life cycle



Adaptation & Standards - introduction

1c. Adaptation supported by standards

Adaptation in aLFanet deliberately builds on a combination of e-learning standards - *increased initial investment but higher potential*:

- open architecture
- re-usable components

IMS LD: the instructional design

IMS Metadata: the contents

IMS LIP: the user

IMS QTI: the progress

All delivered in **IMS CP**

Note: 1st integrated application with these 5 standards

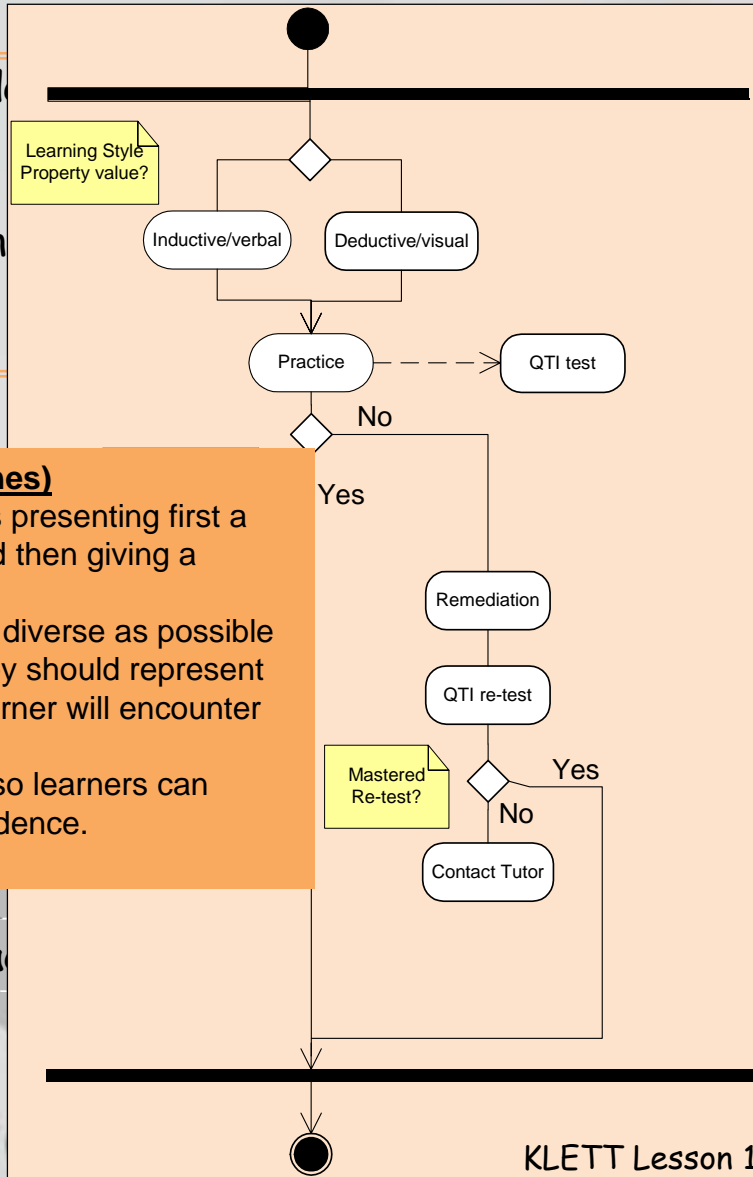
Design

Adaptation - a full life cycle

Publication

Pedagogical model templates:

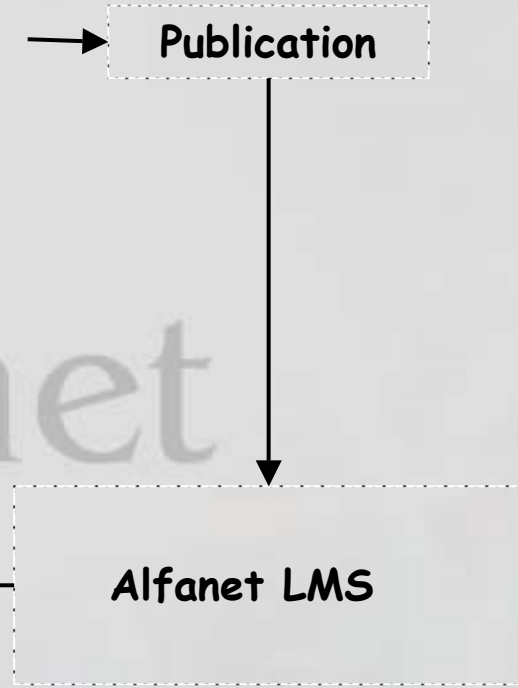
- Concept learning
-
-



Inductive presentation (guidelines)

- Inductive presentation requires presenting first a number of possible examples and then giving a definition of the concept.
- - The examples should be as diverse as possible to allow learner to generalize. They should represent the full range of cases that the learner will encounter after the instruction.
- - Begin with easy examples so learners can master the activity and build confidence.
- - End with

Auditing feedback



Auditing

Use

Design

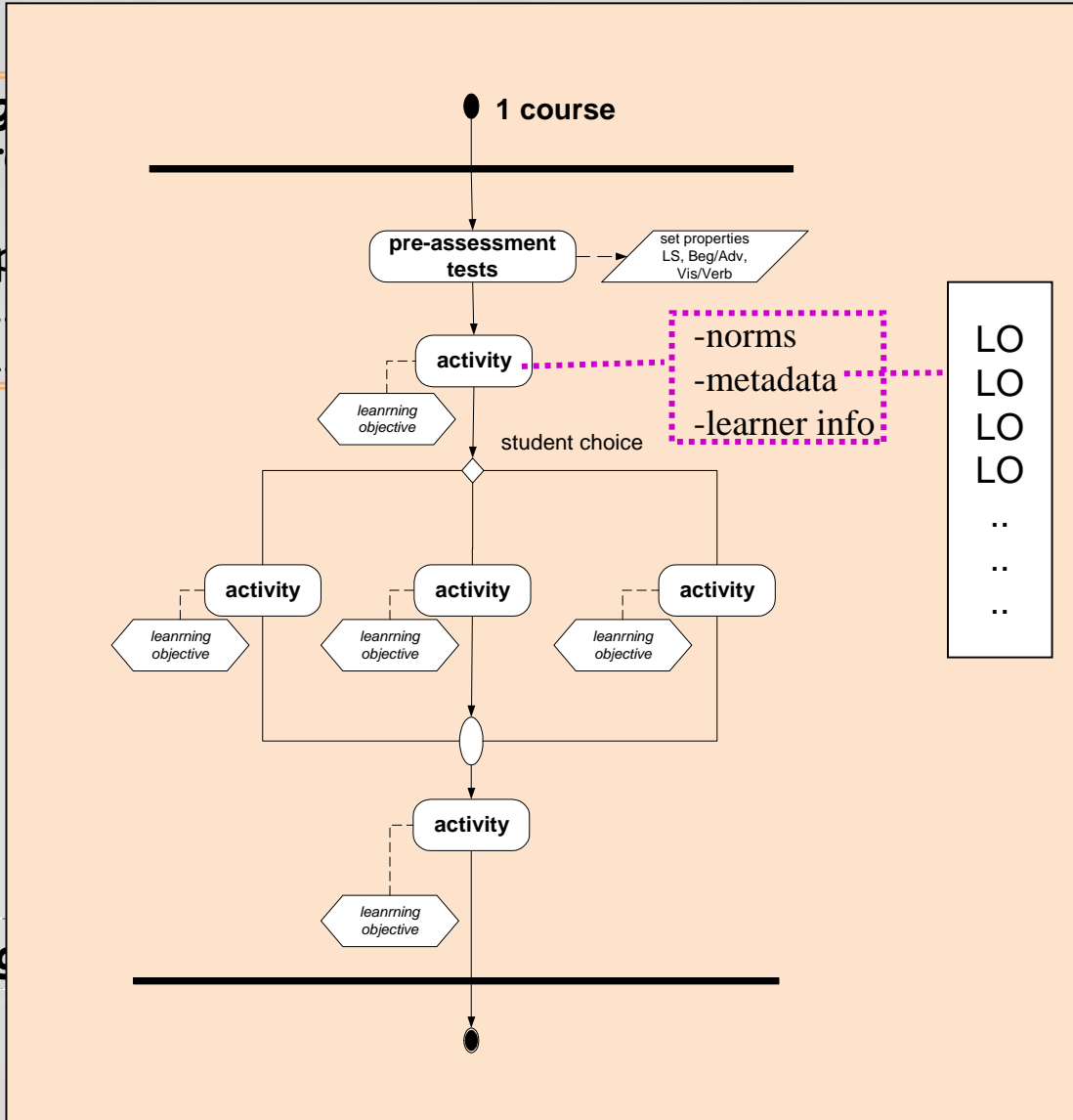
Adaptation - a full life cycle

Publication

Pedagogical template

- Concept
-
-

Auditing



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Publication

ifanet LMS

Auditing

Use

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- Create dynamic & adaptive tests based on QTI test items and their metadata

- Create the course (example of a tree view of a course in the authoring tool)

The screenshot shows an authoring tool interface. On the left is a sidebar with several menu items: 'Learning Editor' (highlighted in orange), 'Local Resources', 'Learning Objectives', 'Pre-Requisites', 'Roles', 'Learning Material', 'Course Orchestration', and 'Tree View'. On the right is a 'Tree View' window titled 'Existing Objects:' containing a hierarchical tree structure:

- [-] Course - 'Spanish_v01'
 - [-] Play - play1 - 'Play1'
 - [-] Act - act1 - 'Act1'
 - [+] Part - part1 - 'Part1'
 - [+] Part - Part2 - 'Part2'
 - [+] Part - part3 - 'part3'
 - [+] Part - part4 - 'part4'
 - [+] Act - Act2 - 'Act2'

Publication



Alfabet LMS

Auditing

Pedagogical models templates:

- Concept learning
-
-

Audit & Adaptation template requirements:

- norms (audit)
- metadata
- learner info
-

Authoring Tools

LD Authoring tool
QTI Author tool

Content Authoring tools

Publication

Publication includes the storage and management of all data in a way that it can be retrieved by all components. It takes into account the required interoperability of the applied standards.

The user management includes enrolment and role management and the group and user profiles and rights of students and tutors.

Auditing feedback

et LMS

Active Learning For Adaptive Internet

Design

Adaptation - a full life cycle

Publication

Course material

Examples of adaptation:

- Presentation layer:
Personalised interface
- Dynamic adaptive assessment:
Rule based selection from the relevant item banks
- Pedagogical model: inductive - deductive
if "KnowledgeLevel" = Beginner &
"StudentLearningStyle" = Inductive
Then Show
- Adaptation module: advice example
"John, you did already study 3 tasks of Lesson 1.
We suggest you to take a self-assessment before"

Auditing

Publication



LMS:

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ments (QTI)

Auditing

Use

Design

Adaptation - a full life cycle

Publication

Course and material design

Publication

Auditing usage.

Auditing

- are t
- use c
- use c

Examples auditing:

- Present a list of all students who have followed or follow a certain course
- Overview of the difference between:
 - the anticipated study-time of activities (norm)
 - the actual study time

Auditing feedback

Adaptation LMS:

- Presentation Layer
- LD-engine (CopperCore)
- Adaptation agents
- Dynamic adaptive assessments (QTI)

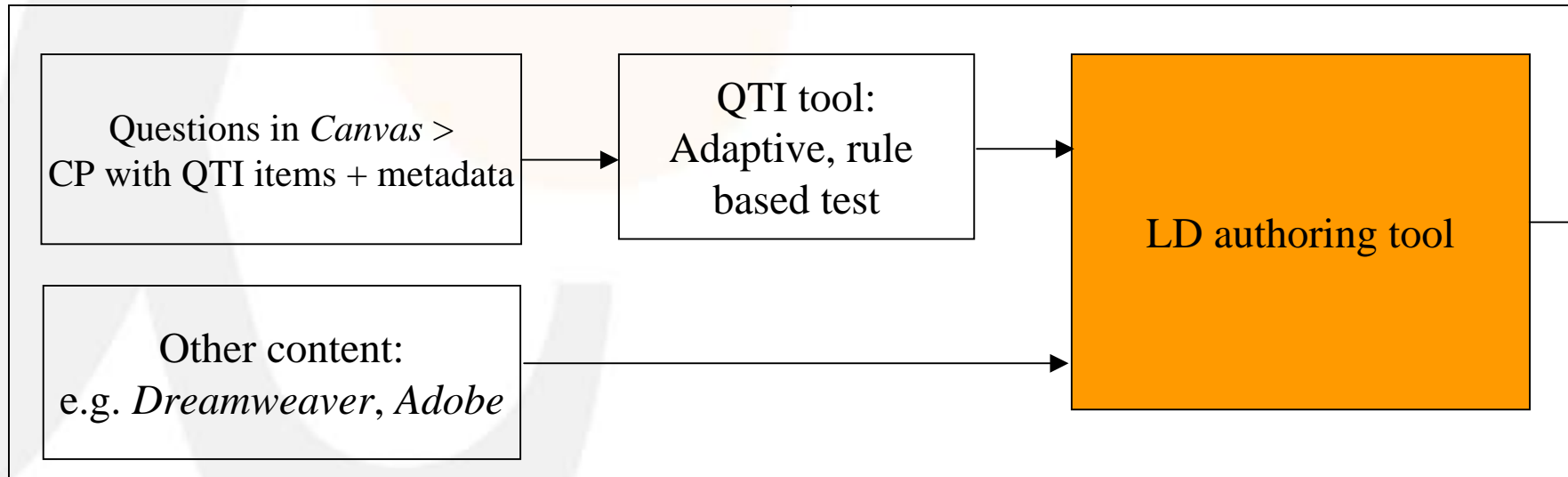
Active Learning For Adaptive Internet

aLFanet demonstration

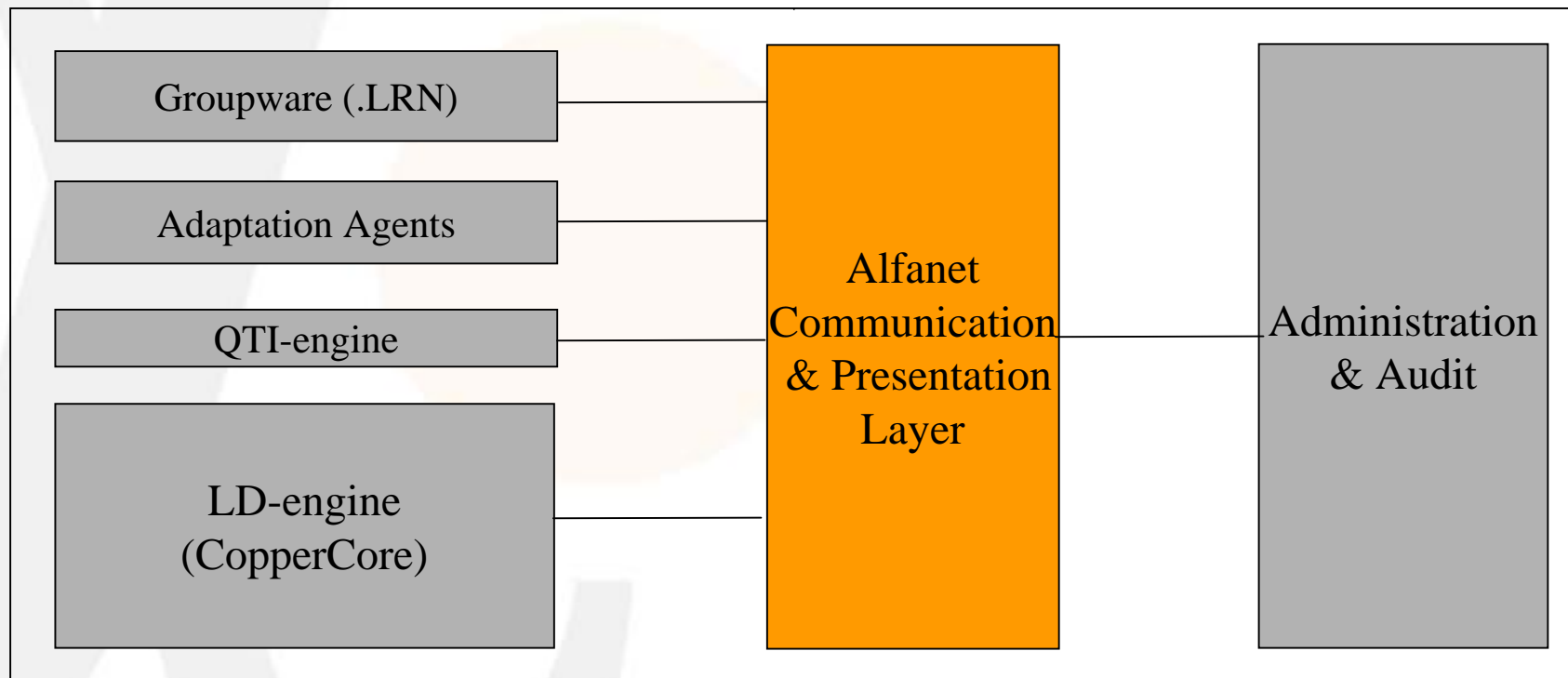
1. Design and development phase
2. LMS (Administration, use and audit)

aLFanet design and development

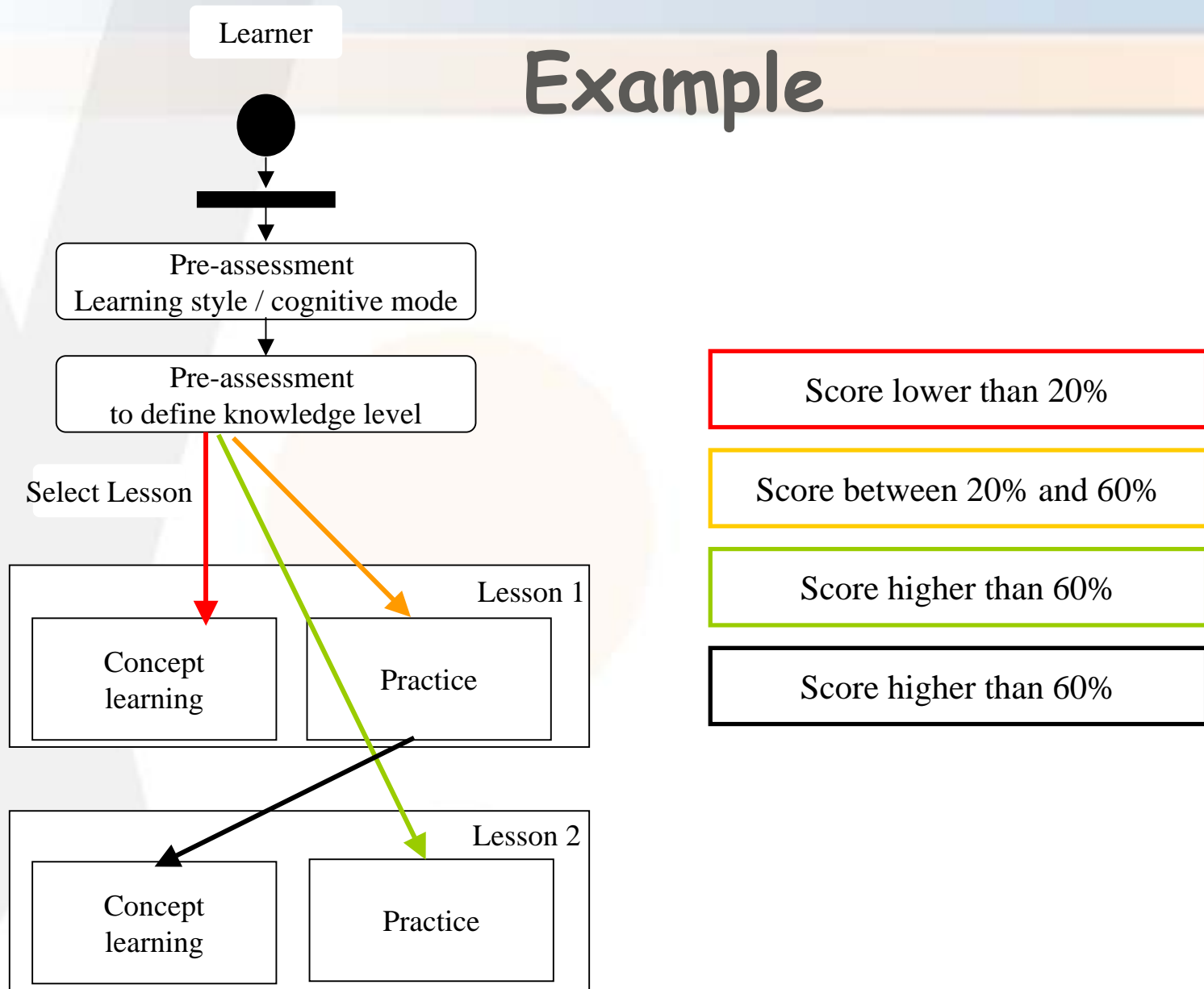
- Create Content (external tools)
- Create Questions (external tools)
- Creating Adaptive Test (QTI-tool > QTI player)
- Creating the course model and the required additional data (LD authoring tool > CopperCore)



aLFanet LMS

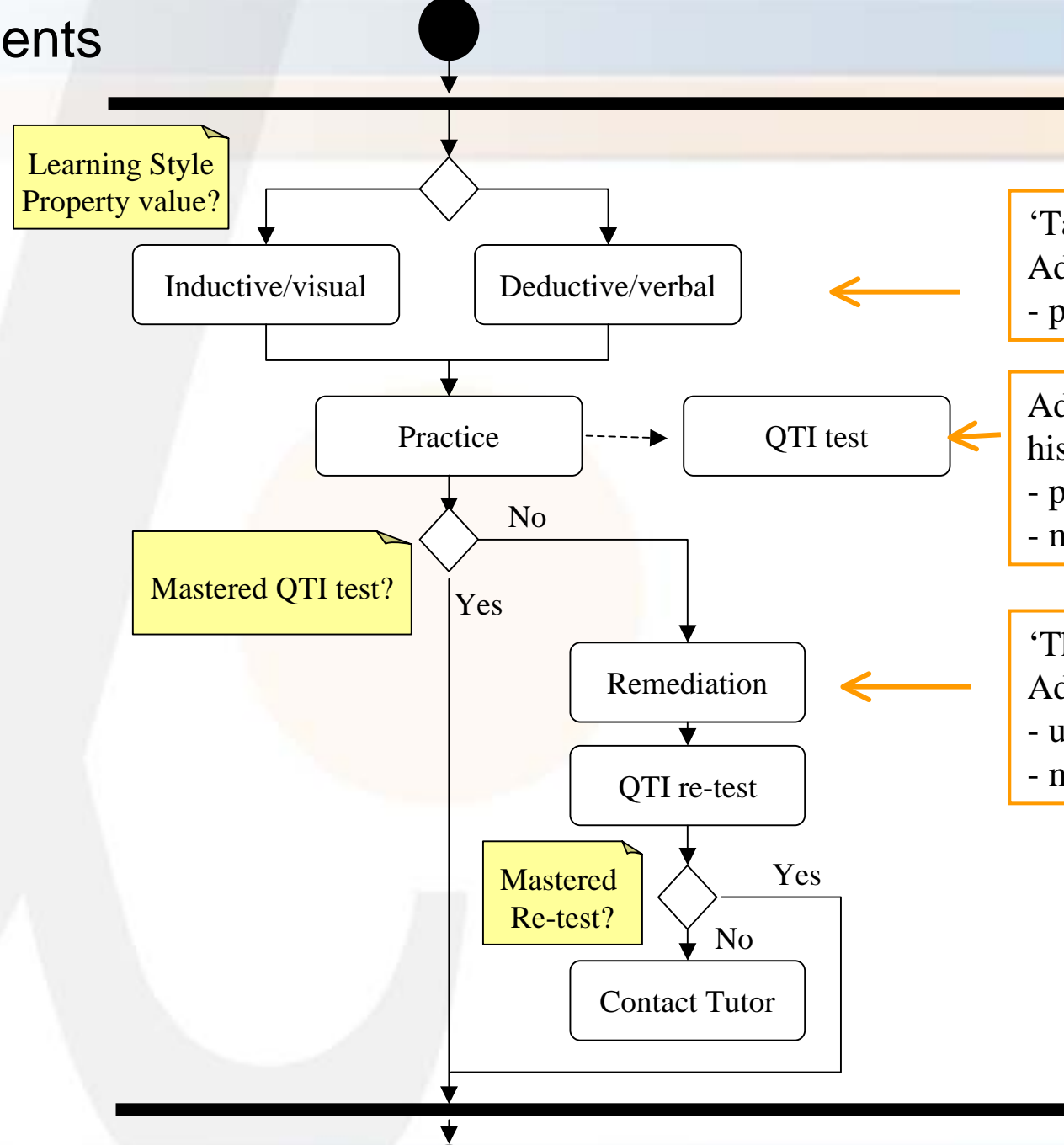


Example



Components and flow within lesson 1

ADAPTATION & STANDARDS



'Take-self-assessment'
Adaptation agents:
- progress info LD

Adaptive test
history & selection rules
- properties LD results
- metadata test items

'This-LO'
Adaptation agents
- user info LIP
- metadata LO

Demonstration

Conclusions

Designed & developed an adaptive, standards-based LMS-prototype including developers tool:

- + functionality:
 - + overall impression
 - adaptation requires alternatives
- usability:
 - developers' knowhow do not match system requirements (need for tools directly operating on the templates)
 - user interface
 - performance