University of Piraeus
Department of Digital Systems

Bridging the gap between Learning Design and Enactment of Moodle courses

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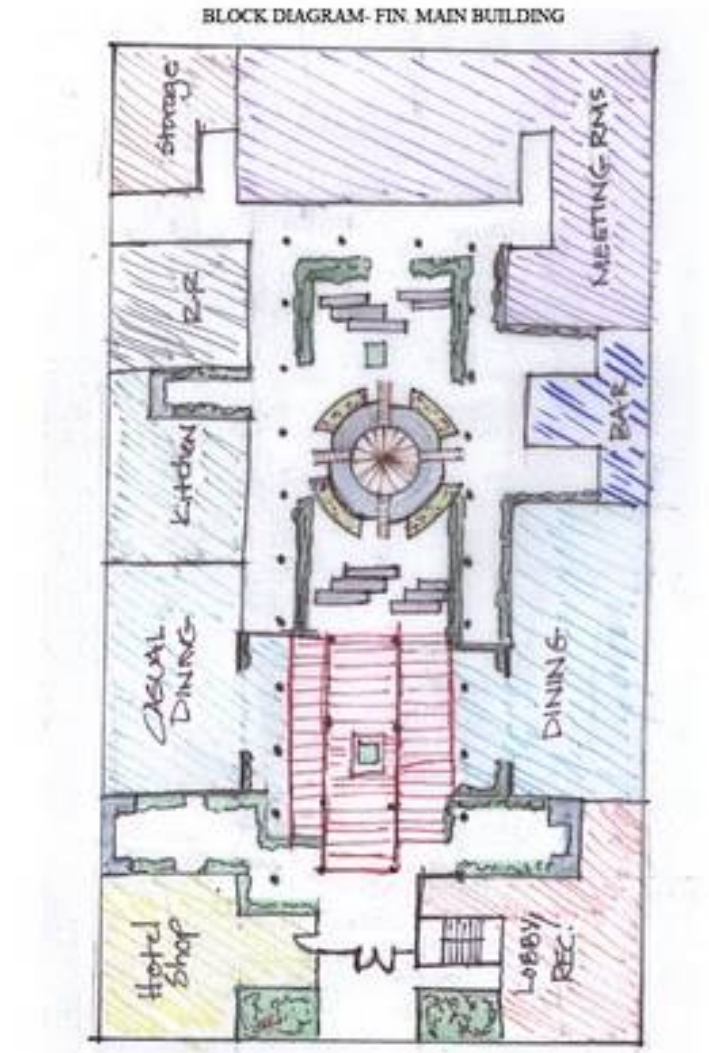
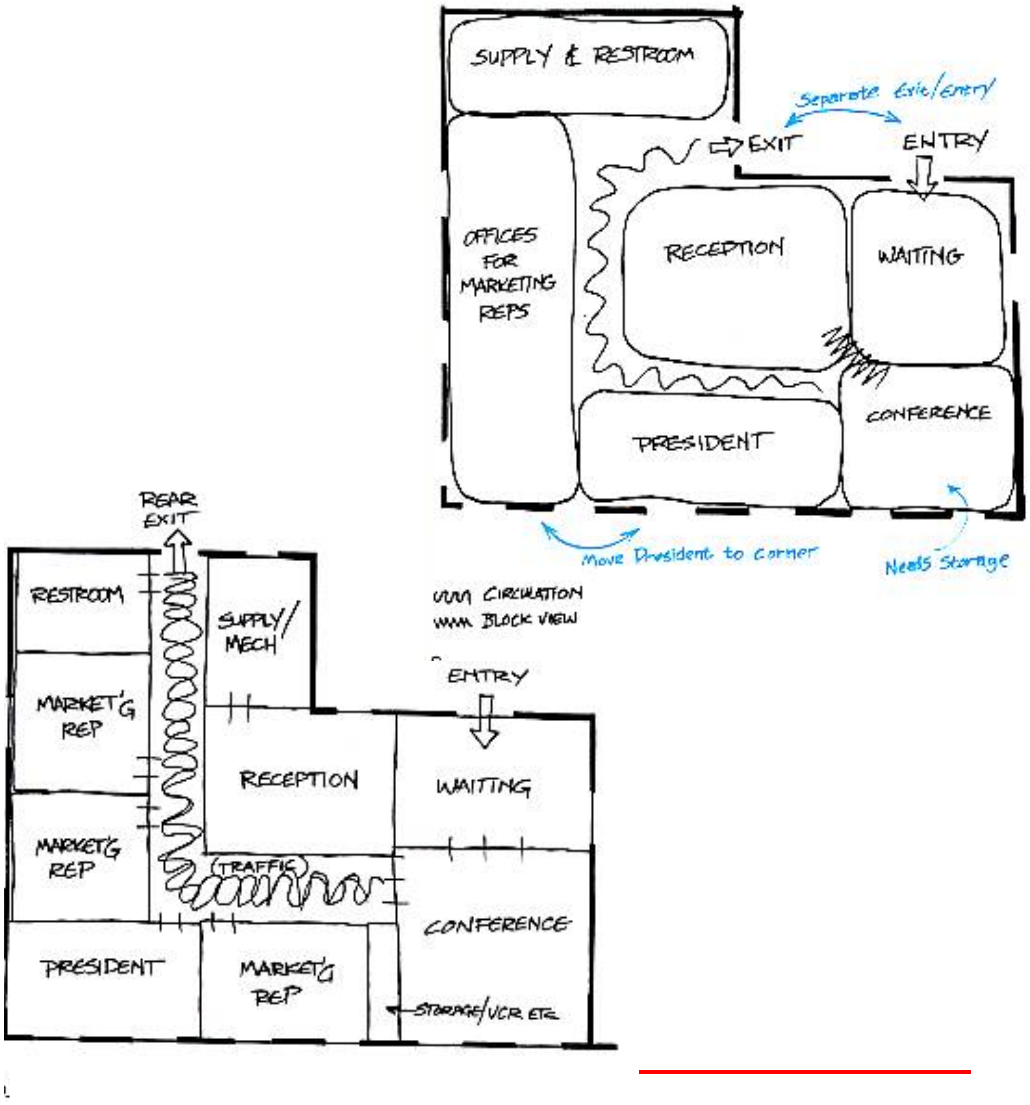
http://cosy.ds.unipi.gr

What do we do when we design?

- What's the learning unit about?
- Do you design on your own or with someone else?
- Do you create your plan from scratch or do you adapt an existing plan?
- What's your starting-point? For example:
  - Learning outcomes (skills, concepts)
  - Content (topic to be learnt)
  - A particular activity or activities based on a method-strategy
  - Students' or Teachers' preferences - interests
- What tools can you use?
  - Paper and pencil, computer…
- What sort of document can you produce?
  - Rough notes or a structured document?
  - Visual representations or design mock-ups?
- After the enactment of the learning unit , did you make "reflective" notes?

Architect's Design Practice - Sketching

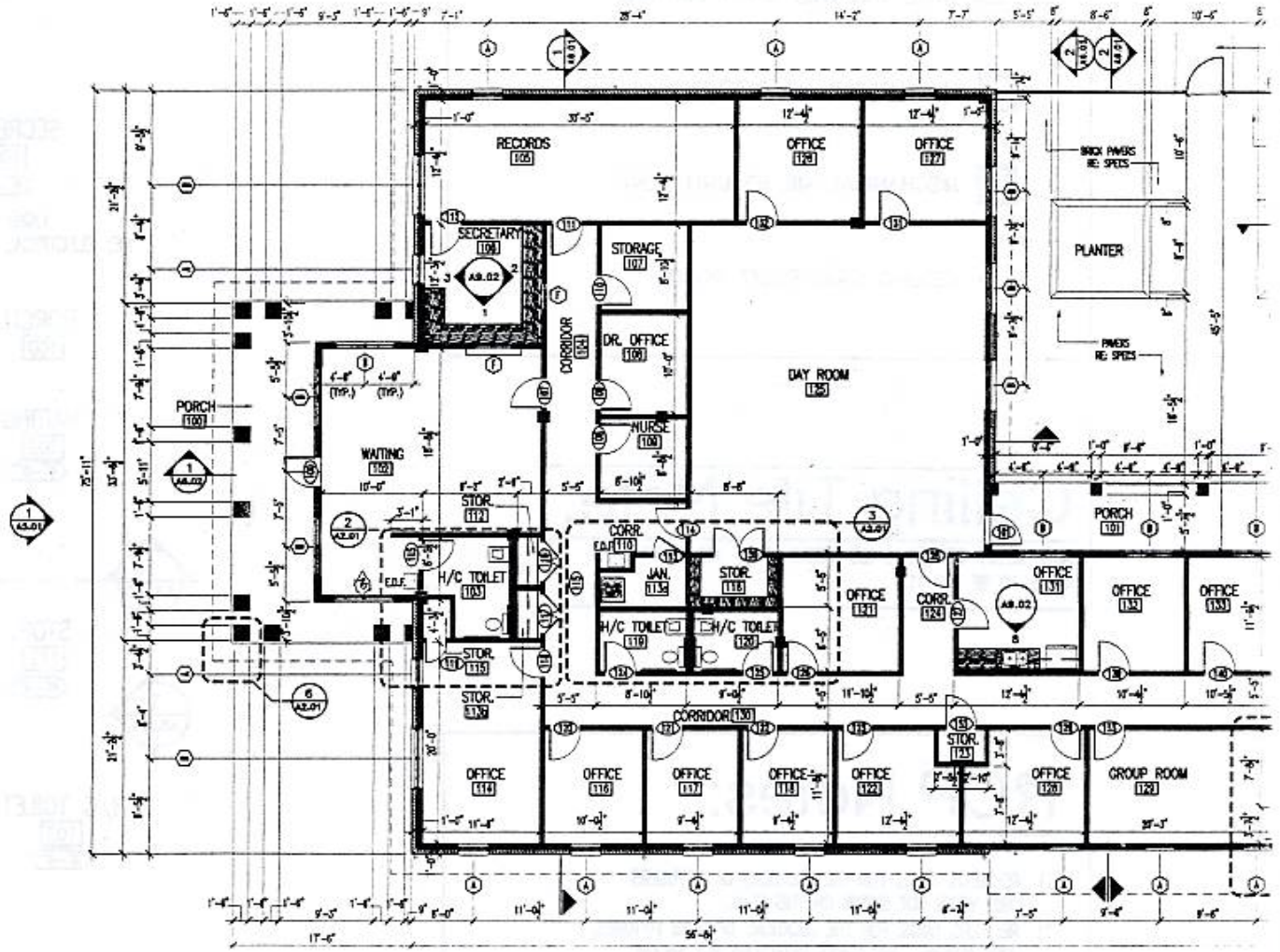




http://ocean.otr.usm.edu/~w135249/

Claire Hamilton (2017). Interior Design Program, The University of Southern Mississippi

Architect's Design Practice - Dimensional Plan



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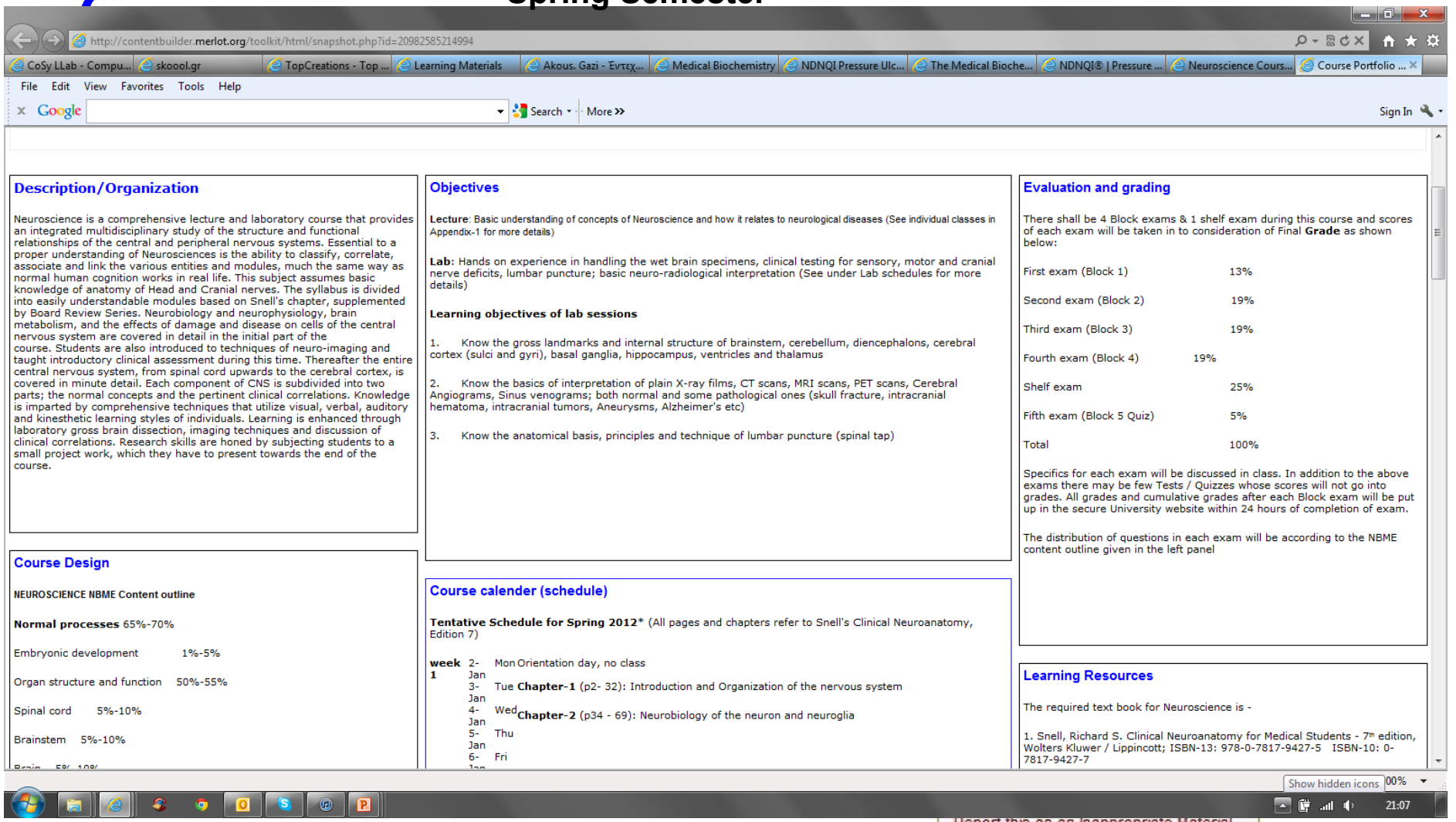
Claire Hamilton (2017). Interior Design Program, The University of Southern Mississippi

Architect's Design Practice - Design Development Rendering

http://ocean.otr.usm.edu/~w135249/
Claire Hamilton (2017). Interior Design Program, The University of Southern Mississippi

Course Design: Neuroscience Spring Semester



Description/Organization

Neuroscience is a comprehensive lecture and laboratory course that provides an integrated multidisciplinary study of the structure and functional relationships of the central and peripheral nervous systems. Essential to a proper understanding of Neurosciences is the ability to classify, correlate, associate and link the various entities and modules, much the same way as normal human cognition works in real life. This subject assumes basic knowledge of anatomy of Head and Cranial nerves. The syllabus is divided into easily understandable modules based on Snell's chapter, supplemented by Board Review Series. Neurobiology and neurophysiology, brain metabolism, and the effects of damage and disease on cells of the central nervous system are covered in detail in the initial part of the course. Students are also introduced to techniques of neuro-imaging and taught introductory clinical assessment during this time. Thereafter the entire central nervous system, from spinal cord upwards to the cerebral cortex, is covered in minute detail. Each component of CNS is subdivided into two parts; the normal concepts and the pertinent clinical correlations. Knowledge is imparted by comprehensive techniques that utilize visual, verbal, auditory and kinesthetic learning styles of individuals. Learning is enhanced through laboratory gross brain dissection, imaging techniques and discussion of clinical correlations. Research skills are honed by subjecting students to a small project work, which they have to present towards the end of the course.

Objectives

Lecture: Basic understanding of concepts of Neuroscience and how it relates to neurological diseases (See individual classes in Appendix-1 for more details)

Lab: Hands on experience in handling the wet brain specimens, clinical testing for sensory, motor and cranial nerve deficits, lumbar puncture; basic neuro-radiological interpretation (See under Lab schedules for more details)

Learning objectives of lab sessions

1. Know the gross landmarks and internal structure of brainstem, cerebellum, diencephalons, cerebral cortex (sulci and gyri), basal ganglia, hippocampus, ventricles and thalamus

2. Know the basics of interpretation of plain X-ray films, CT scans, MRI scans, PET scans, Cerebral Angiograms, Sinus venograms; both normal and some pathological ones (skull fracture, intracranial hematoma, intracranial tumors, Aneurysms, Alzheimer's etc)

3. Know the anatomical basis, principles and technique of lumbar puncture (spinal tap)

Evaluation and grading

There shall be 4 Block exams & 1 shelf exam during this course and scores of each exam will be taken in to consideration of Final **Grade** as shown below:

First exam (Block 1)	13%
Second exam (Block 2)	19%
Third exam (Block 3)	19%
Fourth exam (Block 4)	19%
Shelf exam	25%
Fifth exam (Block 5 Quiz)	5%
Total	100%

Specifics for each exam will be discussed in class. In addition to the above exams there may be few Tests / Quizzes whose scores will not go into grades. All grades and cumulative grades after each Block exam will be put up in the secure University website within 24 hours of completion of exam.

The distribution of questions in each exam will be according to the NBME content outline given in the left panel

Course Design

NEUROSCIENCE NBME Content outline

Normal processes 65%-70%

Embryonic development	1%-5%
Organ structure and function	50%-55%
Spinal cord	5%-10%
Brainstem	5%-10%
Brain	5%-10%

Course calender (schedule)

Tentative Schedule for Spring 2012* (All pages and chapters refer to Snell's Clinical Neuroanatomy, Edition 7)

week 1	2-Jan	Mon Orientation day, no class
	3-Jan	Tue **Chapter-1** (p2- 32): Introduction and Organization of the nervous system
	4-Jan	Wed **Chapter-2** (p34 - 69): Neurobiology of the neuron and neuroglia
	5-Jan	Thu
	6-Jan	Fri

Learning Resources

The required text book for Neuroscience is -

1. Snell, Richard S. Clinical Neuroanatomy for Medical Students - 7th edition, Wolters Kluwer / Lippincott; ISBN-13: 978-0-7817-9427-5 ISBN-10: 0-7817-9427-7

Report this as an Inappropriate Material

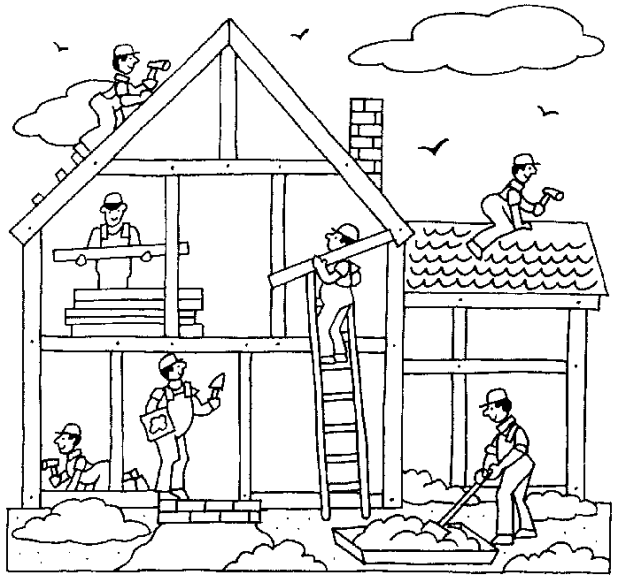
Keywords:
USMLE, NBME, First year, Course, Third Semester, Basic Medical Science, Professor, Course Director, Dr Sanjoy Sanyal, Neuroscience, Syllabus

http://contentbuilder.merlot.org/toolkit/html/snapshot.php?id=20982585214994

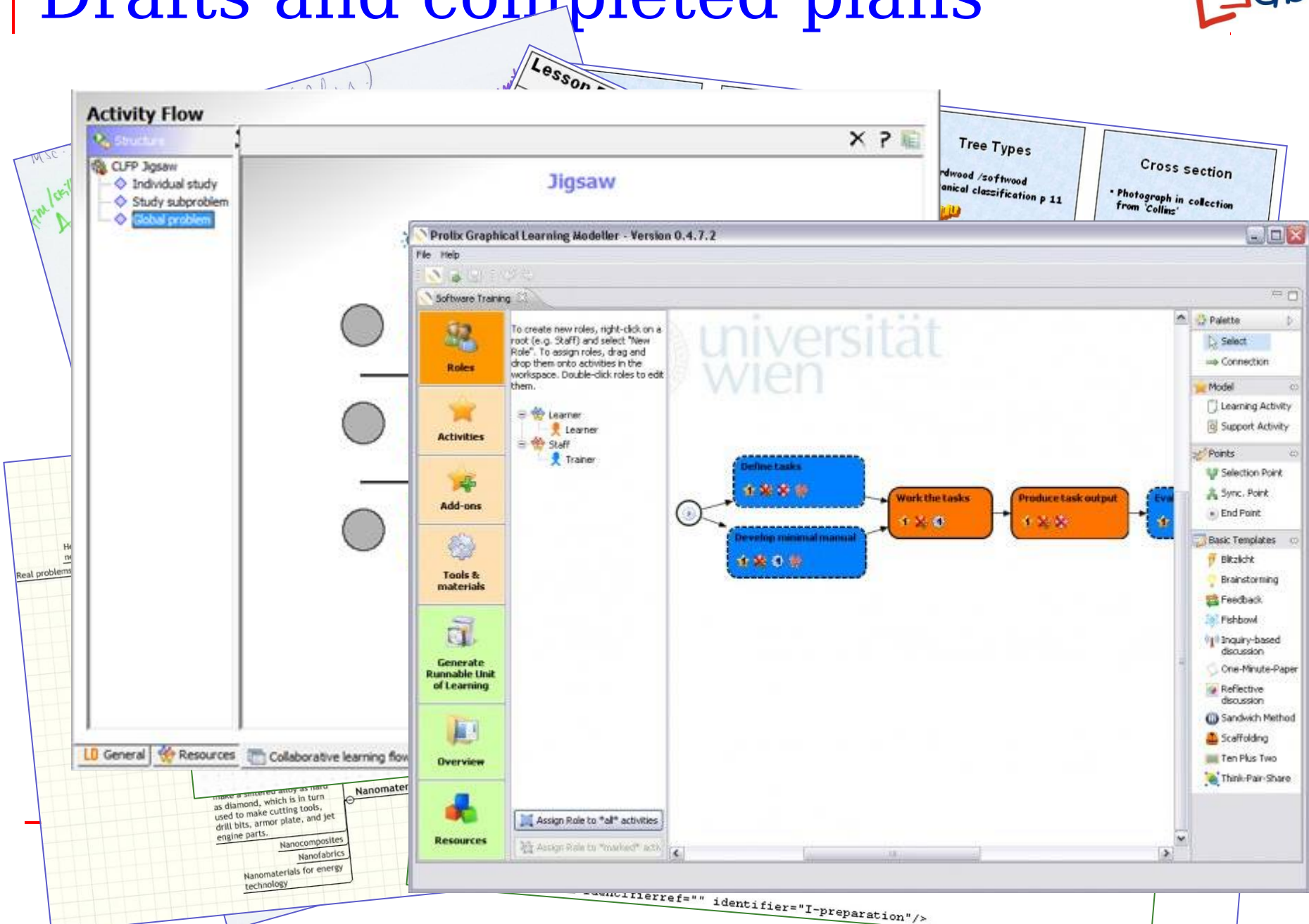
Learning Design (LD)

- LD is a planning and ordering of learning activities that takes place in a unit of learning (*Rob Kopper, 2004*)
  - Deliverable: A "***Learning Design"*** or "***Digital Lesson Plan***"
- A teacher/designer has to specify for the LD:
  - Learning Activities for meeting learning objectives
  - Orchestration of these activities (order, conditions, rules)
  - Learning Resources related to these activities
- "*Who does what, when, using which material which learning objectives*"

Vision: Digital format for encoding, transporting, and playing learning designs



Drafts and completed plans

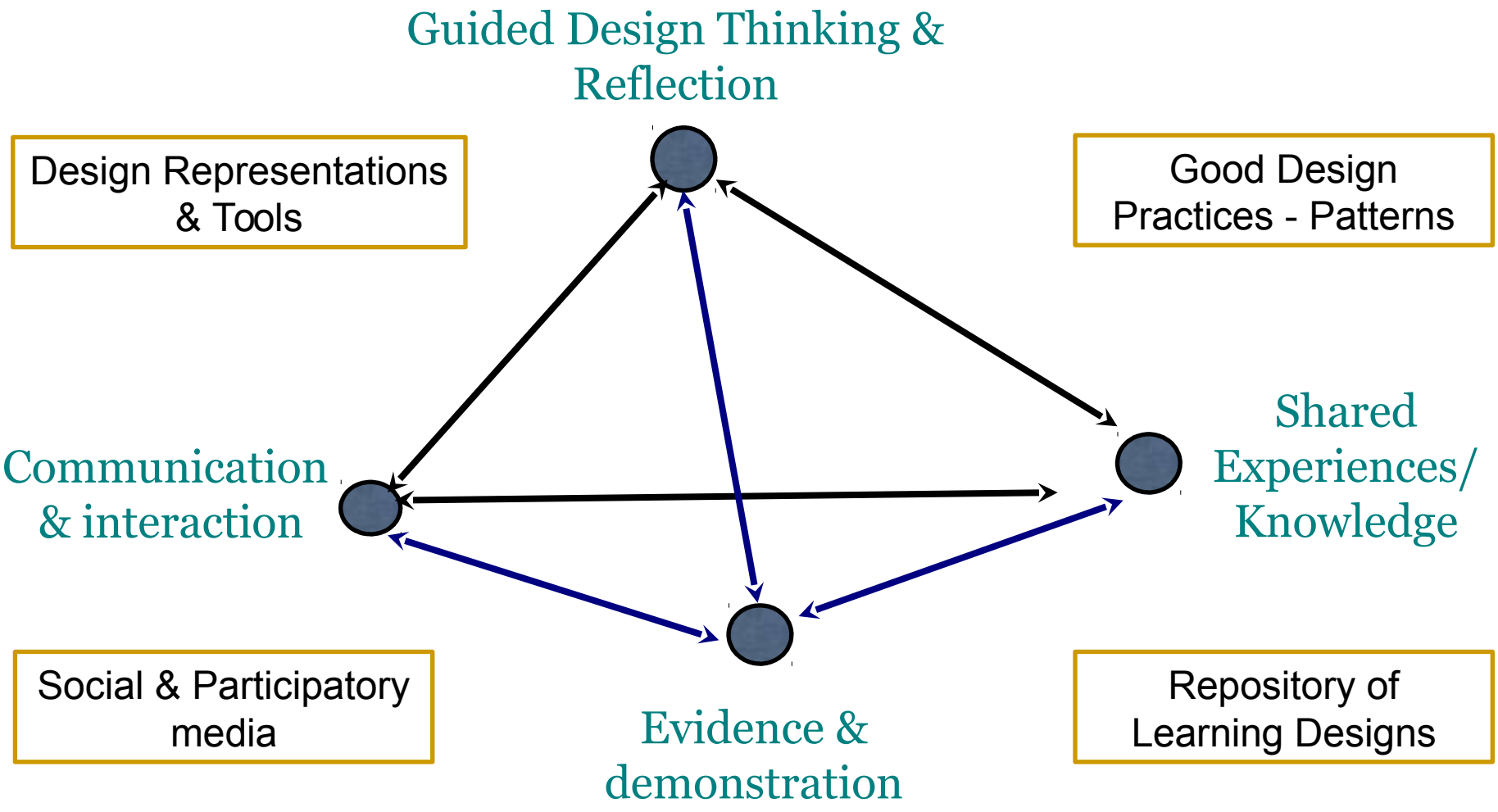


Take Home Message:

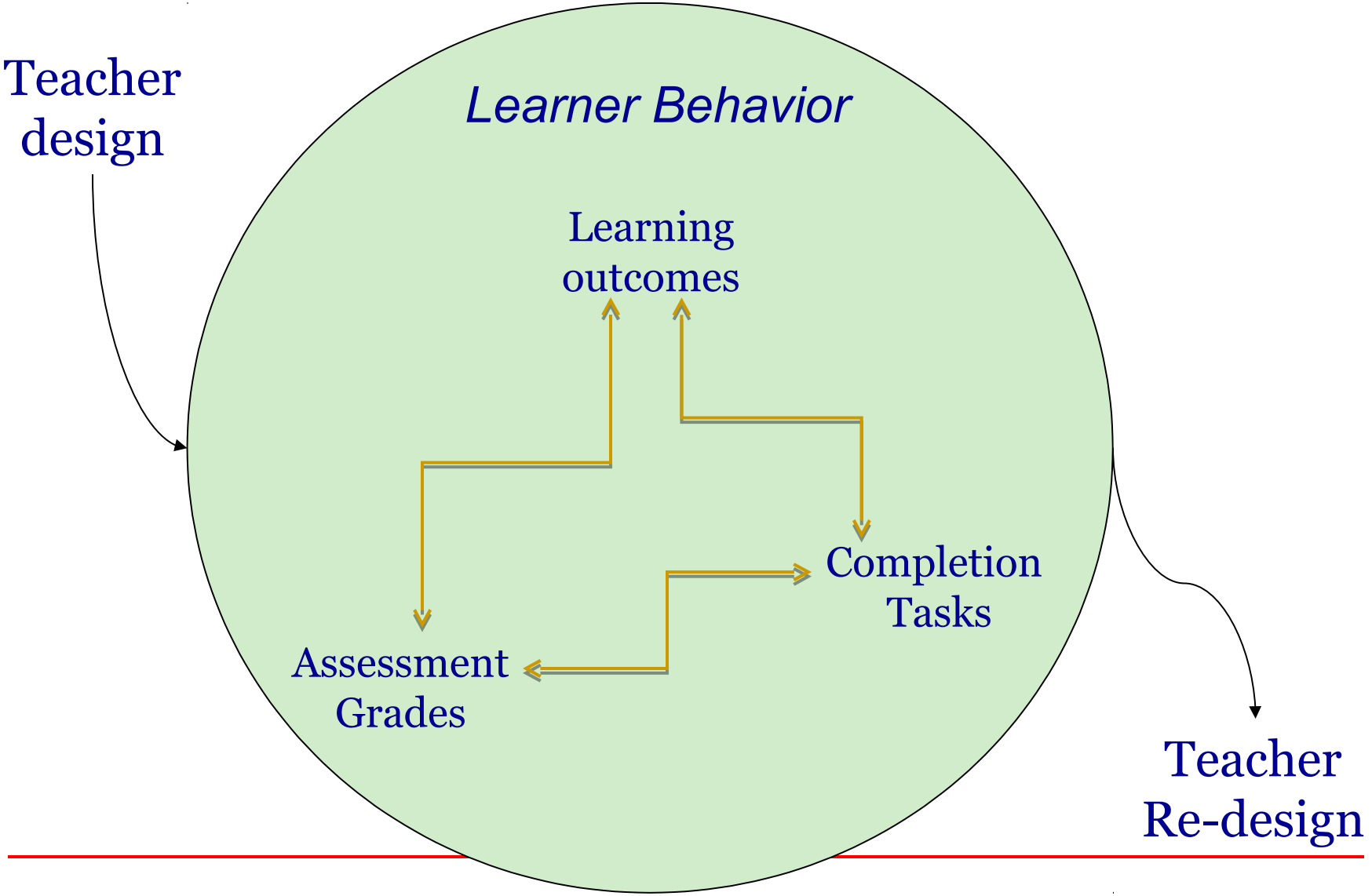
"Empower Educators" by Martin Dougiamas

- **Guidance** - **Support** – **Nurture** – **Improvement** via Tacit Knowledge

Open LD practice



The (Re)design Challenge



Solving the (Re)design Challenge

- Bridging the gap between Learning Design & Enactment
- Forward Thinking
  - Create a LD using a user-friendly graphical tool
  - Illustrate the Moodle course layout
  - Prepare & Export a Moodle course

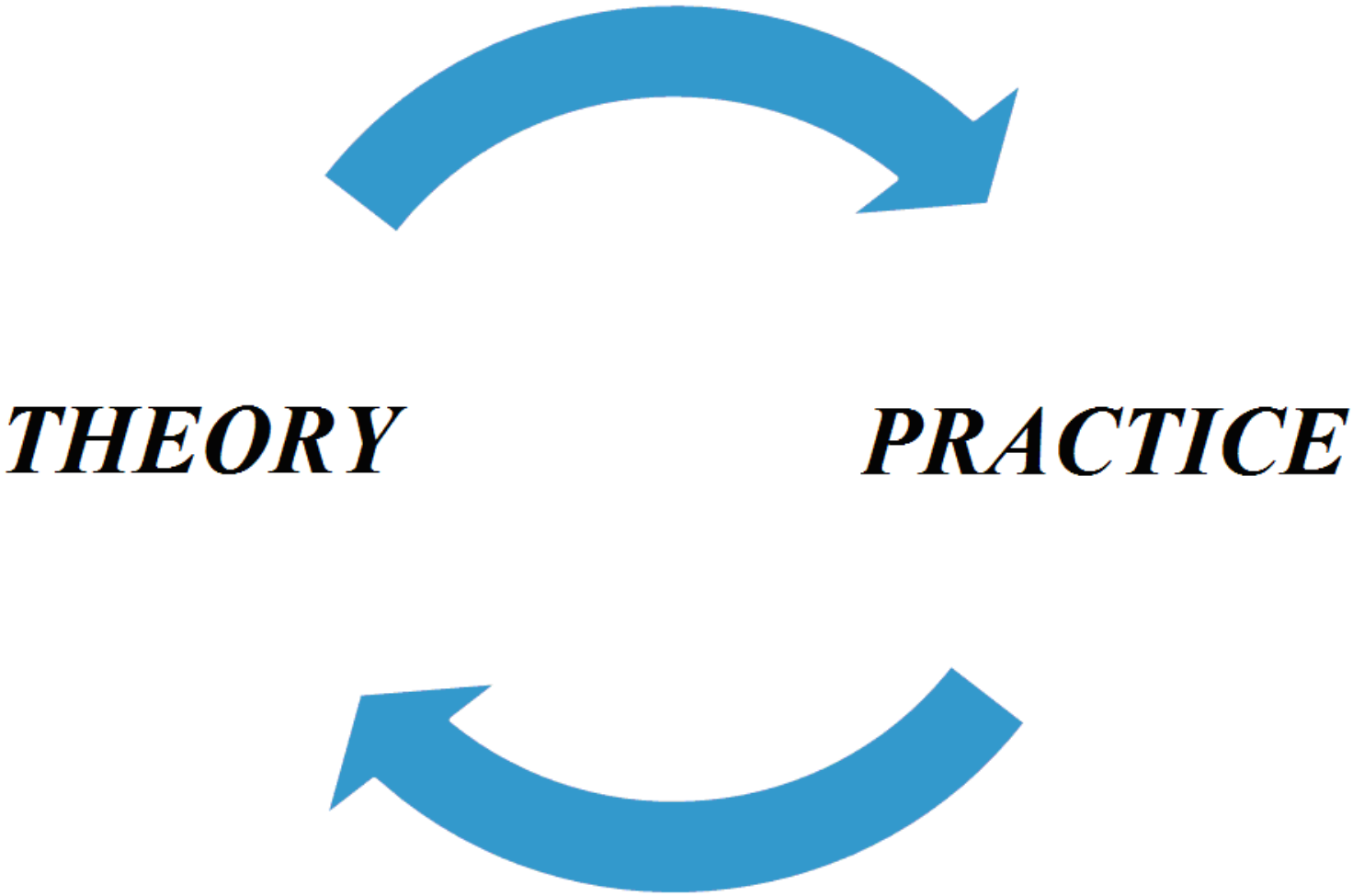
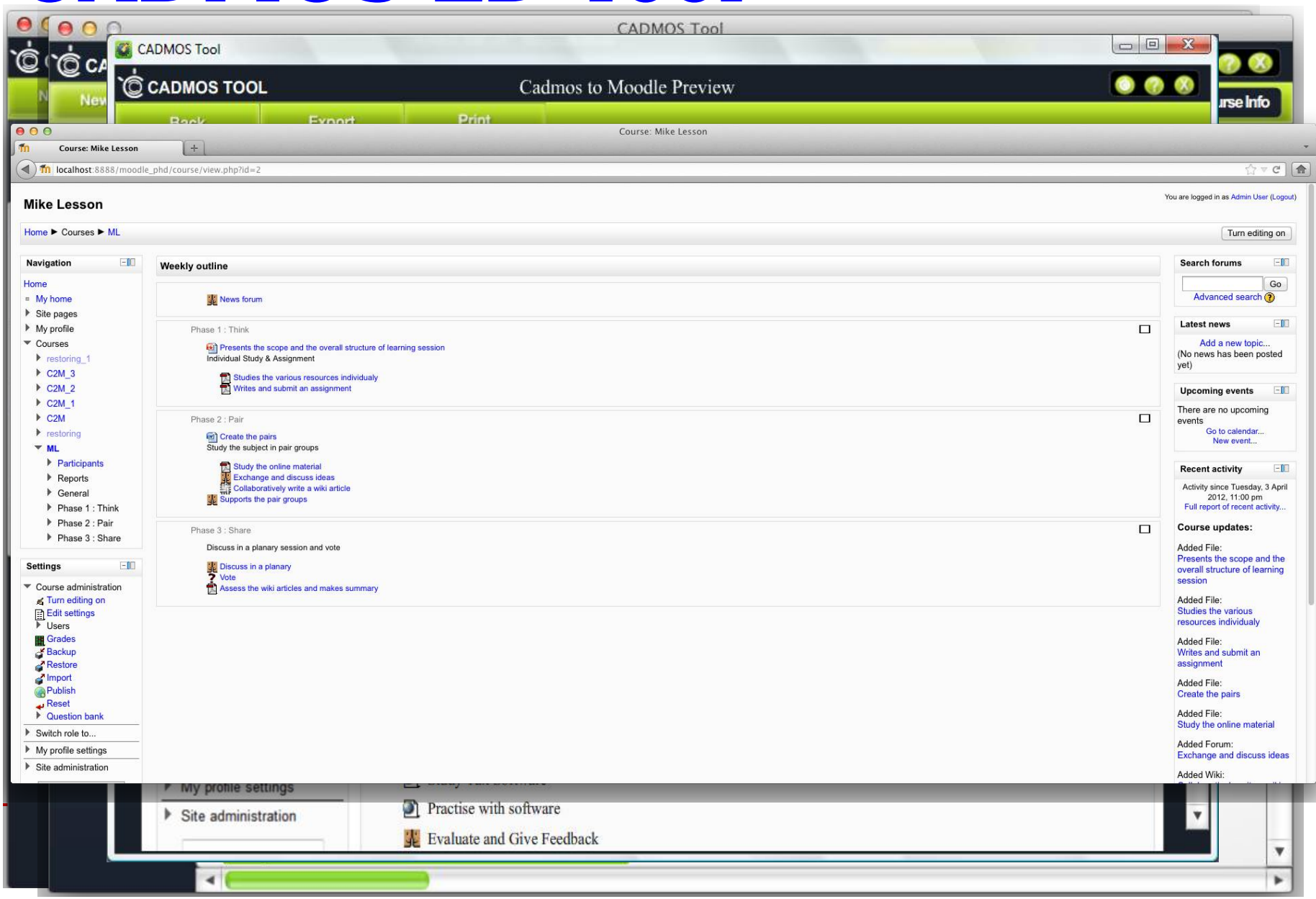


Image source: http://www.thepolyglotdream.com/native-accent-in-language-learning-part-23/

Theory & Practice

- We have developed & validate a training method
  - a **Design Sprint** of 3-5 weeks
    - Collaborative TPS strategy with peer-review
  - CADMOS LD tool
  - Learning Resources
  - Moodle enactment with Workshop module

CADMOS LD Tool



Design Sprint using TPS

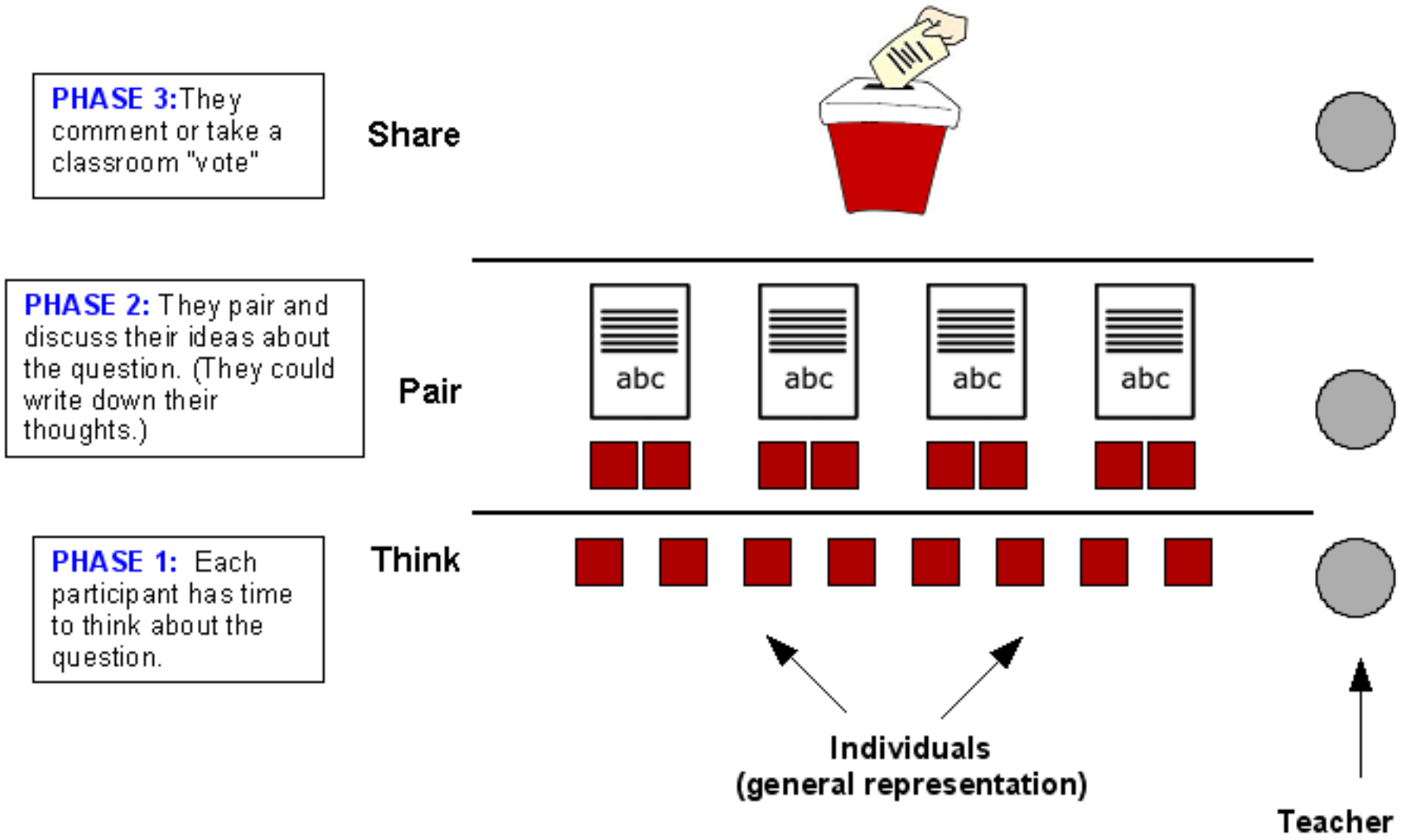
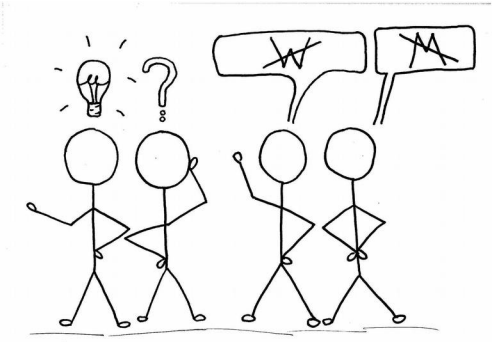


Image: Davinia Hernandez (2016), CLFP patterns

Teachers/Designers - Think Phase

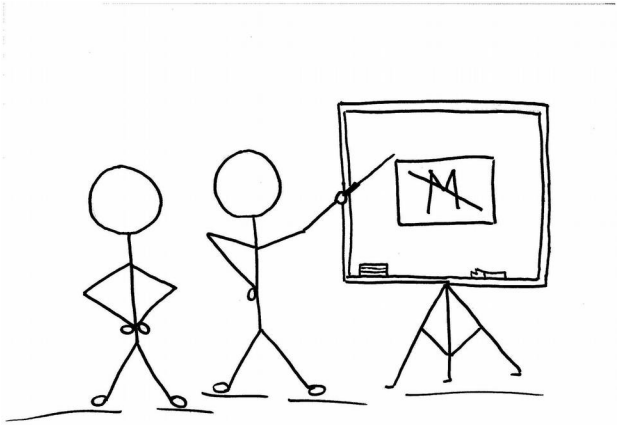
- Each designer is asked to think of a subject fora learning unit of 2-3 weeks max that will be enacted as an online module in Moodle.
  - They can look for ready made proposals for validated LDs at Aesopos repository of MOE Greece.
- They self-assess their LD according to a rubric



Images: Bill Samuels, Designer BAE Systems 2008 *FIRST* Robotics Conference

Teachers/Designers – Pair Phase

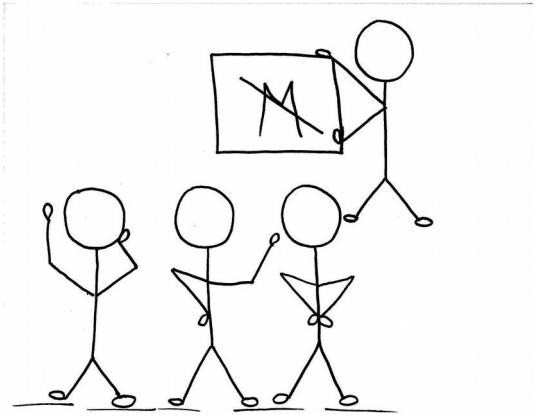
- A team of 4 designers join forces to select the “best” LD among the ones that they have created/uploaded.
  - For the peer- review process, a rubric is given which each team member is asked to fill-in for all shared LD in the team



Images: Bill Samuels, Designer BAE Systems 2008 *FIRST* Robotics Conference

Teachers/Designers – Share Phase

- Each designer individually evaluate the LDs of each team.
  - Use of a rubric



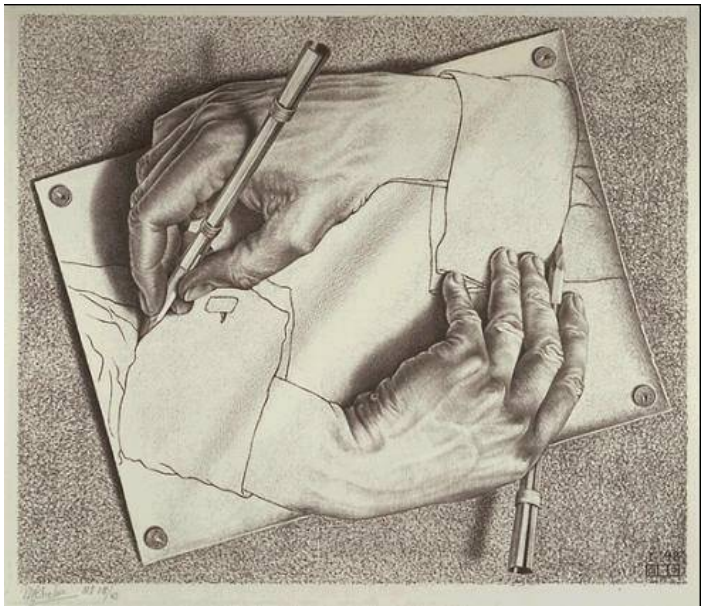
Images: Bill Samuels, Designer BAE Systems 2008 *FIRST* Robotics Conference

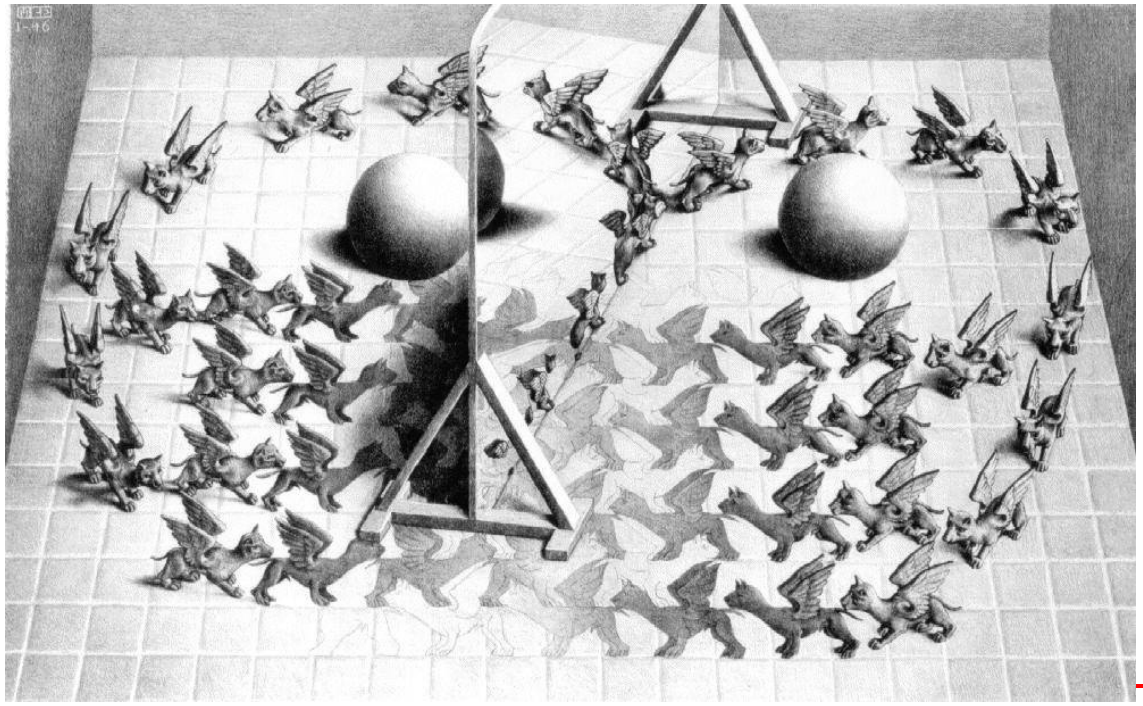
Some findings–Case study with 30 novice designers

- I was capable of creating a very good learning design as a Moodle course via the design sprint.
  - Agree: 61,11% - Strongly Agree: 36,11%
- 70,59% of the participants said that this method offers guidance in learning design
- I appreciate the Moodle preview feature of the CADMOS LD Tool
  - Agree:19,44% - Strongly Agree: 80,56%
- Creative Moodle courses that promote collaboration, active learning and quality of interaction. Avg: 2,29/3,0
- Expressiveness of the learning design representation from CADMOS 2 Moodle (selection of learning activities, learning resources, phases, rules). Avg: 2,37/3

Designing Moodle courses

- Art & Science





M.C. ESCHER, http://www.mcescher.com/

Technology is not panacea

But we have to understand and use technology affordances

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