Design Inquiry of Learning
LX Design ⇐ Edu Design Research

Dr. Yishay Mor, the Centre for Innovation and Excellence in Teaching, Levinsky College of Education

LX Conf, 16/05/2017
LX Design is a ...?

A. Craft  
B. Art  
C. Science  
D. All of the above  
E. Other..
Today’s menu

- A bit about me
- Definitions (and a bit of history)
- Tales from my travels
- Something to take home

This presentation: goo.gl/Un6Ccb
Who am I?

Computer Science

THE HEBREW UNIVERSITY OF JERUSALEM

AgentSoft.com

ld-grid.org

The Open University

jet.open.ac.uk

CISCO

J-Shop

JAVA® Agents & Web Applications
Consulting, Development & Training

webLabs

PHD

Dr. Yishay Mor, Centre for Innovation and Excellence in Teaching, Levinsky College of Education
Learning (Experience) Design?
Learning?
Learning = change of mind

- Awareness
- Attitude
- Beliefs
- Competence
- Discourse
- ...
- Zeitgeist
Design?
Design

A. Conversation with the materials of a situation
B. Changing existing states of the world into desired ones
C. Turning matters of fact into matters of concern
D. Creating objects with intent
Design :=

Making things better
Experience?
Experience

The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative.

John Dewey
### Communities

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>LAMS UNFOLD</td>
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<td>2000</td>
<td>EnROLE</td>
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<tr>
<td>2001</td>
<td>Cloudworks</td>
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<tr>
<td>2002</td>
<td>LD Grid</td>
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<tr>
<td>2003</td>
<td>International Ped Planner meetings</td>
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<tr>
<td>2004</td>
<td>LAMS conferences</td>
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<tr>
<td>2005</td>
<td>Design Challenge Conference</td>
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<td>2006</td>
<td>eLearning Papers Special Issue</td>
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<tr>
<td>2007</td>
<td>LAMS Asia Conference</td>
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<tr>
<td>2008</td>
<td>Art &amp; Science of Learning Design workshop</td>
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### Key Events

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<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tr>
<td>1999</td>
<td>EML</td>
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<td>2000</td>
<td>AUTC LDI</td>
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<td>2001</td>
<td>LAMS UK</td>
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<tr>
<td>2002</td>
<td>IMS LD BLEM LADIE Eval. of generic tools for LD</td>
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<td>2003</td>
<td>Ped Patterns</td>
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<td>2004</td>
<td>LD Lite</td>
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<td>2005</td>
<td>Practitioner tools</td>
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<td>2006</td>
<td>IJSC Design for Learning programme</td>
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<td>2007</td>
<td>LDSE</td>
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<tr>
<td>2008</td>
<td>Design Practice</td>
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<tr>
<td>2009</td>
<td>SPEED METIS 7Cs OLDS MOOC</td>
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### Initiatives

<table>
<thead>
<tr>
<th>Year</th>
<th>Initiative</th>
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<tbody>
<tr>
<td>1999</td>
<td>LAMS v1</td>
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<td>2000</td>
<td>MOT+</td>
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<tr>
<td>2001</td>
<td>LAMS v2 CompendiumLD</td>
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<td>2002</td>
<td>PHOEBE</td>
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<td>2003</td>
<td>London Pedagogy Planner</td>
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<td>2004</td>
<td>GLO Collage DialogPlus</td>
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<td>2005</td>
<td>ReMath</td>
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<td>2006</td>
<td>LAMS Activity Planner</td>
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<td>2007</td>
<td>Cloudworks</td>
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<td>2008</td>
<td>OpenScenario</td>
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<td>2009</td>
<td>CALMOS MyCells</td>
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<td>2010</td>
<td>Learning Designer</td>
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<tr>
<td>2011</td>
<td>Pedagogical Patterns Collector</td>
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<tr>
<td>2012</td>
<td>SciFitt</td>
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### Tools

<table>
<thead>
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<th>Year</th>
<th>Tool</th>
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<tbody>
<tr>
<td>1999</td>
<td>LAMS and Learning Design</td>
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<tr>
<td>2000</td>
<td>Rethinking Pedagogy 1st edition</td>
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<tr>
<td>2001</td>
<td>Distance Education Special Issue</td>
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<td>2002</td>
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<td>2003</td>
<td>Designing for learning in an open world</td>
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<tr>
<td>2004</td>
<td>Learning Design Handbook</td>
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<tr>
<td>2005</td>
<td>Advances of Learning Design, JIME</td>
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### Publications

<table>
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<th>Year</th>
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<tbody>
<tr>
<td>1999</td>
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</table>
tandfonline.com/doi/full/10.3402/rlt.v21i0.22513

sensepublishers.com/catalogs/bookseries/technology-enhanced-learning-1/the-art-and-science-of-learning-design/
Educational Design *Research?*  

(aka Design based research)

- Education is...
  - Messy, complex, dynamic, inter-subjective
- Current scientific paradigms fail to capture the essence of education, or answer its critical questions
<p>| Natural Science | What is? |</p>
<table>
<thead>
<tr>
<th>Natural Science</th>
<th>What is?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Science</td>
<td>How bad is it?</td>
</tr>
<tr>
<td>Natural Science</td>
<td>What is?</td>
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<tr>
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<td>How to make it better?</td>
</tr>
<tr>
<td>Humanities</td>
<td>What is better?</td>
</tr>
</tbody>
</table>
Educational design science is..

- Situated
- Iterative
- Value-driven
- Change-oriented
- Representation-sensitive
- Eclectic
Reading list


Learning scientists

We need to understand

Computer scientists

Let’s build some cool stuff

It’s tough out here

Let’s build stuff that works

Field researchers

Developers
Stories from my travels..

https://commons.wikimedia.org
I have a conjecture...

About your questions:
- For your new sequence, I think that is the input for your robot:

```
9 5 4.5 12
```
- For my robot, I made this:
127 Intimacy Gradient**

Office intimacy gradient.

In a small shop the sequence might be: shop entrance, customer milling space, browsing area, sales counter, behind the counter, private place for workers.

In a house: gate, outdoor porch, entrance, sitting wall, common space and kitchen, private garden, bed alcoves.

(c)
A Pattern Language: Towns, Buildings, Construction. 
USA: Oxford University Press. 

Intimacy gradient in a house.
Design patterns

Each pattern describes a problem that occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice.

— Christopher Alexander
I have a conjecture...

Posted by: Rite at 10-02-04

About your questions:

* For your new sequence I think that is the input for your robot:

```
9.5 4.5 12
```

* For my robot I made this:

```
11 7.5 5.75 4.875 3.75
```
Pattern: Guess my X
People involved in the project

Example Patterns produced by the project

Current Work of the project team

Meet us... at conferences, etc.

www.pedagogicalpatterns.org/

2000 - 2003
Design Pattern: Fishbowl

*Simulate intimate interaction between teacher and students in a large scale online course by broadcasting sessions where selected students act as proxies for the cohort*

- Set up a synchronous online conferencing tool to host the fishbowl session. Invite the fish and advertise the event to the intended audience.
- Conduct the session as a tutorial, where participants reflect on their experiences from the last week's activities, and tutors comment on those reflections and respond to participants questions.
But...

Where do patterns come from?

Bruner: Narrative transforms experience into meaning

http://brain.oxfordjournals.org/content/124/10/2028
**SNaP!**

Design Narrative

In this SITUATION, I wanted to solve this PROBLEM, so I took these ACTIONS and saw these RESULTS.

Design Pattern

In such a CONTEXT, expect this PROBLEM. Therefore, take these ACTIONS to achieve these RESULTS.

Design Scenario

In this SITUATION, I predict this PROBLEM, and conjecture these ACTIONS will lead to these RESULTS.

Mor, Y. (2013), SNaP! Re-using, sharing and communicating designs and design knowledge using Scenarios, Narratives and Patterns, in Rosemary Luckin; Peter Goodyear; Barbara Grabowski; Sadhana Puntambekar; Niall Winters & Joshua Underwood, ed., 'Handbook of Design in Educational Technology', Routledge, pp. 189-200

[researchgate.net/publication/228098282_SNaP_Re-using_sharing_and_communicating_designs_and_design_knowledge_using_Scenarios_Narratives_and_Patterns](https://www.researchgate.net/publication/228098282_SNaP_Re-using_sharing_and_communicating_designs_and_design_knowledge_using_Scenarios_Narratives_and_Patterns)
Participatory Pattern Workshops

Support ‘toolkit’

- Three Hats
- Table-top Concept Mapping
- This Reminds Me Of...
- Force Mapping
- Paper 2.0
- Draw and Tell
- Pattern Mapping
- Poster Session

Participatory Pattern Workshops

- Design Narratives Workshop
- Design Patterns Workshop
- Design Scenarios Workshop

Collaborative Reflection Workshop
Problem: telling a good story is not so easy

• Inexperienced story-tellers might -
  – Take the context for granted
  – Preach, apologise, market, or generalise
  – Avoid inconvenient details
• Interactive feedback should help, but peers might -
  – Be reluctant to criticize
  – Attribute misunderstanding to their own faults
  – Loose attention
Three hats
researchinlearningtechnology.net/index.php/rlt/article/view/19197/html

academia.edu/10088042/Double_Loop_Design_Configuring_Narratives_Patterns_and_Scenarios_in_the_Design_of_Technology_Enhanced_Learning
MOOC Design Pattern Mapping

Orientation:
- Band don’t break
- Induction
- Checkpoints
- Know your audience

Structure:
- Bring them along
- Scaffolded MOOC
- Adjacent platforms
- MOOC Legacy

Participation:
- Chatflow
- Provocative question
- MOOC Legacy
- Crowd bonding
- Sharing wall
- Large diverse groups

www.moocdesign.cde.london.ac.uk(openeducationeuropa.eu/en/elearning_papers/ (June 11)
This site was used by the "mobile learning" course in the academic year 2010-2011 at the Technologies in Education programme, the Dept. of Learning, Instruction and Teacher Education of the University of Haifa. The site is offered to the public as an open educational resource. You will find here...
Welcome to the Open Learning Design Studio's MOOC (Massive Open Online Course) "Learning Design for a 21st Century Curriculum". The course ran from 10th January to 13th March 2013. There are currently no plans to repeat the live presentation, however all the materials remain available as Open Educational Resources.

This free, open and online course (MOOC) has been designed with further and higher education professionals in mind - lecturers, qualification teams, awarding bodies, learning technologists, library and student support staff and learning and teaching specialists - but may also be of interest to teachers (or teachers to be) in secondary schools or informal/work based learning facilitators, in fact, anyone with an interest in curriculum and learning design. The course has been funded by JISC as part of a benefits realisation programme and is intended to build on the success of the Open University Learning Design Initiative (OULDI), and other JISC funded curriculum design and delivery projects.

We expected that many participants would commit for the 9-week 'journey', following the MOOC through from start to end and dedicating 3-10 hours a week. Others joined us for specific weeks or
The HANDSON MOOC is a teacher training course about designing ICT-based learning activities, based on short, specific and very practical units where you can meet your very specific needs at the same time that you can have the support of peers.
Design Inquiry of Learning

Imagine
Define an educational challenge that you would like to address.

Investigate
Analyze the context, refine the challenge, identify a suitable pedagogical approach.

Inspire
Review examples of past innovations and apply the insights from those to your project.

Reflect
Produce an account of your design process, the learning experiences you derived from it, and their outcomes.

Ideeate
Conceptualize a solution.

Evaluate
Assess the extent to which your design meets its objectives, identify areas for improvement.

Prototype
A rapid crude implementation to test your ideas.
Personas

Chloe

Experienced in online study with an academic background. Traditional learner who has a preference for self-directed study.

Age: 60
City: Paris
Person: Single
Work: Part-time
Education: Bachelor Degree
Technical: Uses a smartphone
Social: Active on Facebook and LinkedIn

Jana

Recently graduated and wants to go to further study at Masters level. She is looking to develop a career path in the creative industries.

Age: 26
City: Prague
Person: Single and mobile
Work: Part-time employment
Education: Bachelor Degree

Aisha

Lives in rural Kenya. She wants to gain knowledge she can pass on to others in her village to raise their standard of living.

Age: 32
City: Mombasa region
Person: Head of the family. Works on small area of arable land within a cooperative. Education: She is proud to have completed a distance learning degree at the University of London.
Technical: Uses a mobile phone service.

Nick

Hyperactive, technically minded and has studied a number of online courses. Always wants to talk about the platform but not always the learning.

Age: 30
City: Maastricht, Belgium
Person: In a relationship. Move around with work. Renting a room in a shared house.
Work: Software engineer, short contract
Education: Masters Degree
Technical: Uses one computer
Social: Likes to get together with friends for a night out wherever possible.

MOOCs & Co
Empathy Map

What does she/he THINK AND FEEL?

Major preoccupations

What does she/he WORRY ABOUT?

Worries & aspirations

What does she/he HEAR?

From friends?

From influencers?

From their boss?

What does she/he SEE?

Environment

Friends

What the market offers

What does she/he SAY AND DO?

Attitude in public

Appearance

Behaviour towards others

PAIN

Fear

Frustrations

Obstacles

GAIN

Wants/needs

Measures of success
Transition Matrix
TRANSLATION MATRIX

What would you consider a success? Imagine one of your learners telling the story of the transformation they have gone through.

<table>
<thead>
<tr>
<th></th>
<th>Before I was...</th>
<th>Assets</th>
<th>Now I am...</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Describe the current state of the learner, in her voice.</td>
<td>What are the resources that the learner can draw on in her journey?</td>
<td>Describe the target state of the learner, in her voice.</td>
</tr>
<tr>
<td>2</td>
<td>Provide measurable indicators.</td>
<td>What are the issues that stand between your learner and her success?</td>
<td>Provide measurable indicators.</td>
</tr>
<tr>
<td>3</td>
<td></td>
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<tr>
<td>4</td>
<td></td>
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</tr>
</tbody>
</table>
Information
Learn the facts

Knowledge
Turn facts to meaning

Passion
(Motivation)
I want to learn this

Action (Learn TO ..)
Use knowledge to affect change

Attention (awareness)
I should learn this

Identity
Learn TO BE

Habit
A pattern of action
Storyboard
Examples..
Storyboards can be purely visual
3 MOOCs, 3 MA modules, papers..

http://www.olds.ac.uk/, http://handsonict.eu/


Mor, Y. & Mogilevsky, O. (2013), Learning design studio: educational practice as design inquiry of learning

Emin-Martínez, V.; Hansen, C.; Rodríguez-Triana, M. J.; Wasson, B.; Mor, Y.; Dascalu, M.; Ferguson, R. & Pernin, J.-P. (2014), 'Towards teacher-led design inquiry of learning'

Mor, Y.; Ferguson, R. & Wasson, B. (2015), 'Editorial: Learning design, teacher inquiry into student learning and learning analytics: A call for action', *British Journal of Educational Technology* 46 (2), 221-229
METIS project

Meeting teachers' co-design needs by means of Integrated Learning Environments

The project METIS aims to contribute to the improvement of national in-service teacher training curricula (one of the EU Lisbon strategic goals) by offering high quality material for teachers' professional development on the use of modern learning techniques and tools that will focus on higher order skills and 21st century competencies. This will have a direct impact on the three educational sectors addressed in this project: adult education, vocational training and university education.

Workshop Resources

Latest News

The coordinator of the UVA team has successfully completed a round of contacts with representatives of educational entities...

read more ...

The funded period of the METIS project has come to an end. Twenty-eight (28) months after its official kick-off on November 2007, the project has completed all the anticipated tasks successfully.
ilde.upf.edu
A little something to take home

MOOCs & CO. DESIGN KIT

http://moocsandco.com/kit
Thank you!

- yishaymor.org/lds
- handsonict.eu/the-handson-toolkit
- olds.ac.uk

This presentation: goo.gl/Un6Ccb

https://xkcd.com/1834/