Seeking Approaches to Support Instructors’ Online Instructional/Course Design

Liu Mingzhuo
lucy@dec.ecnu.edu.cn

East China Normal University, Shanghai, P.R.C.
Contents

- Background/Research objective
- Literature Review
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Online learning is a new and rapidly developing field.

Online course design is a complex and professional activity.

Most of instructors are unprepared for online instruction.

Most of their instructional experience is from face-to-face teaching, deeply influenced by the concepts of textbook-centered, teacher-centered and classroom-centered.
Challenges for online instructors

I don’t know what is an online course like!

Is it like making an textbook transferred to online?

Is it like making a classroom transferred to online?

Is there any regularity to design an online course?

This study is to capture experts’ design experience in a form which is called **pedagogical pattern** so as to make the people who need the knowledge easy to acquire and use them.
Literature Review
What is pattern?

- Originated in architecture field, first proposed in 1970s by Alexander, a building theorist.
Definition of Pattern

- Pattern describes **emerging problem** in the environment, then points out **the key part of the solution** to this problem, so you can use the same **scheme**, without having to reinvent the wheel.

  -- Alexander
• **Gamma** and other software engineering scholars published a book named *"Design Pattern"*, a detailed presentation of the success of the application of information systems, as the foundation for the application of the patterns in the **software industry**.
Pattern thinking used in pedagogical field

- EU ELEN project (2003)
- IMS Global learning alliance UNFOLD projects - put forward some online learning design patterns, summarizing the design experience from the content to the teaching organization in online learning environment
- Diana Laurillard (2012) - a new book named “Teaching as a Design Science——Building Pedagogical Patterns For Technology”
Research Methodology & Process
Research Methodology (Design-Based Research)

PHASE 1

Seven Pedagogical patterns are proposed

PHASE 2

Practice & Revision

Tryout
Applied
Revision

PHASE 3

Polishing & Finalizing
Phase one – seven pedagogical patterns proposed

- Through *literature review*
- *Content analysis* into the representative online courses evaluated out by Chinese National Department of Education since 2003 (totally 3845 until 2010)
- MOOCs design style in Coursera platform
- Our more than ten-year designing experience in online learning
Seven pedagogical patterns

• Content-Based Design
• Skill-based Design
• Problem-based Design
• Case-based Design
• Scenario-based Design
• Inquiry-based Design
• Experimental Design
Structure of a pattern

NAME: Skill-based Design

CONTEXT: This pattern focuses on the learners’ skill training, too much emphasis on learners’ participation and experience, so a series of drills and simulation experience provided to learners. Usually, the operation, training and practice courses can use this design style, such as Computer Software, Computer Hardware Assembly, Automobile Assembly, Football or Swimming.

PROBLEM: How to achieve the goal of skill training in online learning?

SOLUTION:

Step1: Learning Guidance
Step2: Experiencing
Step3: Lecturing
Step4: Re-experiencing
Step5: Consolidation exercises

From the examples above, we can see that for different learning content and learning objectives, the activity type and sequence in each Learning Module can be different.
Phase two – practice & refine

• These patterns are on trial in the School of Open Learning and Education of East China Normal University.
<table>
<thead>
<tr>
<th>Course Name</th>
<th>Teaching Experience (Years)</th>
<th>Professional Rank</th>
<th>Number of online course constructing</th>
<th>Have you taken part in or host a national top quality online course?</th>
<th>Do you have online teaching experience?</th>
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<tbody>
<tr>
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<td>10-19</td>
<td>Associate Professor</td>
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<td>Yes</td>
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<td>6-9</td>
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<td>0</td>
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</tr>
</tbody>
</table>
Data Collection

1. **Questionnaires and interviews** to the online instructors in the beginning of course design.
2. **Questionnaires and interviews** to the online instructors in the end of course design.
3. The **communication records** between instructors and facilitator (such as the email, telephone content), and also stage artifacts.
4. **Heuristic evaluation** about the completed course.
5. **Observation data** by the researcher.
Finding 1

• In the trial of these patterns, we found that these patterns acted as a very good bridge/language between facilitators and instructors.
• The seven trial teachers in their pre design stage of online courses can choose a variety of reasonable design patterns according to the characteristics of the curriculum under the guide of the facilitator.
Finding 3

From the interview, we know that these patterns are welcomed and understood easily by the teachers, but these teachers also hope that the facilitator could give a big hand during their designing especially in technical aspects.

Along with the line of thought, teachers are still with sense of strange to online teaching, tendency to depend on the facilitator due to habitual thinking, so how to transfer this dependence on facilitator to the pedagogical patterns is the ultimate goal of this study.
• Each pattern has its own philosophy, reflecting specific teaching objectives, philosophical assumptions, curriculum and values.

• Seven design patterns can be mixed use in an online course

• The type or the sequence of activities in a pattern is good design references for the teachers/designers, especially for those novices.
Thanks For Your Listening !!!