A Design-Based Research project on Information Literacy teaching focusing on process, reflections and self-feedback

Majbritt Ursula Johansen, Research Librarian
Kirstin Remvig, Information Specialist

https://www.slideshare.net/secret/co7UHRT2VL8bWA
What is Design-Based Research?

**DBR** is also known as “design experiments” (Brown, 1992), “design research” (Cobb, 2001) and “Educational Design Research” (Akker et al, 2006).

**DBR** describes how innovative learning environments and theory converge into human learning support systems.

The aim is to develop a set of theories about the process of learning and the methods to support learning (Cobb et al, 2003).
DBR – an iterative process

1. Studying
   Problem identification, Field studies, Desk research, Domain knowledge

2. Designing
   Developing innovative concepts, Prototyping

3. Intervening
   Understanding, Evaluating, Implementing

4. Generalizing
   Testing prototypes

Educational Design Research

Translated from:
Background
The underlying principles Active Teaching & Learning at SDU

Specific as interpreted at Faculty of Health, University of Southern Denmark:
**FAIR principles**, That focus on in-depth learning rather than rote learning (Laidlaw & Harden, 2013).

Hans Lund
Lektor, studieleder, fysioterapeut, ph.d.
Muskuloskeletale Funktion og Fysioterapi (FoF)
Institut for Idræt og Biomekanik
Campusvej 55
5230 Odense M
Danmark
hlund@health.sdu.dk
Telefon: 65503449
Mobiltelefon: 25721125

Four principles leading to effective learning

<table>
<thead>
<tr>
<th>FAIR</th>
<th>Feedback</th>
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<tbody>
<tr>
<td>Activity: <em>engage the student in active rather than passive learning</em></td>
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<td>Individualization</td>
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<td>Relevance - students recognize relevance of their learning experiences</td>
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Student participants from Exercise & Health (bachelors + masters), chiropractic (masters), physical therapy (masters), psychology (ba):

800 students in the first year,
2*800 students the following 2 years.

B!NKO 2.0

The project started in January 2012 identifying the steps seen as substantial and critical in learning and being information literate:

According to the researcher:

1. Know what to look for
2. Know where to look
3. Skills in searching
4. Skills in choosing
5. Ability to control the search
6. Know how to find full text
7. Ability to Save the search
8. Abilities to use the information - in argumentations and in bibliographic list
Designing B!NKO 2.0 – 1. version

1. Formulate research question

2. Research question to search terms

3. Choose database

4. Search

5. Choose informations

6. Assess quality of found results

7. Managing references

8. Citation or plagiarism
Feedback to version 1, B!NKO 2.0

The students:
• Perplexity
• Deficient knowledge
• Still don´t understand AND OR
• Haven´t understand how / why to change the search
• Because the term-finding-**exercise** (explain with only one word what our assignment is about…) there is understanding of the coupling from research question to search matrix
  • BUT believes that all elements in the assignment must be in one search matrix.
• Dejected to where to search

Developer-team:
• It seems like the students are lost in details
• Quality assessment is NOT a library service, but belongs within the IL
• Reference covers both EndNote /Mendeley etc. AND how to use references in academic argumentations / writing -> 7+8 are gathered
• Not a straight process, does not need a research question from start!
• Something is happening before choosing and assessment of information. The search is evaluated for relevance!
The purpose of B!NKO 2.0:

Using this process model will mean that the user will need to reflect and evaluate her or his information search more systematically, according to her or his assignment.
1. Problem Area:
   Background
   Research questions
   Criteria of Inclusion Etc

2. Focus:
   Focusing the problem area to central search terms

3. Choose databases:
   Where to search? Why?

4. Techniques of searching:
   truncation, "phrases", MeSH osy

5. Judgement of relevance:
   Coherence between RQ, inclusive criteria’s and search results

6. Quality assessment:
   The relevant articles methodical quality, Checklist

7. Reference management:
   SFX, find full text, quote, paraphrase, Endnote
Learning objectives

1. That the students through lecture and workshop obtain knowledge about concepts and processes used in Information searching.

2. That the student obtain skills of making a search protocol, which meets the demands of that scientific area they are working in.

3. That the students can judge the relevance of the search results, and make a judgement of changes within the search process.
PhD. project title:

Research Question:
How, where, when and with whom are children active in nature in their free time?

Jan Arvidsen, Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark
The search process

- In process I used a step-by-step approach where a search for each search word was conducted separately. Truncation was used to enhance the scope for each search word. The number of hits for each search word was noted in brackets.
- First the search words within the same column were combined with “OR”, and subsequently the columns were combined with “AND”. Afterwards the number of hits and the content of the search were accessed. Search words were included or excluded, and marked with **bold** and strikethrough respectively.
- Step 1 and 2 was repeated until a manageable number of relevant hits were found. In search round 6 a new focus was introduced by division of focus 3: First behaviour and pattern were tested as search words. Secondly leisure and recreation were tested.
<table>
<thead>
<tr>
<th>Database</th>
<th>Focus 1</th>
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<th>Focus 3</th>
<th>Focus 4</th>
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<td>WHO is the subject/actors?</td>
<td>WHERE or in what setting are the subjects acting?</td>
<td>WHAT activities or contexts are the subjects engaged in/with?</td>
<td>WHEN or in what context are these activities taking place?</td>
<td>WHAT research outcomes are we looking for?</td>
<td>WHAT type of studies are we looking for?</td>
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<td>NATURE</td>
<td>FRILUFTSLIV</td>
<td>FREE TIME</td>
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<td>play* “physical activit*”</td>
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“It is hard to know when to stop searching, am I done when I have 357 hits?”
Evaluation

- The didactic process model is working – in health academics!
  - Library approaches from students in this project have changed, and are different from other students, ex., ”can you give feedback on which subjects terms that cover my subject in Academic Search Premier?”
  - E-logbook might work. Data collection are yet to be completed methodical.
    - Oral feedback are mainly on technically issues
Reflexion

- The Social - & Textual information are very Health orientated, does this mean that this didactic process model is not generic applicable?
- Are the IL definitions used in this project comprehensive?
  - Could other subjects areas have another definition of IL that influences on the didactic used?
- Can the e-logbook stand alone as an IL learning tool without further instructions?
B!NKO 2.0 is a web-based tool for learning about search processes, with both self-evaluation and peer-evaluation included. B!NKO 2.0 gives you a systematic approach to information search and helps you practice your information literacy skills.
Subject: Health
Name: 

Back  Save
Problem - Test - Health - Q1 of 1

Which demands does the assignment require?
What are the required standards for the literature you are using?
What is the research question?
What do you need to know to answer your research question?
What do you already know about the problem, and which knowledge do you lack to answer your research question?

Your notes - version2

My reflective notes...
DBR – an iterative process II

1. Studying
   Problem identification, Field studies, Desk research, Domain knowledge

2. Designing
   Developing innovative concepts, Prototyping

3. Intervening
   Testing prototypes

4. Generalizing
   Implementing, Evaluating, Understanding

Educational Design Research

Translated from:
Problem identification

- How can BINKO support humanities and social science studies?
- students working in groups?
- departments’ need for documentation – have the students tried on their own before they ask for help?
Designing in two tracks

1. Expanding the platform functionalities (in progress)
   - Group sessions
   - Log documentation for group sessions

2. Developing an entrance for interdisciplinary studies between Humanities & Social Science
Field studies

Ask

- Researchers/teachers
- Research librarians working with the Humanities and Social Science.
- Students
- You?
Work to be done

- Fall 2016 – Testing prototypes
- Winter 2016 – Implementing, evaluating, understanding
A Design-Based Research project on Information Literacy teaching focusing on process, reflections and self-feedback

QUESTIONS

?