Contemporary e-learning as panacea for large-scale software training

CSEDU 2013, 7 May 2013

John van der Baaren
Iwan Wopereis
CELSTEC,
Open Universiteit Nederland

Overview

- The problem
- Designing a solution
- Setup
- Results
- Discussion
The problem

- Dutch organisation mental health care, 2000 employees
- New system maintaining patient info (EMR)
- 6 months, old -> new overnight
- Classroom instruction and using existing e-learning not an option.
- Practical problems: ..
Designing a solution

Start with task analysis:

-what tasks are employees performing using the old EMR software?

Training should accomplish:

-that these tasks can be performed using the new EMR software

And not for instance:

-What is the new functionality and how can it be used?

Main tasks for each user group

<table>
<thead>
<tr>
<th>Course ADMIN</th>
<th>Course THERA</th>
<th>Course PSYCH</th>
<th>Course NURSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration and creating dossier</td>
<td>Appointments and dossier (4)</td>
<td>Appointments and dossier (4)</td>
<td>Report (6)</td>
</tr>
<tr>
<td>Unplanned activity (1)</td>
<td>Adapt appointment (5)</td>
<td>Adapt appointment (5)</td>
<td>Outside authorization (2)</td>
</tr>
<tr>
<td>Outside authorization (2)</td>
<td>Unplanned activity (1)</td>
<td>Report (6)</td>
<td>Consult archive (3)</td>
</tr>
<tr>
<td>Consult archive (3)</td>
<td>Outside authorization (2)</td>
<td>Consult archive (3)</td>
<td>Guidance plan</td>
</tr>
<tr>
<td>Add documents</td>
<td>Consult archive (3)</td>
<td>Anamnesis</td>
<td>Dialogue model plan</td>
</tr>
<tr>
<td>Make an appointment</td>
<td>Report (6)</td>
<td>Unplanned activity (1)</td>
<td>Gordon model plan</td>
</tr>
<tr>
<td>Outgoing correspondence</td>
<td>Create sub plan</td>
<td>Outside authorization (2)</td>
<td></td>
</tr>
<tr>
<td>Register client</td>
<td>Day care plan</td>
<td>Medication</td>
<td></td>
</tr>
<tr>
<td>Activity plan</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Numbers indicate the same task is used for different groups. Tasks without number are unique.
4C/ID model for design of instruction

Task class

Supporting information

Cognitive feedback

Procedural information

Learning task (without support)

Learning task (fully supported)

Part task practice

Setup

- E-learning
- Test
- Questionnaires
- Tools
- Development proces
Testing ability to perform the tasks

Vragen 2 van 12 - Zoek een gearchiveerd dossier van een cliënt op (10 Punten)

Mevrouw Van Mondriaan is eerder behandeld bij de instelling. Je wilt graag haar oude dossier inzien. Je hebt de cliënt al opgezocht in het systeem. Hoe krijg je toegang tot het dossier van mevrouw Van Mondriaan?

Procedure 1:
Je zult eerst een applicatiebeheerder moeten benaderen om het archief te activeren.

Procedure 2:
(1) Klik op ‘Algemeen’ in het lint; (2) Klik op het kooien ‘Archief’; (3) Klik op ‘episode’ in het navigatiepaneel.

Procedure 3:
(1) Klik op ‘Dossier’ in het lint; (2) Klik op ‘Archiveren’.

Procedure 2
Questionnaires

Two questionnaires, selection of 100 learners:
- First focus on e-learning
- Second four weeks after introduction of EMR with focus on results.

Tools

- Learning environment: Ilias (www.ilias.de)
- Authoring tool: Adobe Captivate
- Standard: Scorm
- Link personnel system: Edumanager
- Questionnaire: QMP
Development process

- Team of 8 people (4 OU, 4 client organisation)
- Combine expertise, also transfer expertise
- Test users
- Started 1 March, final version ready 7 August, start e-learning 15 August.

Results

- E-learning was made available to all employees 15/08/2012
- New EMR installed 01/10/2012
- On 03/10/2012 77% of all employees successfully had completed the e-learning.
- Two weeks later: 85%
- Questionnaires: positive
### Results

<table>
<thead>
<tr>
<th></th>
<th>No. users</th>
<th>No. completed</th>
<th>% completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMIN</td>
<td>172</td>
<td>132</td>
<td>77</td>
</tr>
<tr>
<td>PSYCH</td>
<td>659</td>
<td>483</td>
<td>73</td>
</tr>
<tr>
<td>THERA</td>
<td>186</td>
<td>151</td>
<td>81</td>
</tr>
<tr>
<td>NURSE</td>
<td>956</td>
<td>749</td>
<td>78</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1973</td>
<td>1515</td>
<td>77</td>
</tr>
</tbody>
</table>

Note: reference date 3 October 2012

### Results

<table>
<thead>
<tr>
<th></th>
<th>Time course</th>
<th>Time test</th>
<th>Score test</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMIN</td>
<td>1h46m</td>
<td>17m</td>
<td>88%</td>
</tr>
<tr>
<td>PSYCH</td>
<td>1h29m</td>
<td>15m</td>
<td>85%</td>
</tr>
<tr>
<td>THERA</td>
<td>1h41m</td>
<td>17m</td>
<td>84%</td>
</tr>
<tr>
<td>NURSE</td>
<td>1h22m</td>
<td>23m</td>
<td>80%</td>
</tr>
</tbody>
</table>

Note: reference date 3 October 2012
Results: questionnaires

First questionnaire (72% return)
- Well suited (93%), structure ok (98%), text clear (95%)
- Questions well formulated (89%), good test (72%)

Second questionnaire (59% return)
- Very few problems using EMR
- E-learning good solutions for these kind of training (78%)

Discussion

- Tentative conclusion: combination of instructional design and state of art technology yielded a succesful of e-learning application.
- Interesting to investigate whether approach can be applied to other situations where skills need to be updated.
- Difference between initial skill acquisition and updating.