Application of multimedia components to the education of speech and language therapists

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Motivation

- Students wish to obtain more practical examples
- How could we improve our clinical relevant teaching?
- Simple way: show some videos or listen to voice recordings
- Using new media offers several ways
- What opportunities can be used to support different didactic settings?
Theoretical background

- Technologies offer new options but may cause problems too
- Intuitive use of different didactic methods in attendance learning
- Simple transformation is not possible or does not make sense
- Successful methods rely on the learning target
- Using new technologies should have favourable effects on lecturers and students

Cf. www.e-teaching.org
Teaching project
Patient documentation

- In spring 2011 we initiated a project at RWTH Aachen University to produce videos with patients for lectures
- Funded by tuition fees
- Cooperation:
  - Multimedia-lab at our faculty (Audiovisuelles Medienzentrum, AVMZ)
  - Aphasia ward (department of neurology)
Aims

- Video clips containing
  - different diagnostic procedures
  - characteristic & rare aphasic and neuropsychological syndromes
- Materials applicable for lectures & private study
- Improve learning effects
- Increase active participation
- Convey therapist-patient communication
Participants

- 25 patients
- Recruitment by the staff of our aphasia ward.
- Information about realisation and the consent form
Recording

- Technical realisation by our multimedia-lab (AVMZ)
- They provide professional studio equipment
- Selection of diagnostic procedures with patients’ therapists
- Performance followed a written script
- Recording time: 1 hour
## Sorting
- Analysis of diagnostic procedures
- Filtering material, defining time-codes
- Generating a system to find certain symptoms and syndromes easily

<table>
<thead>
<tr>
<th>ID</th>
<th>Diagnosis</th>
<th>Diagnostic procedures</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>005</td>
<td>Broca’s Aphasia, Apraxia of Speech</td>
<td><strong>Spontaneous Speech</strong></td>
<td>Many phonological errors, agrammatism, use of gestures, effortful speech, trial and error</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Word repetition</strong></td>
<td>Phonological errors, Difficulty initiating words, attempts at self-correction</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Reading aloud</strong></td>
<td>Difficulty initiating words, phonological errors, some phonetic errors</td>
</tr>
</tbody>
</table>
Application

- In winter term 2011/2012 first videos were shown and evaluated in 4 lectures
- eMedia skills lab
Evaluation

- Online evaluation

Ratings:
- 3 (strongly agree)
- 2 (agree)
- 1 (partly agree)
- 0 (strongly disagree)
Patient videos should be an essential part of teaching
The integration into the lesson was successful
The lessons content was supported by the videos
The technical quality of the videos was very good
The quality of content of the videos was very good
I would like to see more patient videos during lessons
The lecture was improved by application of the videos
My learning process was supported by the videos
The videos have a better reference to practical topics
The videos conveyed a unique impression of the disease
I would watch the videos by myself again
I would recommend the videos to my fellow students

Results students
Results lecturers

It was easy to integrate the videos conceptually
The integration into my teaching materials was simple
The technical quality of the videos was very good
The quality of content of the videos was very good
I would like to apply more videos in my lectures
Through the use of the videos it was easier to teach
I got a good feedback about the videos from the students
The available videos were suitable to the theme of the lecture
# Results students

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Min-Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuropsychology</td>
<td>2.5</td>
<td>0.72</td>
<td>3</td>
<td>0-3</td>
</tr>
<tr>
<td>Research in language therapy</td>
<td>2.47</td>
<td>0.72</td>
<td>3</td>
<td>0-3</td>
</tr>
<tr>
<td>Neurology</td>
<td>2.39</td>
<td>0.93</td>
<td>3</td>
<td>0-3</td>
</tr>
<tr>
<td>Lesson planning</td>
<td>2.5</td>
<td>0.64</td>
<td>3</td>
<td>0-3</td>
</tr>
<tr>
<td>Overall results</td>
<td>2.46</td>
<td>0.77</td>
<td>3</td>
<td>0-3</td>
</tr>
</tbody>
</table>
## Results

### Lecturers

<table>
<thead>
<tr>
<th>Lecturers</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Min-Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall results</td>
<td>2.63</td>
<td>0.48</td>
<td>3</td>
<td>2-3</td>
</tr>
</tbody>
</table>

Agreement and interest in the project.
Conclusion

- Production & conceptual design of multi-media components is very time consuming.
- Benefits of the new material
  - online availability
  - easy to apply
  - varied usability
  - combination of different media
  - easy to evaluate
Future work: Digital textbook

- Used by lecturers and students
- Smart combination of different media
Future work

- Proceed with the production and use of material that allows the duality of attendance learning and private study.
- Planning a corresponding didactic concept for a lecture exemplarily.
- Create and integrate exercises that can be used for revision.
Thanks to

- To all participating patients
- To the staff of our aphasia ward
- Ulla Ohnesorge-Radtke
- Teresa Federsel
- Martin Lemos
- Barbara Görgen
- Eckehard Fiedler
- George Reilly
- Claudia Renn

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