

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

Inga Lange, Stefan Heim, Peter Aretz,
Ferdinand C. Binkofski



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 relay on the learning target**
- **Using new technologies should have favourable effects on lecturers and students**

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

ID	Diagnosis	Diagnostic procedures	Comments
005	Broca's Aphasia, Apraxia of Speech	Spontaneous Speech	Many phonological errors, agrammatism, use of gestures, effortful speech, trial and error
		Word repetition	Phonological errors, Difficulty initiating words, attempts at self-correction
		Reading aloud regular words	Difficulty initiating words, phonological errors, some phonetic errors

Application

- In winter term 2011/2012 first videos were shown and evaluated in 4 lectures
- [eMedia skills lab](#)

The screenshot shows the homepage of the eMedia Skills Lab. At the top left is the logo 'e media skills lab.' with the tagline 'Lehr- / Lernplattform der Medizinischen Fakultät der RWTH'. To the right, it says 'Sie sind nicht angemeldet.' with a 'Login' button and a user silhouette. A green navigation bar contains links for 'HUMANMEDIZIN', 'ZAHNMEDIZIN', 'MEDIATHEK', 'SKRIPTE', and 'LINKS', along with the date 'Samstag 12 Mai 2012'. The main content area features a 'Aktuell' sidebar with a section on 'Authentifizierung' for students. The central banner shows a computer lab with 'avmz' on the screens and a 'Herzlich willkommen' message. A right sidebar lists 'Systemvoraussetzungen' with icons for Windows, Firefox, and other software, and text stating that users should fulfill these requirements for the learning modules and videos.

Evaluation

- Online evaluation

0% 100%

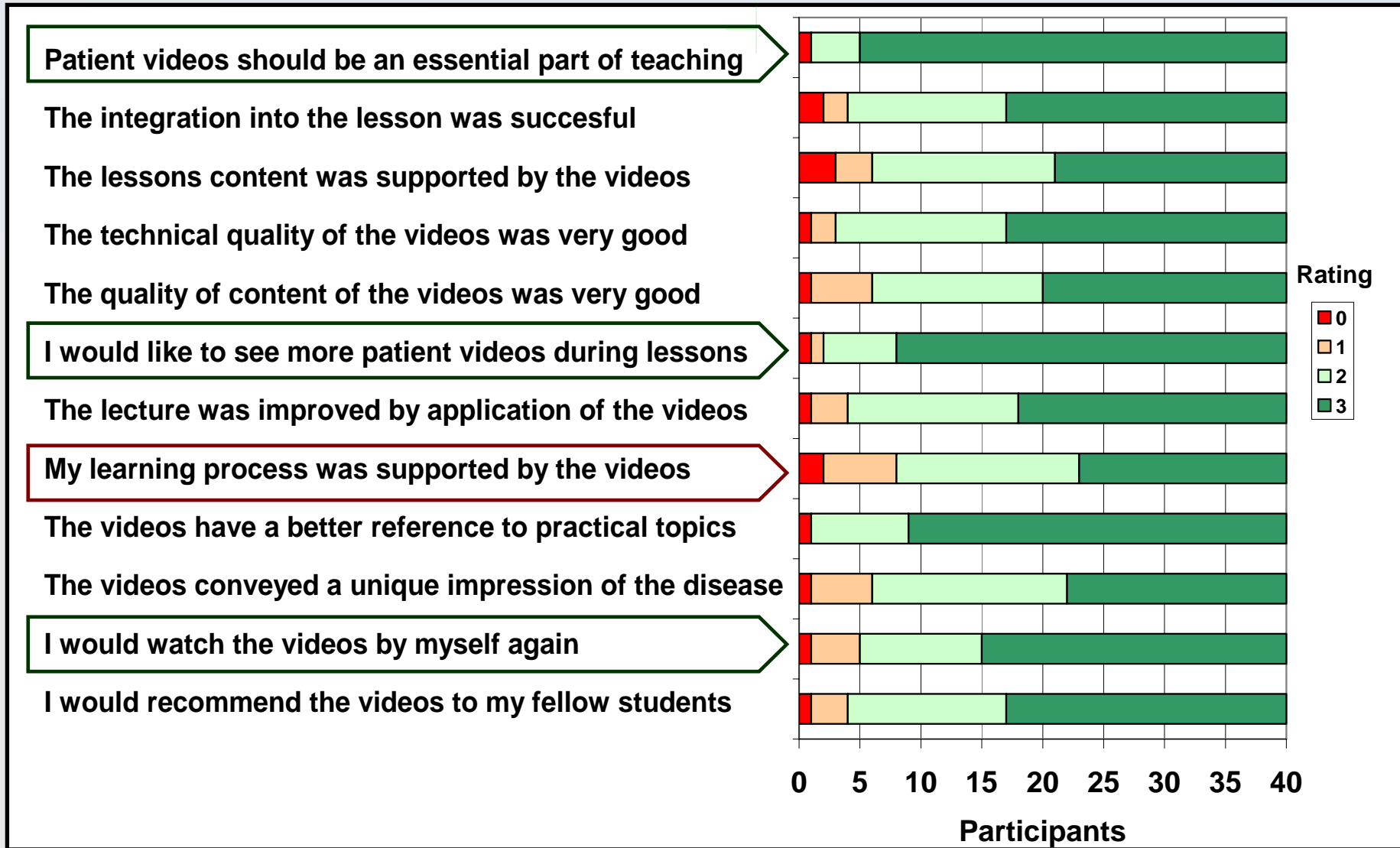
Aussagen

***Bitte bewerten Sie die folgenden Aussagen.**

	Stimmt völlig	Stimmt überwiegend	Stimmt teilweise	Stimmt nicht
Patientenvideos sollten ein fester Bestandteil der Lehre sein.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Die Einbindung der Videos in die Veranstaltung war gelungen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Die Veranstaltungsinhalte wurden durch die Videos unterstützt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Ratings:
 - 3 (strongly agree)
 - 2 (agree)
 - 1 (partly agree)
 - 0 (strongly disagree)

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

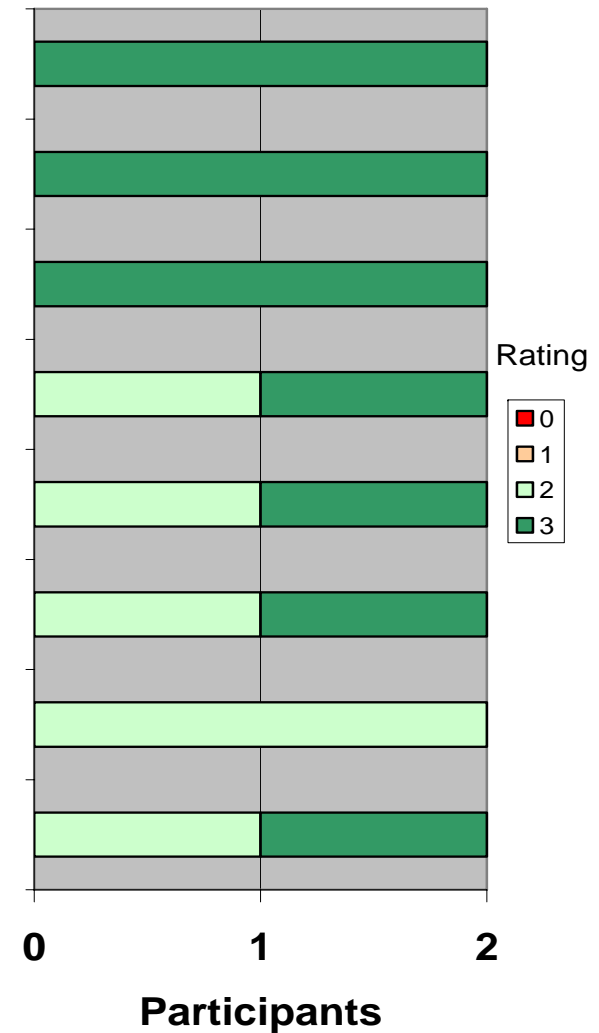
The quality of content of the videos was very good

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 feed-back about the videos from the students

The available videos were suitable to the theme of the lecture



Results students

Lecture	Mean	SD	Median	Min-Max
Neuropsychology	2.5	0.72	3	0-3
Research in language therapy	2.47	0.72	3	0-3
Neurology	2.39	0.93	3	0-3
Lesson planning	2.5	0.64	3	0-3
Overall results	2.46	0.77	3	0-3

Results

Lecturers

Lecturers	Mean	SD	Median	Min-Max
Overall results	2.63	0,48	3	2-3



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

■ Einleitung ■ Standardsyndrome ■ Sonderformen ■ Weitere Störungen

Einleitung
Standardsyndrome
Globale Aphasie
Wernicke-Aphasie
• 1. Fall: Leichte-mi...
- Neurolinguistische...
-- Spontansprache
-- Mündliches Benenn...
-- Lesen
-- Schreiben
-- Schriftl. Benennen
-- AAT-Supplement Te...
- Neuropsychologie
-- Visuell-räumliche...
-- Verbale Merkspanne
Broca-Aphasie
Amnestische Aphasie
Sonderformen
Weitere Störungen
[Sitemap](#)
[Druckversion](#)

-- Schreiben



Beobachtungen

Das Schreiben von Nomina nach Diktat gelingt dem Patienten fehlerfrei.

Viele Patienten mit Wernicke-Aphasie können flüssig schreiben, sie haben häufig keine Parese des rechten Arms.

Grundsätzlich können in der Schriftsprache die gleichen Symptome wie in der mündlichen Sprachproduktion auftreten: Paragraphien und Neologismen. Bei Sätzen und Texten kann zudem ein Paragrammatismus bestehen. Zusätzlich können auch Beeinträchtigungen der Rechtschreibung und konstruktive Störungen beim Schreiben von Buchstaben vorliegen.

- 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

Contact: ilange@ukaachen.de