

# Media Competencies in the Context of Visually Impaired People



**Wolfgang Müller**  
**Johannes Zylka**

**Monika Weigand**

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# Overview

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Motivation

Information Literacy vs. Media Competences

Related Work and State-of-the-Art

Media for Visually Impaired

Teaching Media Competencies for VI People

Conclusions and Future Work

# Information Literacy in the Modern World



- Information and media literacy indispensable in the modern world
- Various initiatives to foster media literacy education
- No generally agreed standards
- Media literacy especially important for partially sighted individuals
- Expands the word of blind and visually impaired people in many ways
- No success in working world without media competencies







# Berufsförderungswerk Würzburg

Training centers for people with disabilities

BFW Würzburg: Special center for visually impaired and blind adults

Around 200 participants from all over Germany

Offerings

- Over 20 professional qualifications
- Around 30 e-learning modules



# Information Literacy vs. Media Competencies

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Differing terminology worldwide (Zylka, Müller & Martins, 2011)

## Heterogeneous Discourses

- Discourse on Digital, IT, and ICT Literacy (Hague & Payton, 2010; Gomez, 2011, ETS 2002)
- Discourse on Media Literacy (Education) (Aufderheide & Firestone, 1993; Hobbs, 2009)
- Discourse on Media Competence (Gapski, 2001/2006; Schorb, 2009)

## Fundamental theoretical discussions on

- Competence (Weinert, 2001)
- Literacy (UNESCO, 2003)

## New Developments

- Media and Information Literacy (UNESCO 2012/2013)



# ICT Literacy vs. Media Competencies

„ICT Literacy is using digital technology, communication tools, and/or networks to access, manage, integrate, evaluate, and create information in order to function in a knowledge society.“

(ETS, 2002, S.16)

Media Competence		
Knowledge on Media	Media Evaluation	Active Media Work
Functions Structure Orientation	Critical Reflection Qualification (ethical, cognitive)	Media appropriation Media use Media participation Media design

Schorb 2005





## Related Work

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Limited work on information literacy and media competencies in the context visually impaired

Examination of a theoretical overlap between approaches to the early literacy education of children with blindness and visual impairments and the New Media Literacies (NML) framework (Alper 2012)

- No concrete guidelines

Report from own experiences in teaching information literacy for VI people (Schilf 2009)

# State of the Art

## Significance of Media for Visually Impaired People

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- Web Content Accessibility Guidelines (WCAG) as a big step towards accessibility for VI people
- Assistive technology helps a lot to overcome existing barriers
  - Screenreader
  - Magnifying software
  - Braille displays
  - Speech output ...
- Mobile devices bring additional support, due to built-in accessibility technologies

W3C<sup>®</sup>





# State of the Art

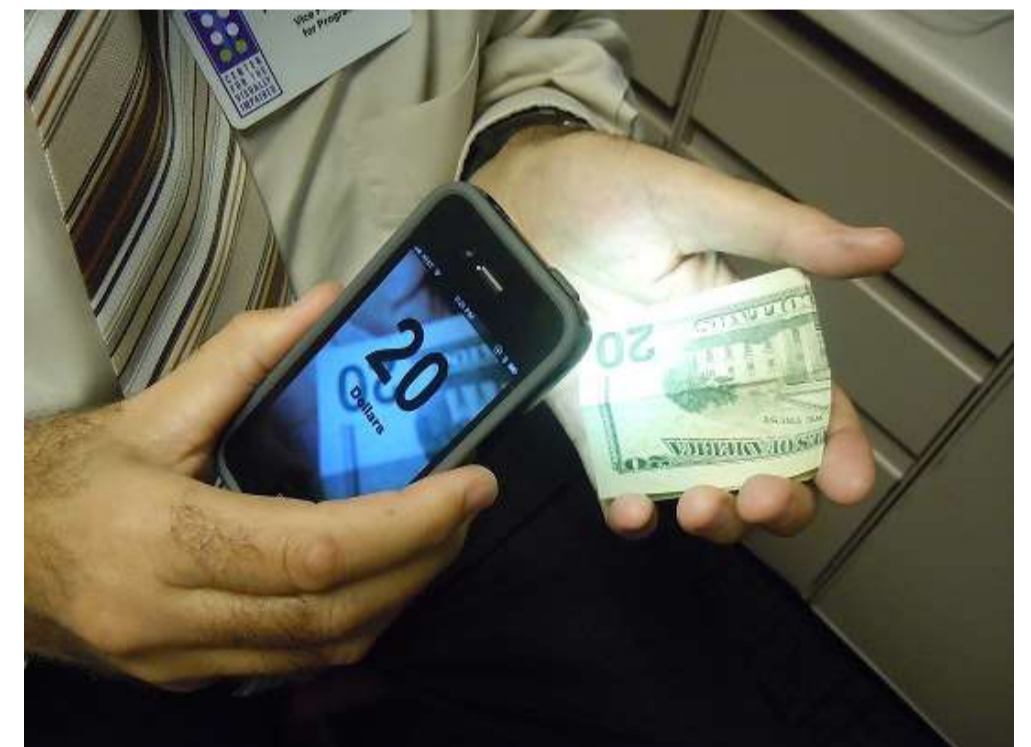
## Significance of Media for Visually Impaired People

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### Mobile devices with additional support

- Built-in accessibility technologies
  - e.g., Apple's Voice Over
- Standard Apps
  - Communication
  - Maps
- Innovative Apps, e.g.,
  - Magnifier Lenses
  - Color identifiers
  - Money reader
  - ...



LookTel Money Reader

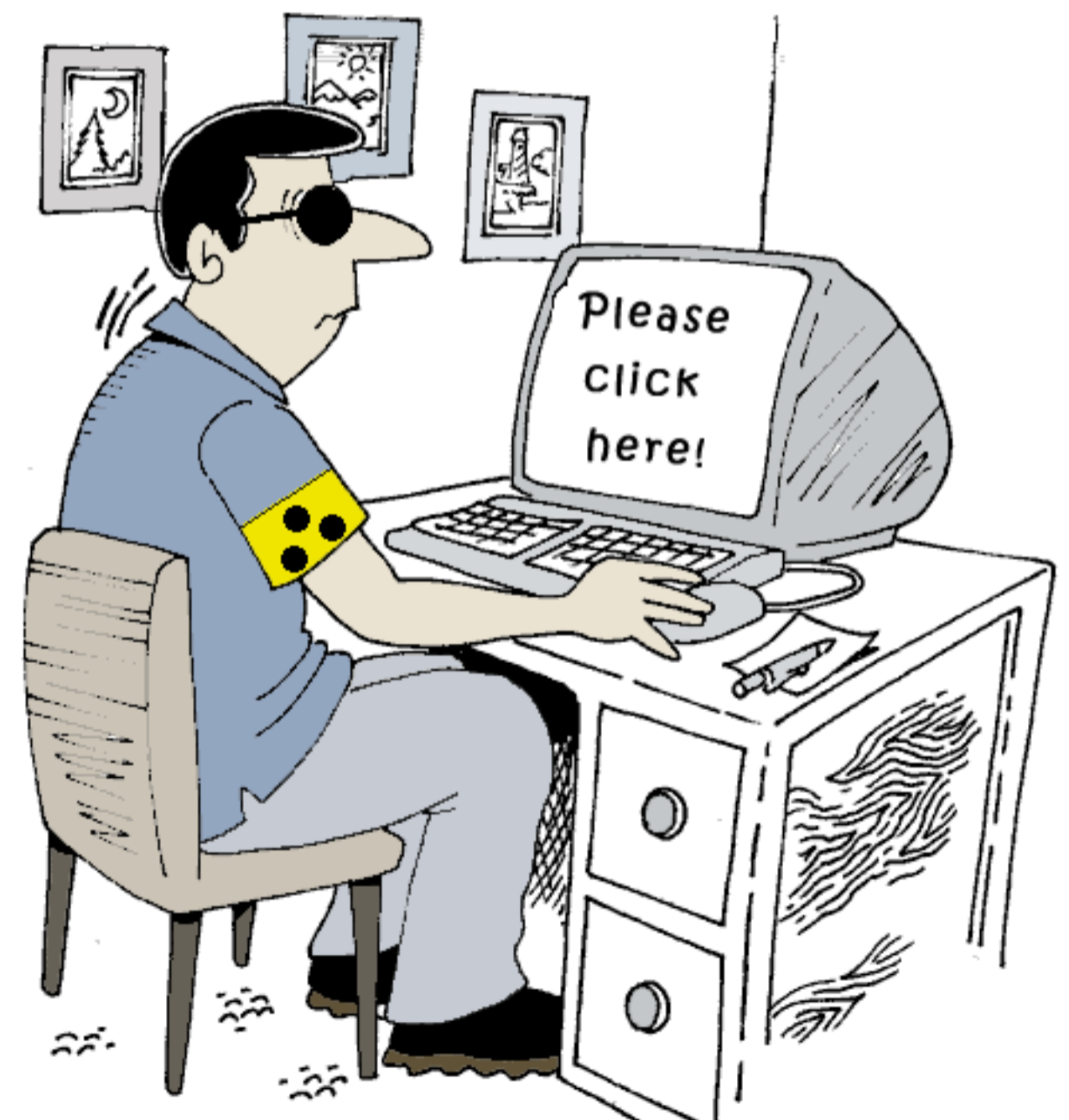
# State of the Art

## Handicaps and Media Competencies



Despite of accessibility standards und assistive technologies there are handicaps remaining:

- Use of computer mouse is not possible, only keyboard functions can be used
- All graphic information is not accessible
- VI people have no screen overview – all information must be collected line by line



# Theoretical Approaches



- Large variety of theoretical approaches and understandings in Germany and other countries
- Different understandings of the terms literacy and competencies
- For VI people focus of media competency must be on basic knowledge and abilities
- Enables VI people to participate in private and working life



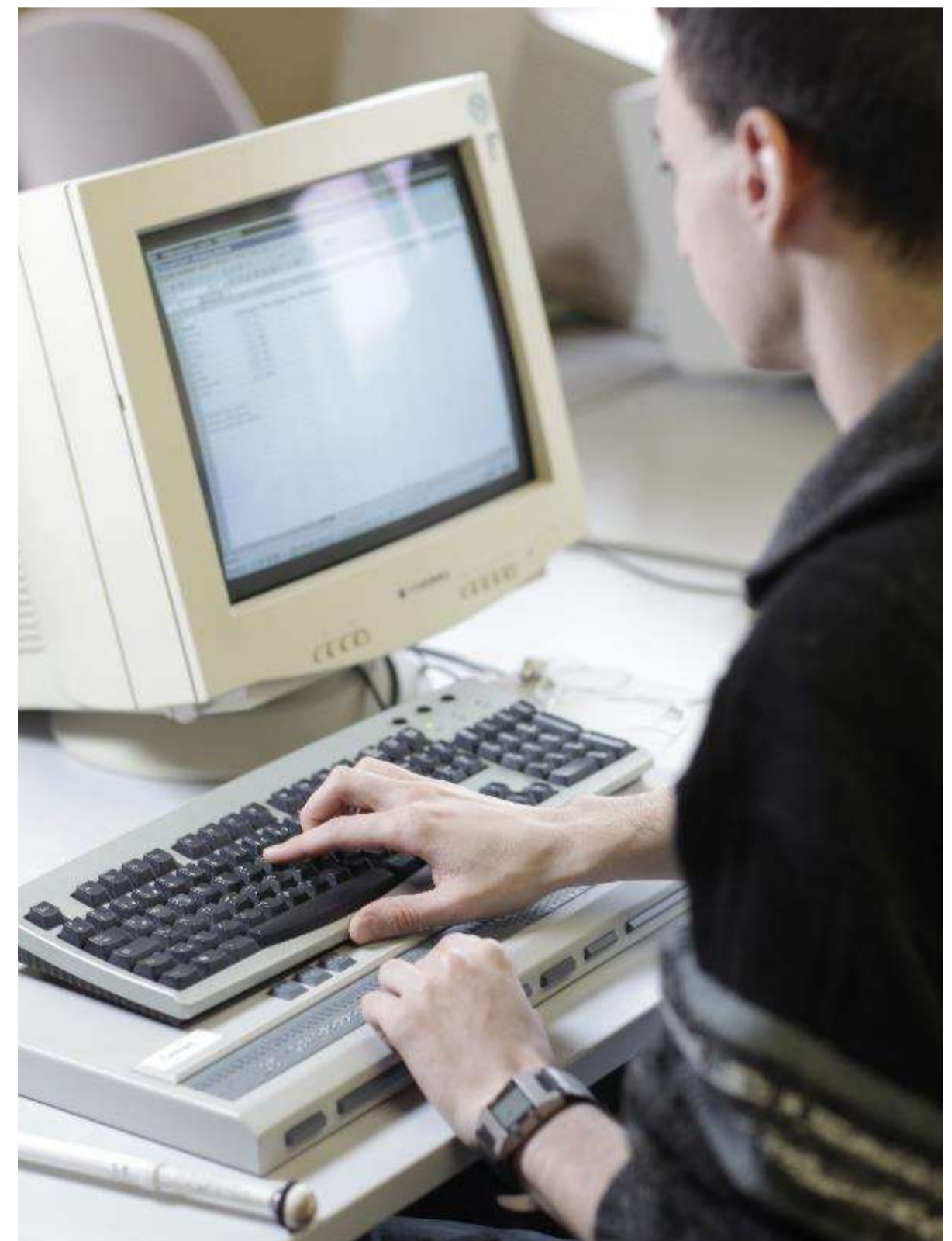




## Technical Skills

VI People need additional technical skills to counterbalance their handicaps:

- Fluency in typewriting
- Satisfying proficiency in reading and writing braille
- Knowledge and practical skills to handle additional hardware like braille display, video magnifier, scanner ...
- Ability to manage additional software like screenreader, speech output, OCR software, screen magnifier ...





# Technical Skills

- Increasingly important role of mobile technologies
- Knowledge and practical skills to handle mobile systems
- Ability to manage and adapt Apps
- Advanced technologies and approaches



➔ Skills and competences that extend the levels typically recognized by and Media and Information Literacy frameworks





# Personal Skills

VI People need personal competences to handle highly sophisticated computer workplaces:

- Imaginative power to get a mental image of screen layouts and program surfaces
- Technical understanding of application's functioning
- Extreme familiarity with an application's navigation, functions, and commands
- High memory performance to keep all necessary commands in mind



→ Media literacy is a great challenge for VI people



# Teaching Media Competencies for VI people

## Missing standards

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Media and information literacy of crucial importance for VI people

→ Computer training programs are the key to success, but

- No binding standards
- No committed curricula
- No generally approved teaching methods



Best practice examples in German institutions for vocational rehabilitation

→ employment rates about 70 %!



# Teaching Media Competencies for VI People

## General Conditions



Basic requirements for successful training programs  
(Berufsförderungswerk Würzburg)

- Adequate technical equipment available in sufficient numbers, up to date and working trouble-free
- Same equipment for all students, workstations identically configured
- Well-trained teachers, familiar with all electronic aids
- Sighted as well as and blind teachers



# Teaching Media Competencies for VI people

## Teaching Principles

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Assured experience leads to promising teaching principles:

- Typewriting first!
  - VI people need a sufficient security to make input reliable and fast
- Braille is indispensable!
  - Braille output is more detailed and can be more easily be controlled than speech, consolidates the students' orthography
- For beginners: Braille only!
  - Speech output and screen hinders learning braille consistently
- No separation of software training and assistive technology training
- Appropriate learning material and equipment
  - Carefully select accessible software and easy tasks for beginners





## Conclusion and Future Work

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- ➔ Media literacy helps bridging the gap of social and professional participation for VI people
- ➔ Internationally valid concept of media literacy is necessary to support teaching and assessment

Remaining problems to be solved:

- Severe lack of reliable and accessible teaching material for VI people
- Software and media in working life should all be accessible
- Serious lack of software developers able to remove these barriers
- Financial restrictions lead to a serious lack of time in training programs



Thank you  
for your attention!

