



**respeaking**  
proces - kompetencje - jakość

# Bringing live subtitling to Central Europe – challenges and solutions

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# Challenges

- Little knowledge of respeaking
- No SR software
- No respeakers
- No respeaking trainers
- No technical expertise

# Respeaking project (2014-2017)

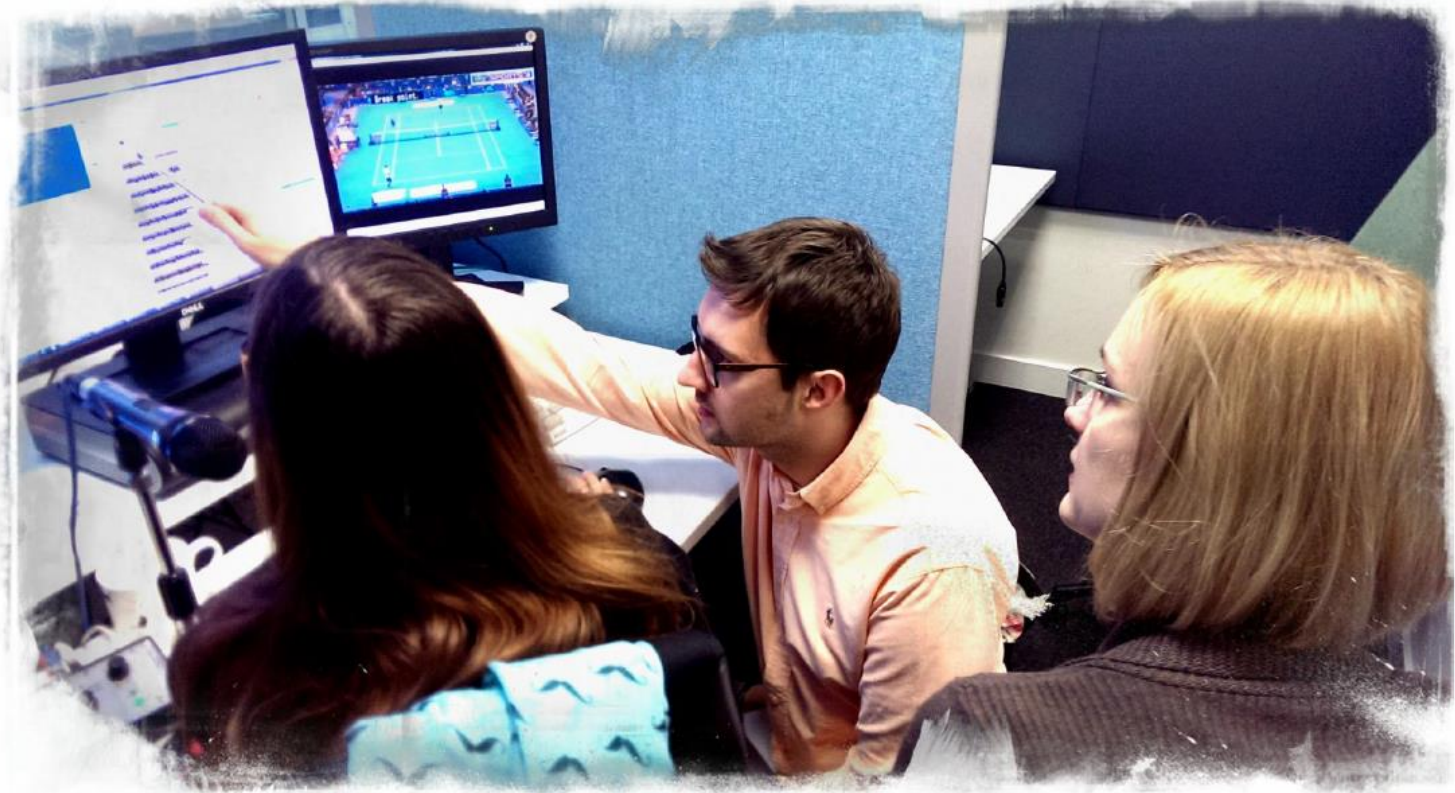
- 'Respeaking – process, competences, quality'
  - Goal: to examine the competences of respeakers
  - *Research question: Are interpreters better respeakers?*
  - Three groups of participants
    - Interpreters and interpreting trainees
    - Translators and translation trainees
    - Control group (no interpreting/translation background)
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# Knowledge

Translation  
Practices  
Explained

**SUBTITLING THROUGH  
SPEECH RECOGNITION:  
RESPEAKING**

Pablo Romero-Fresco



# SR Software

- Dragon Naturally Speaking unavailable
- No SR solution in wide use in Poland



# Challenges for developing SR

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- Polish is believed by some of its speakers to be the most difficult language :-)
  - while this isn't true,  
the language does pose a number of challenges to SR
- Polish speech contains very high-frequency phonemes (fricatives and plosives)
- the language is highly inflected and non-positional
  - 7 cases & 7 grammatical genders
  - Inflections allow for an extremely flexible sentence structures

# Assessing SR software

- Partnership with Polish-Japanese Academy of Computer Science
- Aiming at a close cooperation with SR developer

# SR Software

- Three companies working on developing SR for Polish
  - Skrybot
  - MagicScribe (Unikkon Integral)
  - Newton Dictate (Newton Voice)



**MAGIC**  
**scribe**





# MagicScribe

- It works!
- But only with high-end equipment in a controlled environment
- 2 to 3 hours – creating voice profiles, very tedious
- 600 euros per day of IT consultant work
- Users not able to edit the dictionary



**MAGIC**  
**scribe**

# Newton Dictate

- Works also with medium-range equipment and in less favourable environment
- Creating a voice profile takes 20 minutes and can be done by the users themselves
- Only contact with sales people
- Allowed us to edit the dictionary
- Works for other Slavic languages, including Czech, Slovak and Russian



Training respeakers

# Interpreters working as respeakers?

- “The ideal person for the job would be someone who is a qualified interpreter and a professional subtitler”  
(den Boer 2001)
- “VRT1 is now experimenting with interpreters and they are finding that they do a much better job”  
(Remael & Van der Veer, 2006)

# Respeaking in interpreter's training

- The rationale of including a module for respeakers within a course for interpreters is dictated by the assumption that students of a school for interpreters have already acquired most of the necessary skills in the course of their training.
- Remael and Van der Veer, University College Antwerp
  - pioneering course in live subtitling through speech recognition within the Master in Interpreting
  - “We have been looking into what we have at our department for translation and interpreting, and what we need in addition. We already have an interpreting section, where students acquire a number of skills: listening and comprehension skills, memory training, oral skills, acquisition of specialised vocabulary, organisation of your documentation and databases, specific reproductive interpreting skills. We believe that all these interpreting skills will be useful for future respeakers as well” (Remael & Van der Veer, 2006)

# Proposals for respeaker's training

- **Remael**, Aline and Bart **van der Veer** (2006) 'Real-time subtitling in Flanders: needs and teaching' in Carlo Eugeni and Gabriele Mack (eds) *Proceedings of the First International Seminar on Real Time Intralingual Subtitling*, InTRAlinea, Special Issue on Respeaking, available at <http://www.intraline.org/specials/respeaking>
- **Arumì Ribas**, Marta and Pablo **Romero Fresco** (2008) 'A practical proposal for the Training of Respeakers', *The Journal of Specialised Translation* 10: 106-127.
- **Eugeni**, Carlo (2009) 'Respeaking the BBC News', *The Sign Language Translator and Interpreter* 3(1): 29- 68

# Respeaking training

- Respeaking training
  - Four two-day workshops (February - May 2015)
  - Pablo Romero Fresco, Carlo Eugeni, Juan Martinez



# Feedback forms (1) - What have you learnt during the course?

- 'the basics of respeaking'
- 'how to use SR software and subtitling software'
- 'this new profession I haven't heard of before'
- 'control my intonation'
- 'check the quality of the subtitles I create'
- 'multitasking skills'
- 'I know what exercises to do to improve my concentration'
- 'how to modify my interpreting skills for the needs of respeaking',  
'how to minimize hesitations and fall starts'
- 'I realised that speaking to a computer is different from speaking to a human being and you have to be express yourself clearly'
- 'I discovered that there could be something even more complex than interpreting'



# Feedback forms (2) – What haven't you learnt though you wanted to?

- 'the right intonation, breathing, avoiding inarticulate noises'
- 'to make the software understand me'
- 'control the intonation and pronunciation when I'm under stress'
- 'I learnt everything that I wanted but it's a pity I can't continue the course to learn more'
- 'not enough attention was paid to interlingual respeaking'
- 'I had technical problems on the second day and I couldn't participate fully'
- 'hard to say, it was all new for me'
- 'I didn't have any expectations, so I'm satisfied'

# Feedback forms (3) – Suggestions for the future

- 'this course could be included in the list of electives in the MA programme'
- 'respeaking could be a separate course at the University'
- 'the course should be longer', 'the course was overloaded with content and too rushed'
- 'more individual feedback' vs. 'I didn't like the fact that trainers were looking at my screen and watching me doing respeaking, that was extremely stressfull'
- 'smaller groups', 'working in interpreting booths'
- 'the parts on errors in respeaking and the NER was too complex, I didn't understand much and it wasn't very useful for me as a beginner'
- 'since respeakers work in teams I'd like to try working with a moderator'

# Post-test survey

- Would you like to take part in the continuation of the respeaking course?
  - 45 out of 50: YES
  - 4: DON'T KNOW
  - 1: NO
- What do you think you need to work on?
  - Clear enunciation
  - Memory skills
  - Paraphrasing the text
  - Dictating punctuation marks
  - Multitasking: listening and speaking at the same time

# Testing respeaking

- Newton Dictate
- FAB Subtitler Live
  
- Problems:
  - Using FAB Subtitler Live
  - Making all the software cooperate (eg. words were doubled)

Testing respeakers

# Participants

- 58 participants
  - 23 translators
  - 23 interpreters
  - 12 controls
- Demographic data of the sample
  - Mean age 27.48 (SD 5.71)
  - 51 women, 7 men

# Tests in the project

- Working memory capacity tests
  - Digit Span
  - Listening Span
  - Reading Span
- Paraphrasing tests
- Proof-reading test
- Respeaking tests + semi-structured interview

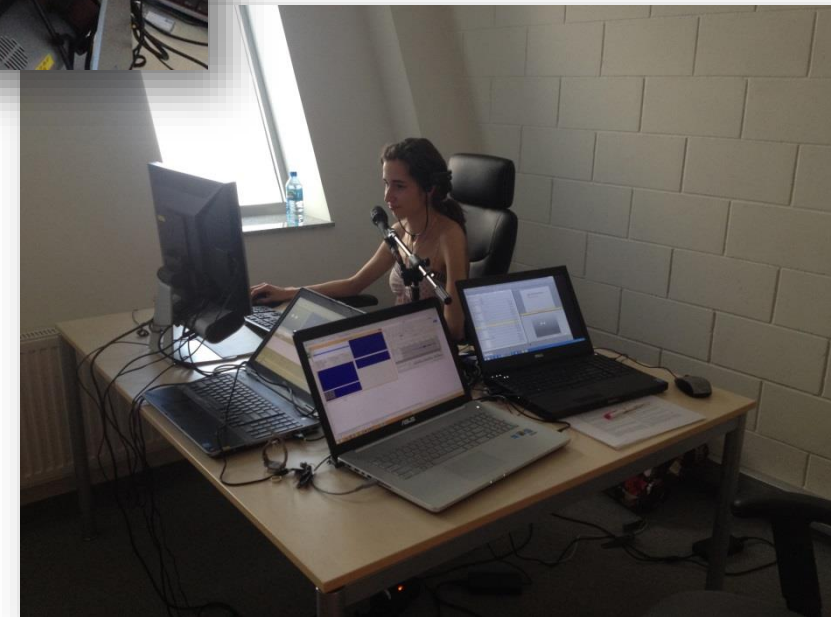
# Respeaking test

- **Intralingual respeaking** (Polish to Polish)
  - Four 5-minute clips in randomised order
  - Variables: slow/fast, one speaker/many speakers
  - Genres: speech, chat shows, news
- **Interlingual respeaking** (English to Polish)
  - Slow one-speaker speech  
(President Obama in Warsaw)



# Respeaking test

- Screenrecording
- Eyetracking
- EEG (Emotiv EPOC)
- Self-report on cognitive load
- Semi-structured interview



# Assesing respeaking quality

- Finding a measure
  - NERstar for intralingual (nor particularly suited for interlingual)
  - Subjective
  - Human rating
- **Recognition errors** are **74,72%** of all errors (based on 58 participants)

# Conclusions

# Correction/moderation

- One person set-up failed
- Not very good at training correctors
- We weren't able to teach people to respeak and correct subtitles at the same time

# Correction is the key to success in CE

- Crucial in delivering acceptable quality of live subtitling for Slavic languages
- Helpful:
  - Remapping keys
  - Delaying audio for the corrector

# Challenges

- Teaching future correctors
- Cannot cope with the task
  - Fast responses
  - Excellent reading and typing skills
  - Prioritizing errors
    - We weren't able to include two person set-up in our tests
  - Educating viewers and decision-makers

# Indirect results

- Respeakers trained by us during the project work in live events or at public broadcaster TVP
- Companies providing live subtitling during live events, including interlingual subtitling
- On-going live subtitling tests at public broadcaster (TVP)
- Interest from EMCI consortium, which trains conference interpreters

# National Broadcasting Council (KRRiT)

- 2014: "there is a way of providing live subtitling through speech-to-text software but it is not available for Polish"
- 2016: "broadcasters can provide live subtitling through respeaking"



# So what?

- Respeaking is feasible even for more challenging languages when the SR software is not readily available
- Students in interpreting or translation programmes respond enthusiastically to respeaking training
- There's a wonderful respeaking community, which has gathered a lot of knowledge and experience and can assist whoever wants to try to introduce live subtitling

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AGNIESZKA  
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**respeaking**  
proces - kompetencje - jakość

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