Feasibility and quality of interlingual live subtitles: a pilot study

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GALMA
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TECHNE

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Aims of the pilot study

- Explore the feasibility of interlingual respeaking.

- Identify task-specific skills required for interlingual respeaking.

- Test the suitability of resources of questionnaires and video clips.

- Iron out technical and logistical issues for a large-scale experiment.

Methodology

Pre experiment questionnaire: Biographical information, language skills, training, competence, subtitles and respeaking practice of participants.

Train: Short training session on respeaking.

Practice: Dictation practice.

Methodology cont.

Test: Interlingual respeaking.

- Participants watched the video before respeaking and had multiple attempts at respeaking the video.

- Exercises recorded with Screencast-o-matic.

- Respoken texts were analysed with the NTR model (Romero-Fresco & Pöchhacker, 2017).

Post experiment questionnaire: Reflect upon the test and note how participants perceived their own performance.

Video clips

LANGUAGE COMBINATION	GENRE	DESCRIPTION	WORDS PER MINUTE (WPM)
ES > EN	Narration	Wildlife documentary	73 wpm
ES > EN	Speech	Rajoy Speech	131 wpm
ES > EN	News	RTVE – Robot Museum	191 wpm
EN > ES	Narration	Desperate Housewives	102 wpm
EN > ES	Speech	Obama Speech	101 wpm
EN > ES	News	BBC – Can a robot do your job?	173 wpm

Figure 1: Genre and WPM of video clips used in the pilot experiment
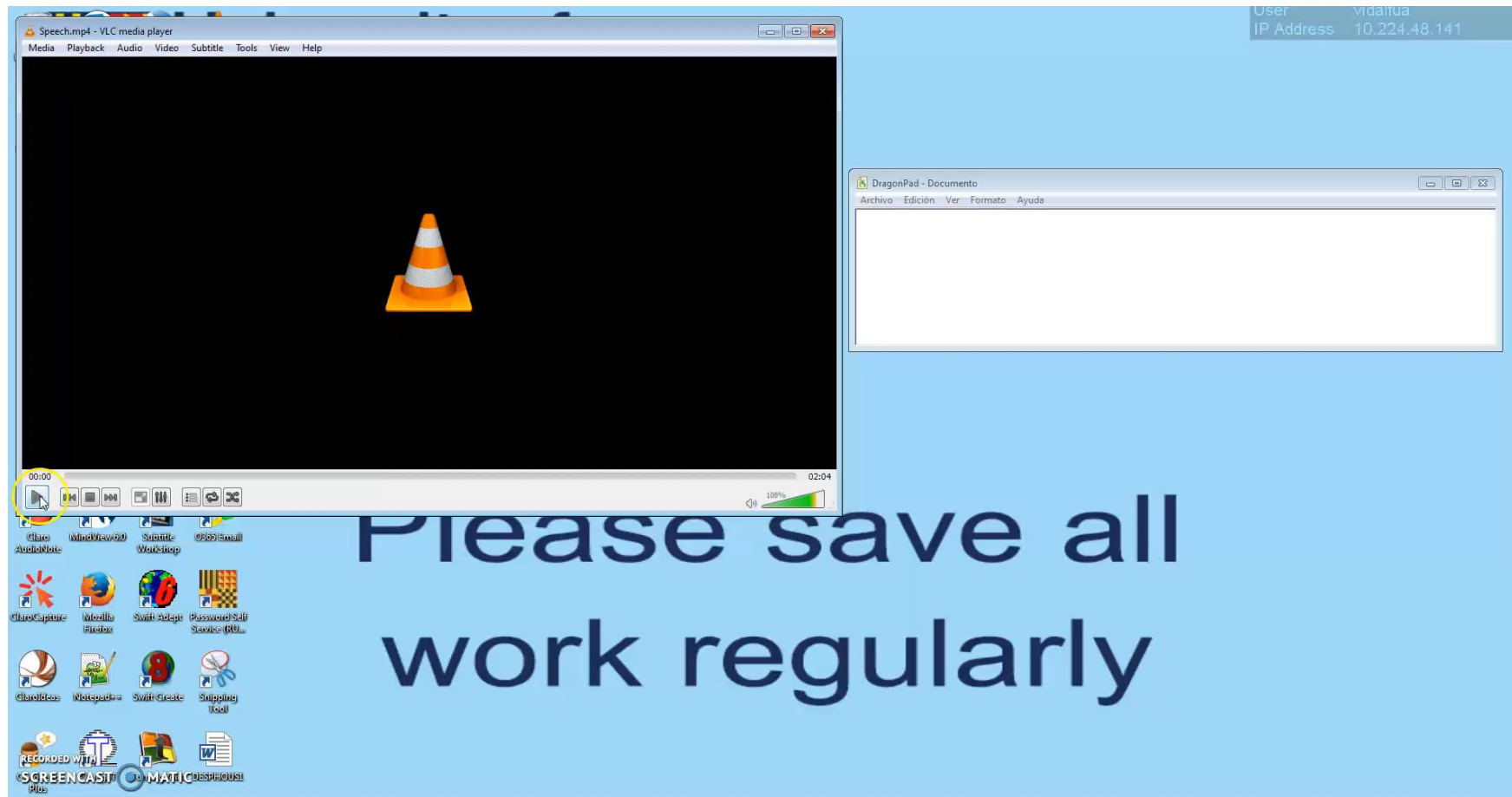
Pilot Experiment Test Clip

Figure 2: Example of a test exercise of the pilot experiment
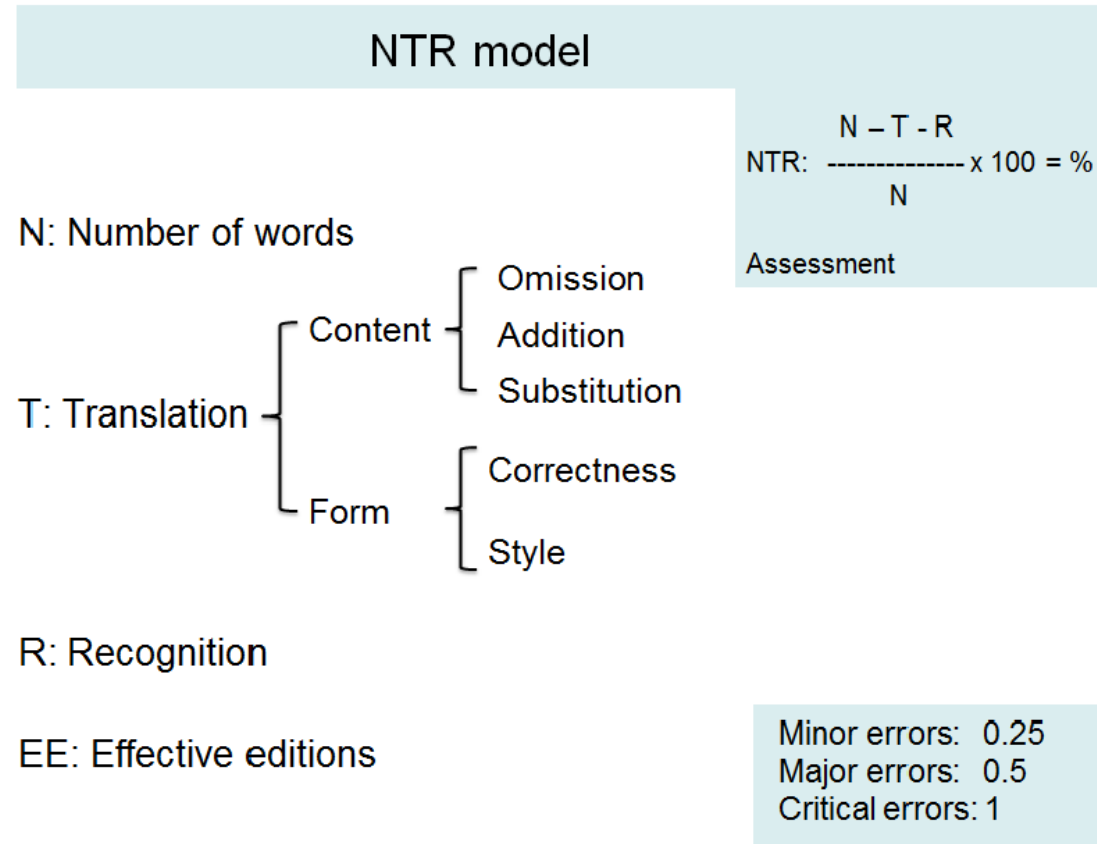
The NTR model
(Romero-Fresco & Pöchhacker, 2017)

Figure 3: The NTR model (Romero-Fresco & Pöchhacker, 2017)

The NTR model

Original text (transcribed audio)	Respeaking-based subtitles	Errors
You can tell that I'm a lame duck because nobody is following instructions. Everybody have a seat. My fellow Americans... Michelle and I have been so touched, by all the well wishes that we've received over the past few weeks, but tonight, tonight it's my turn to say thanks. Whether we have seen eye to eye or rarely agreed at all. My conversations with you, the American people, in living rooms and in schools, at farms, on factory floors, at diners and on distant military outposts. Those conversations are what have kept me honest and kept me inspired and kept me going, and everyday I have learned from you. You made me a better president and you made me a better man.	Se nota que voy a dejar la presidencia porque nadie me hace caso. Sentados (Sentaos) (1), por favor. Queridos compatriotas. Michel (Michelle) (2) y yo estamos muy conmovidos por todos los buenos deseos que hemos recibido estas semanas. Pero esta noche es mi turno para (me toca a mí) (3) dar las gracias. Hayamos estado de acuerdo o no, mis conversaciones con los americanos en salones, colegios, granjas, fábricas, restaurantes, bases militares lejanas... Estas conversaciones me han mantenido sincero, inspirado, y me han hecho seguir adelante. Cada día he aprendido de vosotros. Me habéis hecho un mejor presidente y una mejor persona. Quiere (Llegué) (4) a Chicago cuando tenía 20 años, y seguía intentando conocerme a mí	1.MinR (0.25): The respeaker dictates 'sentaos' but it is misrecognised. 2. MinR (0.25): Although this error causes a spelling mistake, it will not affect the viewer's comprehension of the text. 3. MinT (form-style) (0.25): A more natural translation would be 'esta noche me toca a mí dar las gracias'. 4. MajR (0.5): The target text causes a loss of information. The misrecognised verb does not introduce misleading information as 'quiere' in the present tense does not match 'tenía' as the following verb.

Figure 4: Application of the NTR model (Romero-Fresco & Pöchhacker, 2017)

The NTR model cont.

Accuracy rate	
MinT: (4 x 0.25 = 1) (cont-omiss) x 3 (form-style) x 1 MajT: 0 CritT: 0 Total: 1	MinR: (3 x 0.25 = 0.75) MajR: (1 x 0.5 = 0.5) CritR: 0 Total: 1.25

NTR accuracy rate
N = 180 (156 + 24)

$$\frac{180 - 1 - 1.25}{180} \times 100 = 98.75\% \ (6/10)$$

EE: 1

Assessment
The quality of the subtitles is good. The respeaker has, in parts, changed the sentence structure but only where appropriate; by adopting this strategy the text is coherent and reader-friendly. Minor translation errors could have been avoided by maintaining words that change the meaning of the text. Given that the text is a speech, it is well structured and thought through, which signifies that in some areas every word is important in conveying the message of the text.

Figure 4 cont: Application of the NTR model (Romero-Fresco & Pöchhacker, 2017)

Initial Expectations of Respeaking

Based on responses of the pre experiment questionnaire, participants noted the following as main challenges, required skills and best-suited professional profile for an interlingual respeaker.

MAIN CHALLENGES	REQUIRED SKILLS	PROFESSIONAL PROFILE
Achieving a high level of language competence	Knowledge of languages	Simultaneous interpreter
Dealing with the technology	Multitasking	Interpreter trained in respeaking
Audience expectations	Listening	A true bilingual
Speed	Technical	
Comprehension	Short-term memory	
	Ability to work under pressure	

Figure 5: Participants' initial expectations of respeaking

Accuracy Rates

PARTICIPANT	NARRATION	NTR (/10)	SPEECH	NTR (/10)	NEWS	NTR (/10)	PARTICIPANT AVERAGE	NTR (/10)
1	97.98%	(4/10)	97.86%	(4/10)	N/A	N/A	97.92%	(4/10)
2	98.25%	(5/10)	98.75%	(6/10)	98.01%	(5/10)	98.33%	(5/10)
3	96.93%	(2/10)	97.17%	(2/10)	N/A	N/A	97.05%	(2/10)
4	97.87%	(4/10)	97.86%	(4/10)	N/A	N/A	97.86%	(3/10)
6	97.38%	(3/10)	97.58%	(3/10)	N/A	N/A	97.48%	(3/10)
7	96.42%	(1/10)	96.09%	(0/10)	92.21%	(0/10)	94.90%	(0/10)
8	97.45%	(3/10)	96.99%	(2/10)	N/A	N/A	97.22%	(3/10)
9	96.50%	(1/10)	96.73%	(1/10)	N/A	N/A	96.61%	(1/10)
TEXT AVERAGE	97.34%	(3/10)	97.37%	(3/10)	95.11%	(0/10)	97.17%	(2/10)

Figure 6: Accuracy rates of the pilot experiment

Accuracy Rates cont.

- The narration was the easiest clip to respeak, followed by the speech and the news.

- Results may have been different had all participants managed to respeak all three video clips.

AVERAGE	Video 1 - NARRATION	Video 2 - SPEECH	Video 3 - NEWS
Translation Errors	6	6	8
Recognition Errors	9	4	10
Accuracy Rate	97.34%	97.37%	95.11%

Figure 7: Average translation and recognition errors

Expectations vs. performance

- Participants' self-perception of their performance matches their actual performance.

- 'Satisfactory' scored higher than 'poor', this shows participants were aware of how they were performing.

- Interlingual live subtitling is seen as a complex task.

PATRICIPANT	LEVEL OF DIFFICULTY	PERCEPTION OF OVERALL PERFORMANCE	ACTUAL OVERALL PERFORMANCE
1	5	Satisfactory	97.92%
2	4	Satisfactory	98.33%
3	3	Satisfactory	97.05%
4	4	Satisfactory	97.86%
6	3	Satisfactory	97.48%
7	4	Poor	94.90%
8	4	Poor	97.22%
9	5	Poor	96.61%

Figure 8: Participants' self-rated performance compared with their actual performance

Previous experience

- Subtitling and respeaking training achieved **98.33%** and **97.48%**.

- Subtitling and interpreting training achieved **97.86%** and **94.90%**.

- Interpreting and respeaking training achieved **97.22%**.

- Subtitling training alone achieved **97.05%** and **96.61%**.

- Subtitling, interpreting and respeaking training achieved **97.92%**.

Training for interlingual respeaking

- SDH, segmentation and edition are needed from **subtitling.**

- Developing short-term memory, speed, multitasking and live translation mirror elements of **simultaneous interpreting**.

- Skills for **respeaking** are software related and include the unlearning of skills.

- Awareness of omissions is needed to avoid **translation errors**.

- Good dictation is essential to avoid **recognition errors**.

Is interlingual respeaking feasible?

- **Further research** is required.

- There is **hope for subtitling skills** to also hold importance.

- A **training programme** is needed to develop task-specific skills and train talented subtitlers, interpreters and bilinguals.

- At this stage it would be fair to conclude that **interlingual live respeaking is feasible.**

ILSA Interlingual Live Subtitling for Access

Aim: To design, develop, test and validate the first training course for ILS and provide a protocol for this discipline for TV, the classroom and parliament.

A **short online course** was taught to 50 students with backgrounds of subtitling and interpreting covering dictation practice, intralingual and interlingual respeaking.

ILSA Interlingual Live
Subtitling for Access

- **50 students** have produced **300 respoken texts** and **100 tests.**

- Texts are being analysed with the NTR model.

- Data will inform a training programme to professionalise interlingual live subtitling as an access service.

The initial results suggest that interlingual respeaking is feasible.

Thank you for listening.

Are there any questions?