**Title: Interpreting and cognition. Towards a psychometric framework to test working memory, selective attention and split attention in interpreting-specific tasks**

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**Premise and state of the art**

Interpreting is a complex cognitive task requiring verbal intelligence, efficient memory management, code switching, language-transfer skills, multitasking, split attention, anticipation and inferencing skills. In particular, working memory (WM), selective attention (SA) and split attention (SpA) are considered crucial for interpreting performance by many scholars (Moser-Mercer 2000; 2005; Liu et al. 2004; Gile 2009). Yet the studies analysing the relation between WM and interpreter training, and WM as predictor of interpreting expertise gave mixed results (see, among others, Tzou et al. 2012, Zhang & Yu 2019) . WM is defined as the active part of short-term memory (STM) that actively codes and stores information during complex cognitive activities. The reference model for WM is the model of Alan Baddeley (Baddeley, 1997, 2000, 2004; Baddeley & Hitch, 1974). In cognitive psychology selective attention is defined as the shifting of attention on a specific sensory stimulus (Coon & Mitterer, 2011), whereas split attention is the ability to simultaneously process information coming from different sources (Umiltà 1999). The ability to manage different tasks at the same time is called multitasking.

Research into these two components in the framework of Interpreting Studies has been going on for years and has been based on validated tests for the general population measuring WM capacity and attentional functions such as Wechsler memory scale (Wechsler 1945), the *TOMAL* (Tests of memory and learning, Reynolds & Bigler 1995), the *N-Back task (letter stimuli)* (Ragland et al. 2002; Jaeggi et al. 2010), *Centre for Research on Safe Driving Attentional Network Task (CRSD-ANT) – Arrows* (Weaver et al. 2013). The most recent contributions on STM/WM and interpreting were made by Timarová et al. (2014), Dong & Cay (2015), Babcock et al. (2017) Antonova Ünlü and Sağın Şimşek (2018). The tasks used in WM, SA and SpA standard assessment procedures may be insensitive to individual differences in higher levels of distribution and for components specifically involved in highly complex tasks, such as interpretation. Therefore it makes sense, both from a theoretical and pedagogical point of view, to compare the psychometric performances of different tools to identify (and/or modify) a set of tools useful to detect inter-individual differences and improvements in the interpreters' training.

Against this backdrop, the need arises to investigate interpreters’ cognitive functions following a more ecological approach, i.e. by means of tests that provide an insight into working memory, selective attention and split attention in situated interpreting environments.

**Aims and goals**

The general goal is to develop a psychometric framework to test cognitive processes in interpreting-specific tasks starting with working memory, selective attention and split attention. These will entail tasks performed by conference interpreters both on-site and remotely such as simultaneous interpreting, consecutive interpreting, sight translation, simultaneous with text. The psychometric framework could subsequently be applied to the pedagogical environment to serve the double aim of testing candidates for such cognitive interpreting components at entrance examinations and of gauging trainees’ cognitive gain resulting from interpreting practice. In order to achieve this general goal, the following specific objectives are proposed:

**1.** To describe

* 1. The sequential and parallel decoding and encoding stages of the interpreting process as a multitasking activity for each interpreting task.
	2. The relevant components of a psychometric framework for WM, SA and SpA for each interpreting task.

**2.** To identify

* 1. Potential indicators and empirical evidence of WM impairment/gain due to peri-process and in-process conditions.
	2. Potential indicators and empirical evidence of attention mismanagement/enhancement due to peri-process and in-process conditions.

**Methodology**

A sufficiently representative sample of performances of interpreting trainees and professional interpreters for a specific language combination (English<>Italian) is be observed and qualitatively analysed in order to collect potential indicators and empirical evidence of relevant phenomena.

* The components for a psychometric framework relevant for interpreting are to be selected on the basis of extensive desk research on the testing of WM and allocation of attentional resources.
* Simulations of different typologies of real interpreting assignments, both on-site and remote, are to be set up to contrast the different cognitive loads and resource management patterns.
* Simulations of different typologies of real interpreting assignments are to be set up to contrast and compare the sensibility and the power of alternative psychometric tools used to assess WM, SA and SpA in predicting inter-individual differences in real interpreting assignments, both on-site and remote.
* A pilot test model is to be developed for each component (WM, SA or SpA) following an approach which reflects real working conditions, such as the processing of long nominal strings to be rendered in reversed order into the other language for WM, and sound input impaired by interferences or background noise for SA and SpA.

**Candidate profile**

A successful candidate will have

1. A PhD degree relevant for Cognitive Interpreting Studies
2. Native or near-native command of English
3. Training in conference interpreting
4. Knowledge and publications on all or some of these topics:
* Oral mediation tasks
* Cognitive approaches to communication
* Working memory and attentional resources

Additionally, advanced user skills of the following features will be positively evaluated:

* Oral mediation applications
* Statistical programs and packages (e.g., R, SPSS)

**Quoted and further references**

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