Expertise-dependent working memory differences between simultaneous and consecutive interpreters

in preparation, 2013

Hiltunen, Sinikka, M.A.[1], Pääkkönen[2], Rauni, M.A.,Vik[3], Gun-Viol, Ph.D., , Krause[1], Christina M., Ps.D.

[1] Cognitive Science, Institute of Behavioral Sciences
University of Helsinki
Finland

[2] Services of Occupational Health
City of Espoo
Finland

[3] Faculty of Philosophy
Modern Finnish and Translation
University of Vaasa
Finland

Working memory and attention capabilities of simultaneous and consecutive interpreters compared to foreign language teachers and non-linguistic experts were studied in two experiments: word span tests with abstract and concrete materials and a modified version of dichotic listening (cocktail-party). In all, 94 participants volunteered. Results indicate expertise-dependent differences between the two interpreter groups, as well as in comparison to foreign language teachers and non-linguistic experts. Simultaneous interpreters outperformed all the other groups in word span and in minimal number of intrusion errors in word span tests. Though they detected their name in the cocktail-party test, they made no errors in the first and second word after it, as the non-linguistic experts did. In contrast, consecutive interpreters had only a slightly higher word span than non-linguistic experts and made plenty of errors in word span tests. However, most of them did not detect their name in the cocktail-party test, and only a few of them made an error in the first word after it.

Results are discussed in the light of working memory and executive functions (Unsworth and Engle, 2007), including resisting interferences and inhibition (Friedman and Miyake, 2004). For simultaneous interpreters, the findings can be explained by conditions at work which demand the continuous dividing of attention between listening to the source text, formulating and speaking the target text, and even monitoring and comparing the equivalence of these two. As to consecutive interpreters, the findings cannot be explained by the working conditions alone. Further studies to capture the working memory and executive functions of consecutive interpreters in more detail are needed.