The experimental working memory research in simultaneous interpreting has so far been very limited. There were small number of studies of cognitive processes in simultaneous interpreting. This thesis gives a brief overview of the recent experimental studies in this field and presents the subject of working memory. First part of this thesis shows the largely known theoretical models of working memory, information about its possible developement and its relation towards language.

On the basis of the recent theoretical research, we formulated a hypothesis for the empirical part of this thesis. The hypothesis assumes that with interpreting practice there is a development of working memory capacity and that the language factor becomes less important. In the empirical part of the thesis we described the experiment that had been done to confirm the hypothesis.

The experiment consisted of standard listening span task adapted to two language variants, in Czech and in French. Thirty participants took part in this experimental study – 10 professional interpreters, 10 interpreting students and 10 non-interpreters (people without interpreting training and professional interpreting experience). All of the participants had approximately the same language skills in Czech and in French. Czech was the mother tongue of all of them.

The results of the experiment did not entirely confirm the hypothesis. There was only one statistically important difference between all three groups: the difference between interpreting students and non-interpreters. Another important aspect of the experiment was the significant difference between the performace of all the groups in Czech and in French. All of the groups performed better in Czech.