Background

- On the way to a competency model of OOP the most important code structures have been identified in former studies (see [7]).

Method

- Assessing cognitive capabilities to control their influence on the process
- Assessing the ability to decode and encode programming language texts (PLT) and natural language texts (NLT)
- Assessing basic demographic information and the self-estimated programming experience
- We divided the computer science students into the SemK-levels novices and experts using the self-estimated programming experience

Results

- 42 students (5 were excluded due to missing data; 10 female; 27 male; mean of age: 25.03; sd: 3.77)
- The covered Levenshtein-Distance [10] during decoding and the time spent on encoding were used to determine differences between the control group (CG), novices (N) and experts (E)
- The initial phase is a good indicator for the whole process, because it is not affected by a learning effect
- We analysed the differences between the groups by conducting a Whitney-U-Test

Discussion and Outlook

- There seems to be an overall positive effect of SemK on encoding and decoding processes of PLT
- The processing time needs a deeper analysis, because there might be an inference between encoding complex code and SemK
- A follow-up study with new items comparable to those of IL2 seems promising to unravel the interpreted underlying interaction of SemK and code structure complexity
- Further details of the procedure and analysis are in [4]