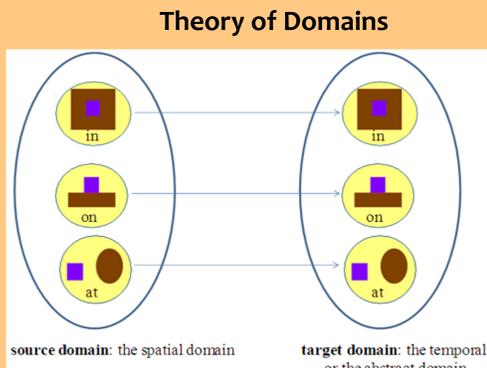


THEORETICAL BACKGROUND

English prepositions take only a small proportion of the language but play a substantial role in actual usage. The strategy commonly employed by language instructors is teaching the multiple senses of prepositions by rote. Therefore, students often fail to draw links between the different meanings. Previous studies have shown that findings from Cognitive Linguistics (CL) have an impact on the methodologies of foreign language teaching and learning and can enhance meaningful learning.



- *Theory of Domains* (Langacker, 1987): Coherent knowledge structures (domains, i.e. spatial, temporal or abstract) provide the basis for metaphorical mappings.
- *Conceptual Metaphor Theory* (Lakoff & Johnson, 1980): Conceptual structures are organized by cross-domain mappings that is by mapping structures from a usually more concrete source domain to a more abstract target domain.
- The notion of *image schemas* (Johnson, 1987): Abstract concepts emerge from and are shaped by our continuous experience with the world. Image schemas provide the basis for metaphoric mappings.

Image schemas

| in | on | at |
|-------------|---------|-----------|
| CONTAINMENT | CONTACT | ADJACENCY |

(Hampe, 2005; Evans, 2007; Dai, 2007; Li, 2008; Yang, 2008; Ming, 2011)

METHODS

| | Purpose of the study | Participants | Procedure | Example of in | Teaching material for EG | Teaching material for CG |
|--------------------|--|---|--|------------------------|--|---|
| Pilot study | The pilot study examined the difficulty of each item to gain insight into how German students generally perform in different prepositions across the three domains. | N=216, 7 th graders | training with 2 booklets | <i>Spatial domain</i> | She is swimming in the sea. | at a point within an area or a space The kids are playing in the street. |
| Main study | The main study examined: (1) to what extent the CL-inspired approach differs from the traditional approach in terms of improvement and final performance within the higher track (HT) and the lower track (LT) of schooling.* (2) to what extent do conceptualization similarities or differences between the mother-tongue (source language) and English (target language) facilitate or impede learning the correct usage of English prepositions. <small>*HT= higher track (grammar school), MT= medium track (comprehensive school)</small> | N=218, 7 th graders N higher track =133 (n EG= 80, n CG= 53) N medium track =85 (n EG= 50, n CG= 35)* <small>*EG=experimental group, CG=control group</small> | pre-test, 3 lessons on English prepositions, post-test | <i>Temporal domain</i> | Columbus made his first voyage from Europe to America in 1492. | during a period of time The position began to improve in spring. |
| | | | | <i>Abstract domain</i> | In my opinion, the film wasn't very good | forming the whole or part of sth./ sb.; contained within sth./ sb. There are 31 days in May. |
| | | | | | | used to show a state or condition The house is in good repair. |

RESULTS

The significance of achievements in the post-test / improvements from the pre-test to the post-test

| | Spatial domain | Temporal domain | Abstract domain | Prepositions across three domains | | Spatial domain | Temporal domain | Abstract domain | Prepositions across three domains | Overall items | Spatial domain | Temporal domain | Abstract domain | in | on | at |
|-------------------------------------|----------------|-----------------|-----------------|-----------------------------------|-------------------------------------|----------------|-----------------|-----------------|-----------------------------------|---------------|----------------|-----------------|-----------------|------|------|------|
| in | Yes** / Yes** | Yes** / Yes*** | Yes* / Yes** | Yes*** / Yes**** | in | Yes / Yes | No / Yes | No / Yes | Yes / Yes | Yes / Yes | Yes** | Yes** | No | No | Yes* | Yes* |
| on | No / Yes* | Yes / No | Yes / Yes | Yes / Yes | on | No** / No | No / No | No / No | No** / No* | No | Yes** | Yes* | No | Yes* | No | No |
| at | Yes / Yes* | Yes / Yes | Yes / Yes | Yes / Yes* | at | No / Yes | No** / No | Yes / Yes | No* / No | No* | No | Yes* | No | Yes* | No | No |
| Domains referring to 3 prepositions | Yes / Yes*** | Yes** / Yes** | Yes** / Yes* | Overall items: Yes** / Yes*** | Domains referring to 3 prepositions | No** / No | No* / No | Yes / Yes | Overall items: No* / No | | | | | | | |

*p<.10, one-tailed. **p<.05, one-tailed. ***p<.01, one-tailed. ****p<.001, one-tailed.

Results within the HT, if EG performed better or improved more than CG, the matched answer is "Yes" marked at different significant levels. Otherwise, the answer is "No".

*p<.10, one-tailed. **p<.05, one-tailed. ***p<.01, one-tailed. ****p<.001, one-tailed.

Results within the MT, if EG performed better or improved more than CG, the matched answer is "Yes" marked at different significant levels. Otherwise, the answer is "No".

*p<.10, one-tailed. **p<.05, one-tailed. ***p<.01, one-tailed. ****p<.001, one-tailed.

Results of the comparison between HT and MT, if HT performed better or improved more than MT, the matched answer is "Yes" marked at different significant levels. Otherwise, the answer is "No".

➤ To analyze the achievements within each track one-factor ANCOVAs were computed with *group* as a between factor, the post-test score as dependent variable and the pre-test score as control variable; to analyze the improvements, 2(×2)-ANOVAs were computed with the between-factor *group* and the within-factor *learning* (*pre-test/post-test*) with a special focus on the interaction *group* × *learning*.

➤ To analyze the achievements within the two tracks one-factor ANCOVAs were computed with *track* and *group* as between factors, the post-test score as dependent variable and the pre-test score as control variable and with a special focus on the interaction of *track* × *group*; to analyze the improvements, 2(×2) ANCOVAs were computed with the within-factor *learning* (*pre-test/post-test*) and the between factors *track* and *group* with a special focus on the interaction of *learning* × *track* × *group*.

DISCUSSION

As far as HT students are concerned, a significant difference regarding the teaching and learning method (traditional rote learning versus a CL approach enhancing conceptual integration into cognitive structures) could be stated. Thus, students taught by CL methods improved more and showed higher final performance in correct usage of English prepositions.

Whereas the general result pattern of HT students was relatively stable, MT students do not generally profit from the CL-inspired teaching methods. We suspect that, on the one hand, they lack to some extent the required cognitive abilities. On the other hand, there might also be differences in motivation to engage in the additional cognitive processing required by a CL approach. This requires further research.

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STATUS OF WORK

design of teaching materials and tests

selection of participants in Germany and China

conduction of pilot study

conduction of main study

analysis of collected data

writing up thesis

project start, August 2010

submission of PhD thesis, August 2013