Verbalization of Dynamic Sketch Maps: Layers of Representation in the Conceptualization of Drawing Events

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In descriptions of drawing events the layer of graphical entities and the layer of real world entities interact (the latter are called *intended* entities hereafter). We explore such interactions on the basis of drawing event descriptions (cf. Tappe & Habel, 1998). Subjects perceive the genesis of sketch maps as the one depicted in Figure 1. In an online condition they produce simultaneous descriptions. In an offline condition they witness the genesis of a whole sketch prior to verbalization.

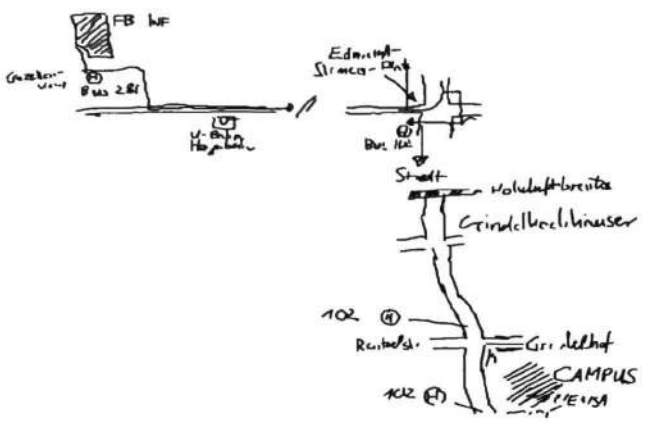

Figure 1: The result of a drawing event

As indicator for representational layer decisions we use lexical choice. Table 1 lists the numbers of referential instances to objects and events according to this criterion.

Table 1: Reference to the representational layer

reference to objects	*online*	*offline*
graphical objects	101 (45.5%)	35 (30%)
intended objects	121 (54.5%)	80 (70%)
reference to events	*online*	*offline*
graphical events	84 (80%)	49 (72%)
intended events	21 (20%)	19 (28%)

There are slightly more references to intended objects than to graphical objects in the online condition. For event references the numbers are less balanced: Verbs which refer to graphical events are used by far more often than verbs that refer to intended events. In the offline condition there are less than half as much references to graphical objects than to intended objects. Yet, for the graphical and the intended events the quantitative ratio is inverse.

Comparing whole propositions rather than lexical choices on a word level, leads to the type of mixed propositions, in which both representational layers are present and to a more uniform decision pattern (See Table 2).

Table 2: Number of propositions per representational layer

condition	*purely graphical*	*purely intended*	*mixed*	*other*
online	84 (29%)	79 (27%)	54 (18%)	76 (26%)
offline	40 (24%)	79 (48%)	20 (12%)	26 (16%)

The empirical study gives evidence that in the offline verbalizations there is a tendency towards the layer of intended objects and events. In contrast, in online verbalizations we do not find any overall preference. We assume, that the dynamics of the sketch maps leads to conflicting conceptualizations: On the one hand, the representational relation between the graphical objects and the intended objects is conventionalized. On the other hand, the graphical events are more salient than the intended events. Furthermore, the data support the assumption that while describing sketch maps the the two layers, that of graphical entities and that of real world entities, are simultaneously accessible. This finding adds further evidence to the hypothesis that the preverbal message is incrementally processed by the next component of the language production process (Levelt, 1989).

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References

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