



## **Execution of excursions: The development of educational trails with(out) Geocaching - a comparison**

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“Geo” stems from the Greek language and means earth. “Together with the English word “Cache” the term Geocache points out to a hideout on the earth. The principally easy hide and seek is a modern version of scavenger hunt, motivates and is the attraction of Geocaching.

Methodical skills are trained subliminally during the search. Installed Geocaches are an inherent part of recreational activities which gain in amount and popularity constantly.

GPS devices are common use in the daily life and are used in geography classes increasingly often. Presently, specialist literature is merely descriptive and thematically reduced to the function of orientation.

The questions whether they are an applicable tool for teaching geographical circumstances and if the last- ing learning success shows any differences compared to normal lessons hold in a class room haven't been answered.

Educational trails request the person walking them to be active and secure the results. This activity-orientated experience leads to better learning results because the user has to do more than only reading and accepting.

Neurobiological and teaching psychological knowledge support the idea that pupils completing the educa- tional trail will learn more sustainable compared to pupils in a “normal” class: A successful contextualization of modern geome- dia stimulates the motivation. Geocaches are also suitable for didactical structuration. Their order is chosen in a way that the content of teaching is being displayed adequate. The students feel addressed affectively due to the real-life encounters and experience their environment consciously. A more comprehensively addressing of the senses takes place and the pupils get connected to the place emotionally.

As the learning motivation is topical and gender referred different learning effects are expected.

The formal curriculum for gymnasia in Baden-Württemberg offers, in reference to explorative methods, the possibility to deviate knowledge of regions on the basic of educational trails, to work further with the gained knowledge and to use it for transfer.

In order to get two groups with characteristics as different as possible, due to their developmental psychol- ogy, age-related education of cognitive and methodical competence, classes from grade 5 (11 years old) and 11 (17 years old) have been chosen. The different cognitive states of development require different didactical approaches.

For the 11 grade the topic „Umgestaltung von Flusslandschaften“ (rearrangements of fluvial topography) is a possible one. Using the example of anthropogenic rearrangements of the Rheinaue wetlands near Karlsruhe the interdependency between human and environment can be shown.

The “Nördlinger Ries” between the Swabian and the Franconian Jura has been chosen for grade 5. The typical elements of the Swabian Jura (karst formation, hydrogeology, typical vegetation) are provided just as well as the impressive special form of the impact tectonics.

The sustainability of educational trails using GPS is evaluated by the learning effect of the 441 probands. The sustainability of trails is evaluated through an anonym, unheralded test in both grades, which prompt the cognitive competence. The learning effect of the educational trail groups is compared to groups that completed the particular topics in a carousel activity.