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Methods

To check the eventual fatigue of the students during classroom tuition many different influencing factors have been defined and the required testing methods implemented.

Carbon dioxide: CO₂-Measurement

Based on the assumption that the CO₂ concentration in classrooms has a major influence on fatigue, a room climate measuring instrument was used to constantly measure and record any change in the environment inside the classroom. The measurements were carried out during two different phases:

1. Normal tuition
2. After implementation of ventilation breaks every lesson

Stimulus / Reactions Test

Both teacher and student took part in a computer generated Stimulus/Reactions test before and after tuition. The ability to respond was checked for 90 seconds.

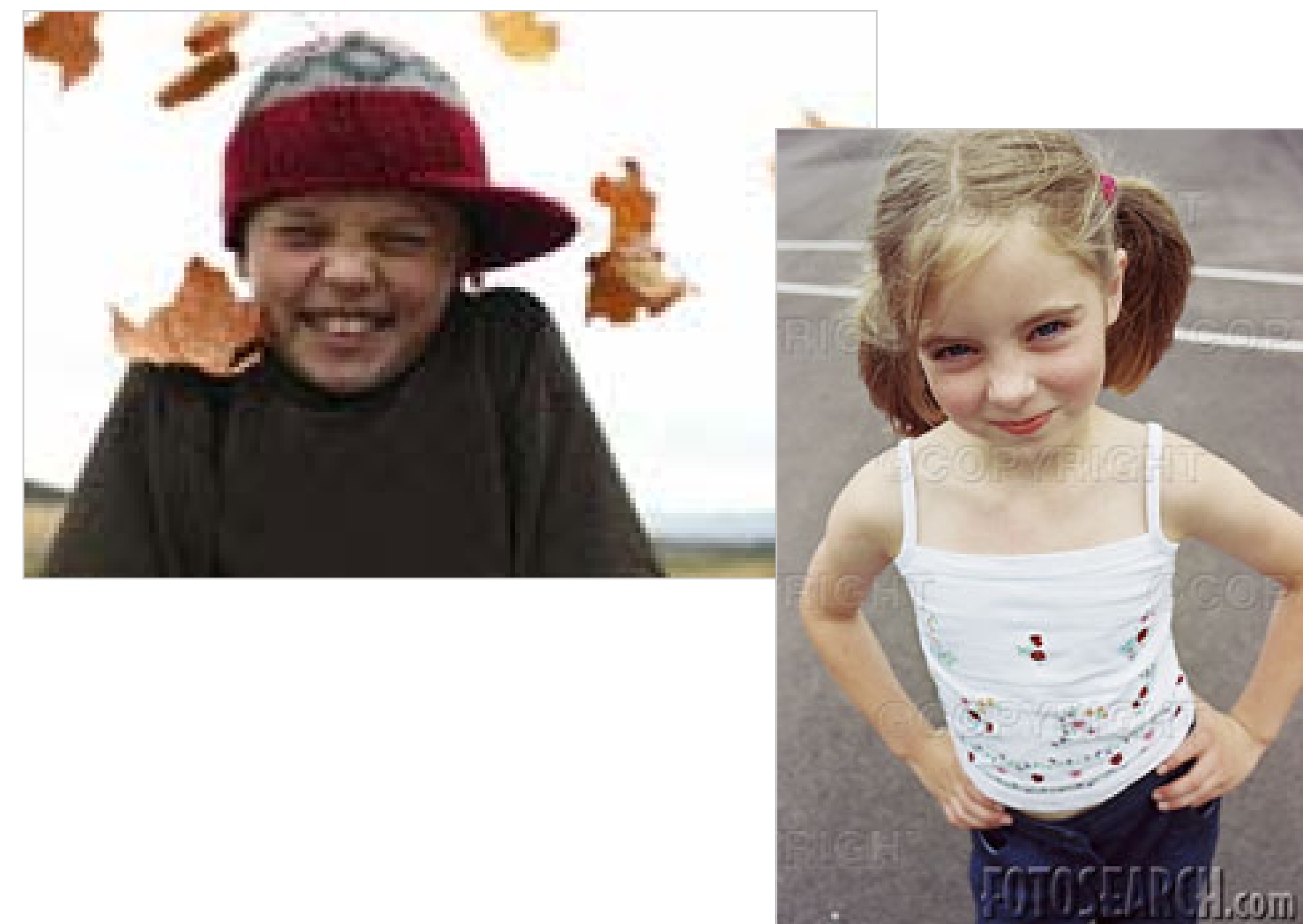


Sound pressure level

The volume in the classroom was measured during every hour of tuition with an sound pressure meter. This was to check to what extent a change in volume in the classroom was apparent.

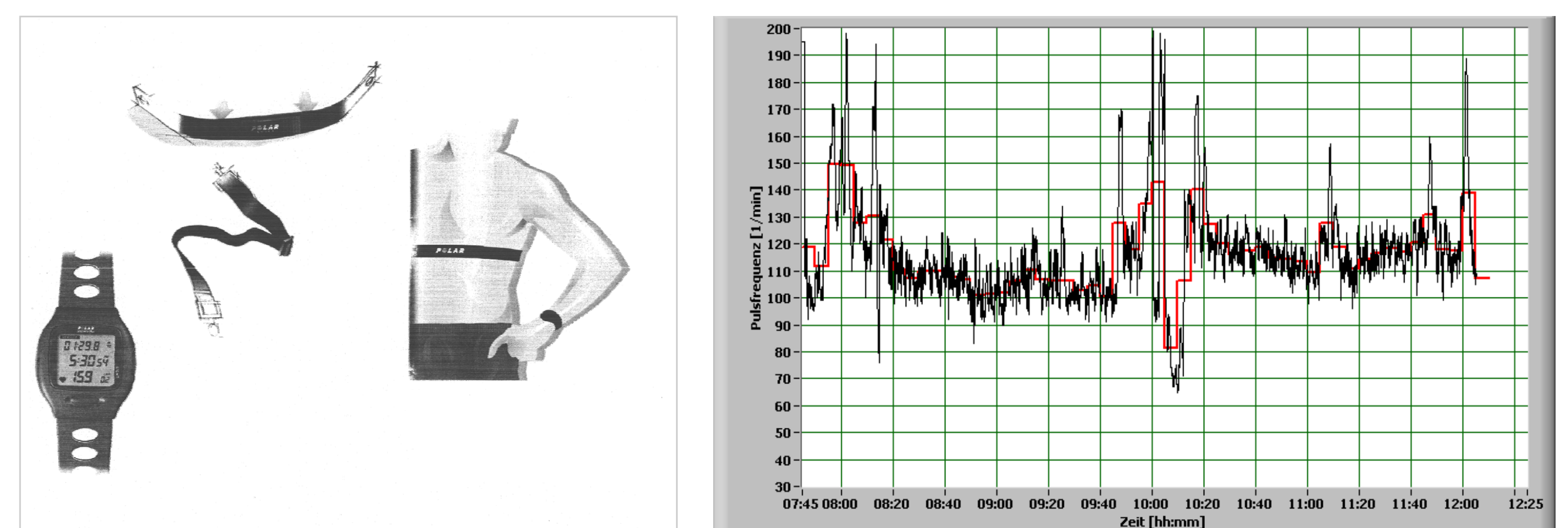
Awareness test

In entire class took part in a „pen & paper“ test both before and after classroom tuition. This test involved the organisation of various symbols and numbers.



Pedagogic Aspects

Using two computers, information from the study was processed by the observers. In addition, recordings of the communication characteristics and interaction between students and teachers during tuition were also analysed.



Heart rate

A group of students and teachers all were requested to wear a heart rate monitor comprising of a body harness with pulse recorder and clock for saving the data. This measuring device was so designed as to not impair the motor functions of the students.

