Experiment with COMPASS

In each country 4 or 6 school classes (depending on class size; total number of students >= 120) will participate in the experiment where every 2 school classes should be the same grade.

e.g. 2 classes from 9th grade and 2 classes from 10th grade with each about 30 students → 4*30 = 120

One class of each grade will be the **treatment group**, the other class of the same grade will be the **control group**.

Timeline for the experiment

The experiment will last for 3 – 4 months where we calculate one hour per week as effective time for the experiment. Since, during these months there might be holidays in countries or other reasons for the experiment not taking part, we plan 12 units for effective experiment time. These units should be held on a regular basis, either once a week or two units every second week.

Units 1 & 2: theoretical input about a specific topic (could be from IO2, e.g. "Basics of sport science" or something else, e.g. biology)

Unit 3: written exam about the topic from Unit 1&2

Unit 4: Orienteering run with the COMPASS app without any questions (Test)

Units 5 – 10: Orienteering runs with the COMPASS app with questions about the topic from Unit 1&2 or usage of BioNavigator with information about the topic **(only treatment group!)**

Unit 11: written exam about the topic from Unit 1&2 **+ questionnaire for the treatment group about how they liked the use of COMPASS program.**

Unit 12: Orienteering run with the COMPASS app without any questions (Re-Test)

Treatment group will participate at all 12 Units.

Control group will only participate in Units 1 – 4, 11 and 12.

Information on tests / exams

With the test and re-test design (unit 3 and 11) we might show, that regular repeating of the topic improves the knowledge of the topic significantly. It should investigate, if the intelligent feedback device lead to learning success.

With the test and re-test design during unit 4 and 12 we might show, that regular orienteering helps for general orientation skills and map reading skills. This could be identified by showing that the treatment group found better routes through the course (less total distance covered).

Notes:

- The questions in written exams from unit 3&11 and the questions in Unit 5 – 10 **should <u>not</u> be the same**!
- The orienteering courses should be **unique in every unit**!
- Orienteering courses in **unit 4&12** should be with **QR-Codes**.
- All other orienteering courses (**unit 5 – 10**) should be with **GPS mode**.