LESSON
CAN YOU CONCENTRATE WHEN YOUR BLOOD SUGAR IS LOW?

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This excercise tests the effect on fine motor skills based on blood sugar levels and intake of different types of carbohydrates.

Subject and level
Biology

Connection to curriculum
An understanding of blood sugar regulation is required to get the full output of this excercise. For higher levels it can be extended to also include elements of the neurological function of motor skills and muscle memory.

Didactic and pedagogic considerations
The excercise will require acces to gaming computers, it can't be done properly on a laptop.
Test subjects must fast for 8 hours before the excercise, so it should be done during a morning class.

Time estimate
2 hours as a minimum.

Group size
A minimum of 2 test subjects, but no more than 5. The rest of the class will assist and observe.

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Overall introduction to exercise

The excercise combines a test of glycemic index of differents foodsources (experiment guide lines not included in this learning design) with a CS-headshot competition. The game can be changed, but it must be a game that requires focus and fast eye-to-hand coordiantion. It must also provide a score to able to compare the results.

Exercise as presented to the students

- Each test subject must fast for 8 hours (not allowed to eat breakfast)
- Measure the fasting blood sugar levels of each test subject
- Each test subject plays a round of your chosen head shot training course in CS (all test subject in the group must play the same course).
  - You can decide to play three rounds and only use the best result
- The test subjects are fed different foods (with different carbohydrate sources)
  - Follow the instructions from the biology exercise provided
- Measure the blood sugar levels of each test subject 15 minutes after eating.
- Wait another 15 minutes and measure again.
- Play the training course again
  - You can choose to add other measurements or obstacles, ex. measurements of blood pressure and/or pulse
- How did they perform before and after eating?
- Are some sources of carbohydrates better than others?
  - Do they affect your mental abilities differently?
  - How did the test subjects feel during the experiment?

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