1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What’s the main question being asked or hypothesis being tested in this study?
We will test whether computer-related terms are more accessible than general words after answering a block of hard trivia questions. Sparrow et al. (2011) investigated whether the Internet has become an external “transactive” memory system (e.g., Ward, 2013), that is primed by the need to acquire information. In Experiment 1, participants (N=46) responded more slowly in a modified Stroop task (i.e., a color-naming task) when the target words were computer-related terms, in comparison with non-computer-related terms. This RT difference was larger when participants had answered a block of hard trivia questions immediately before the color-naming task, as compared to when they had answered a block of easy trivia questions. Sparrow et al. (2011) concluded that the need to acquire information renders computer-related terms more accessible than general words, and therefore they interfered more with color-naming in the modified Stroop task.

3) Describe the key dependent variable(s) specifying how they will be measured.
Response time (RT) to the target words is the dependent variable. Responses will be registered by each student’s personal PC and saved to the local HD.

4) How many and which conditions will participants be assigned to?
The experimental design is a within-subject design with 4 conditions (2x2 design). Factors are “trivia questions” (easy versus hard), and “target words” (computer-related terms versus non-computer-related terms).

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
Confirmatory analysis: We will test the 2-way interaction between the two factors. The 2-way interaction will be calculated based on the following RT difference for each participant: [RT(computer)-RT(general)]hard - [RT(computer)-RT(general)]easy. The main test of interest is a pairwise t-test (two-sided).

Exploratory analysis: Following Sparrow et al. (2011), the analysis will be restricted to selected target words (e.g., “Google” versus “Nike”). In addition, the analysis will be restricted to participants who responded that the hard trivia questions motivated them to use the Internet. As a manipulation check, we will compare participants’ performance in the easy and hard quizzes.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
Incorrect trials will be discarded. Using the interquartile range (IQR) method (Tukey, 1977), trials with RTs located 1.5 IQR outside the lower and upper quartiles will be excluded as outliers (per participant, across conditions). Anticipatory RTs shorter than 100ms will be excluded, too.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
Sampling will follow a Bayesian sequential sampling plan (Schönbrodt & Wagenmakers, 2018). We will measure at least 10 participants per student in this course (i.e., at least 100 participants), and then continue sampling until we run out of resources (i.e., time), or until the Bayes Factor exceeds 10 in either direction (i.e., evidence for the “2-way interaction model” or the null model). The BF will be calculated in JASP (https://jasp-stats.org/) using default priors and robustness checks.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
Paradigm details:
Participants first answer a block of 12 easy or hard trivia questions [with yes/no response options]. Following this quiz, 24 words are presented on the PC screen in either blue or red. The words are presented one at a time. Participants respond to the color of each word using their left and right index fingers (E for blue, I for red). Feedback is provided for each response (i.e., whether the response was correct or incorrect). After the presentation of 24 words, the second block of trivia questions is presented (the order of easy/hard questions is randomized). After the quiz, the experiment continues with the presentation of 24 words, as in the first part. Target words are selected randomly from a pool of 48 words (32 general words, 16 computer-related terms). There are no word repetitions (see comments by Sparrow, 2018). On each trial (see Sparrow, 2018), before the presentation of the target word, a 6-digit number is presented, and the participants are instructed to memorize this number. After their response to the target word, participants are asked to enter
the 6-digit number. In this task, no feedback is provided (i.e., whether the 6-digit number was correctly recalled or not). The experiment is conducted using the software OTree. The experimental script is based on the script by Holzmeister et al. (2016). Target words, instructions etc. are in German.