



How do we learn about new things?

Dear Participant,

You are invited to participate in a study designed to understand how people learn about things in different contexts.

This study has been reviewed by the Research Ethics Committee of University of Cambridge [Project ID Number]: PRE.2023.108

You **don't have to participate**, and your **participation is entirely voluntary**. We would like to tell you why the research is being done and what the study would involve if you decide to take part. You can contact our team if there is anything that is not clear or if you would like more information (Dr Sara De Felice: sd2035@cam.ac.uk).

1. What is the study about?

We are interested in studying how people learn about new things, and whether there are certain ways of learning that people find easier and/or more enjoyable.

2. Why are we doing this study?

People spend a great deal of their time learning from other people. Most learning occurs socially, from teachers, friends and family. Yet we do not know whether or how social interaction plays a role in learning. The aim of this project is to understand whether certain types of teaching result in more learning than others. Our research aims to enhance the learning experiences of adolescents and adults.

3. What will happen in the study?

You will be asked to **learn facts** about novel items (e.g. exotic animals). Some of these facts will be taught by a teenaged teacher, some by an adult teacher and some will be learned via solo-reading. Your learning will then be tested via a quick multiple-choice quiz. You will also engage in a game with a teacher where you have to follow the teacher's lead while moving objects around. There will also be a short part where you will complete some computer-based tasks and questionnaires where you can express your preference of learning. All these activities together will take no more than **45 min**, and no more than 1 hour. All teachers involved in this study are research assistants with enhanced DBS checks and appropriate training.

Your interaction with the teacher will be audio and video recorded. Video will be recorded through some '**special glasses**', called eye-tracking glasses (more details below), that both the teacher and you will be asked to wear. Depending on the specific model of the eye-tracking glasses and whether the feature is available, we may use it to also record audio. Alternatively, we will use microphones placed either on the desk in front of you or you can attach a clip microphone to your collar (similar to microphones used on TV shows).

Approximately **one week after the study**, you will be emailed with a link to re-do the multiple-choice quiz to see what you can remember from the learning sessions. This will only take 15-20 minutes.

4. What are the 'special glasses' that you will wear during the study?





The eye-tracker is a pair of plastic glasses with two cameras which record what one can see and where their eyes are watching (fixations) and moving (eye-gaze). From these glasses we will also gain information about spontaneous pupil dilation, which is a measure of attention. These glasses are completely safe and do not strain the eyes. One wears these in the same way as a pair of glasses. The researcher will give you the glasses to put on and will adjust the cameras to get a good image.

The eye-tracker is hard to use if you wear glasses or if you have mascara or other eye makeup. You must attend the testing session wearing contact lenses (instead of glasses, if you wear glasses) and without any eye makeup (we provide make-up remover products). If you have to wear glasses to see (and do not wear contact lenses) or if you wear make-up and do not want to remove it, it may not be possible to fit the eye-tracker.

You will be free to remove the glasses at any point during the experiment should you feel uncomfortable.

5. Who can take part in the study?

Anyone between **29 and 50 years old**, without any history of brain damage, specific neurodevelopmental or neurological conditions. Because this is a study on learning, which involves a large amount of reading and contains social elements, we unfortunately have to exclude people with diagnoses of moderate to severe dyslexia or autism spectrum disorder. Participants must also be able to read, speak and understand English fluently.

6. What are the risks of taking part?

There are no known risks associated with taking part in this study. It is possible that you might feel overwhelmed by lots of new facts to memorise as part of the learning task. We want to provide reassurance that the task has been made challenging on purpose to better test learning, and you are not expected to remember everything. You can withdraw from the study at any time without giving a reason.

7. What are the benefits of taking part?

All tasks are designed to be fun and enjoyable, and you will learn new facts about real items (e.g., exotic animals, musical instruments, food and antiques), which we hope you will find interesting. In addition, we hope that this work will help us understand how different teaching contexts can help academic learning.

You will be compensated with £10 for the in-person study, and £2.50 for the online test one week later (the total of £12.50 will be paid after the online test. In order for us to understand how learning occurs in different contexts, it is very important that you complete the one week test. In case you do not complete it, you will be compensated for the in-person study only (£10) around two weeks after the day you participated. We will also cover economy travel costs (train/bus) to the lab.

8. What will happen to your contact details, personal information and data?

All information collected in the study will be kept strictly **confidential and subject to GDPR**. All data will be identified by a code, with personal details stored in a secure password-protected computer



accessible only by the immediate research team. Any identifiable data will be deleted after 10 years, in accordance with GDPR practice (with the exception of special category data, which will be deleted after 5 years, see below). Anonymised results will be presented at conferences and written up in journals. The data collected during the study might be used for additional or subsequent research, including anonymised data being made available online for open science practices (no personal data will be shared with anyone outside the research group). Any shared data will always **remain anonymous**.

Special category data [video and audio data from the special glasses]: Video and audio data cannot be anonymised. For this reason, we treat this type of data as ‘special category’ data and apply **extra-protection**. We will store video and audio data with a separate ID-coding system. We will use GDPR-compliant software packages to process this data. These software packages will use a computer algorithm to process the files and remove identifying information. The outputs of this algorithm will form part of our core scientific data and will be stored and shared as above – these are *not* identifiable. We may also ask trained researchers from our group to view the videos and note down what they see. The original video and audio files will be archived on a secure server at the University of Cambridge and will not be shared outside the research group unless explicit permission is granted. The video and audio data will be deleted after 5 years or as soon as de-identified information has been extrapolated to perform further analysis, whichever is earlier.

General information about how the University uses personal information can be found here: <https://www.information-compliance.admin.cam.ac.uk/data-protection/research-participant-data>

9. What will happen to the results of this research?

The study results might be published in scientific journals and/or presented at scientific conferences. Your name and identity will not be revealed in any publications or presentations. Completely anonymised data will be shared with the scientific community and kept indefinitely in accordance with good research practice.

10. What if I feel something went wrong?

If you have any concerns about any aspect of the study, please contact Dr Sara De Felice (sd2035@cam.ac.uk), or you can contact the Information Commissioner’s Office at <https://ico.org.uk/>.

11. What if I have questions or concerns?

If you have any questions or concerns about this study, please contact Dr Sara De Felice via email (sd2035@cam.ac.uk) or telephone the Department of Psychology at University of Cambridge (01223 333550).

12. Do I have to take part?

No, participation is **entirely voluntary**. Even after agreeing to participate, you can choose to withdraw from the study at any time, without giving a reason.

13. Can I change my mind after I have taken part?

Yes. *During the study*, you can **withdraw at any time** without giving a reason. *After the study* is completed and the researchers have already collected your data, **you will have two weeks to withdraw your data**, which will be removed and deleted. De-identified data may be difficult or



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impossible to delete once shared (this usually happens no earlier than two weeks after data collection).

14. How do I find out more about the study?

You can email questions to Dr Sara De Felice (sd2035@cam.ac.uk)