University of Zurich[UZH]

University of Zurich
Institute for Informatics

INFORMATION MODULE OF THE STUDY: Effectiveness of Artificial Intelligence Technologies in Teaching English Language

Dear student and/or parent,

We invite you to participate in a study that aims to investigate the potential of some recent artificial intelligence technologies in supporting high school teaching. The study is led by Alessandro Vanzo, a student at the University of Zurich. The study is part of a collaboration between the Department of Computer Science at the University of Zurich and the Language, Reasoning and Education Lab at the Swiss Federal Institute of Technology in Zurich.

What is the research objective?
Recent developments in artificial intelligence have opened up a myriad of possibilities to support teaching. We believe that these new technologies have the potential to improve the school experience for students. Despite this rich technological development, to date, very few studies have attempted to test the effectiveness of these technologies in the context of a real classroom. This study aims to be among the first to provide clarity on the potential of these technologies in supporting high school teaching.

Why have I been selected?
We have decided to involve this class, along with a few others, because we believe there is a favorable environment for conducting the experiment, and because the school staff has kindly offered to collaborate with the research group.

What do participants have to do?
Participants in the experiment will have to adopt a single, simple change in their school experience. English assignments, instead of being done on paper or pen, will be carried out on a special website that the teacher will communicate in due course. The site has been developed by the research group and will provide each student with access to the exercises assigned for each week by the teacher. Some students will solve the exercises normally, while others will solve them in the form of a chat with a virtual agent based on artificial intelligence. The selection is random and is not controlled by either the teacher or the research group. This mode will last approximately from 04/01/2024 to 05/17/2024.

In addition, students will complete a series of quizzes in class that will test their understanding of the subject matter of the exercise, and short questionnaires where they will report some aspects of their experience.

The rest of the school experience will remain the same: the lessons will be the same, the availability of the teacher and educational materials will be the same. We do not require a minimum or maximum amount of time spent on the platform.

Potential benefits
We expect that the technologies provided to students can lead to a better experience and a deeper learning of the topics covered.

Potential risks
We have developed the platform ensuring that it provides the best possible experience. However, being a new technology, there is a slight possibility that it may cause undesired effects on learning or that it may not be helpful. In such a case, we encourage participants to contact the school staff or the research group.

Is participation in the research mandatory?
Participation in the research is voluntary. It is possible to withdraw from the research at any time.

Protection of personal data
The data uploaded to the platform will be shared with the teacher, as would be done with normal homework. The quiz data will also be shared with the teacher. The data from the experience questionnaires will be shared with the teacher only if each student agrees. If a student prefers not to share some information uploaded to the platform, they can contact the research group, which will ensure that the unwanted information is redacted. At the end of the project, the collected data will be anonymized and used for research purposes. Parts of the homework might be published in scientific journals, but

no data traceable to the participants will be shared outside the research group. The data collected in the experiment will be transferred within the European Union and Switzerland.

Research results
In the case of positive results, these will be available at the end of the project in a scientific publication.

Who can I contact for further information?
For clarifications or further information, we invite you to contact the school staff or Alessandro Vanzo (alessandro.vanzo@uzh.ch, +39347140931).

Thank you for your collaboration.

Alessandro Vanzo
Zurich, 01/31/2024

University of Zurich[UZH]

FORM FOR ADULT STUDENTS

CONSENT TO PARTICIPATE IN THE RESEARCH PROJECT
Effectiveness of Artificial Intelligence Technologies in Teaching English Language

I, the undersigned (name and surname of the participant) …….
born in…. on…

declare:
• to have read the information sheet concerning the study;
• that the contents of the study have been clearly and thoroughly explained to me by the research group and/or the school staff.
• that I have had the opportunity to express my considerations and to ask for further clarifications, as well as to have the necessary time to make a spontaneous, considered, and unsolicited decision.

Therefore, I am aware:
• of the planned activities and the modalities of adherence;
• that participation in the research is voluntary and that I have the right to withdraw consent at any time;
• that, according to the respect of the current regulations, the collected data will be used only for the purposes of scientific research.

Given this, I give my consent to participate in the proposed study.

Date, ……

Signature …….

I consent to the processing of data resulting from my participation.

Date, ……

Signature …….

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FORM FOR MINOR STUDENTS

CONSENT FOR MINORS TO PARTICIPATE IN THE RESEARCH PROJECT
Effectiveness of Artificial Intelligence Technologies in Teaching English Language

I, the undersigned (name and surname of one parent or guardian) …….
born in …. on…

I, the undersigned (name and surname of the other parent) …….
born in …. on…

declare:

- to have read the information sheet concerning the study;
- that the contents of the study have been clearly and thoroughly explained to me by the research team and/or the school staff.
- that I have had the opportunity to express my considerations and to ask for further clarifications, as well as to have the necessary time to make a spontaneous, considered, and unsolicited decision.

Therefore, I am aware:

- of the planned activities and the modalities of adherence;
- that the participation of my child in the research is voluntary and that I have the right to withdraw consent at any time;
- that, according to the respect of the current regulations, the collected data will be used only for the purposes of scientific research.

Given this, I give my consent for my child ……
born in …… on…. to participate in the proposed study.

Date, ……

Signature …….

Signature ……

I consent to the processing of data resulting from the participation ……

Date, ……

Signature …….

Signature ……

<u>WARNING</u>
It is reminded that in the case of minors, according to the current regulations, consent to the experimentation must be expressed: by both parents, if both are alive and hold parental responsibility over the child; by a single parent, in case the other has passed away or is deprived of parental responsibility over the child; by the guardian, if the minor is under guardianship.