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**TEMPLATE ETHICS APPLICATION FORM**

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| **Important Notes:**  **1.** Please also upload an information sheet and a consent form as supporting documentation.  **2.** If you intend to conduct a study with UNDERAGED (under 16 years of age) participants you MUST fill in the Children Research Ethical Plan form and ensure that you obtain all the necessary permissions described in that form. Please fill in the form and submit it as PDF together with your ethics proposal. |
| 1. DESCRIBE THE BASIC PURPOSES OF THE PROPOSED RESEARCH.  A web application is to be evaluated in this study. The application presents worked examples to school pupils that allow them to follow approaches to solving problems step by step where a detailed explanation of the way of thinking involved at each step is provided. Such an application, not web-based, has been proven to be efficient in a previous research project. After redevelopment of the earlier application to make it web-based, the purpose of the evaluation is to determine whether it is more easily accessible than the previous version, and whether it is more likely to be used in schools as a regular educational tool, i.e. to what extent is the tool usable in real schools.  The educational effectiveness of worked examples is not being evaluated, nor is any kind of controlled experiment being performed. The value of worked examples has been demonstrated repeatedly in the literature. The software under study is being rolled out as a standard item in the teachers' collection of resources available to them, and the aim here is simply to evaluate how well the software can be integrated into classroom practice. |
| 2. INDICATE WHO IS FUNDING THE RESEARCH (IF COMMERCIALLY FUNDED, ENSURE THAT PARTICIPANTS ARE INFORMED).  The study doesn’t require any funding. |
| 3. DESCRIBE THE DESIGN OF YOUR EXPERIMENT (E.G. CONDITIONS, NUMBER OF PARTICIPANTS, PROCEDURE AND EQUIPMENT WHERE APPROPRIATE).  The evaluation will be run in schools during usual classes. The application collects logging data on how individual users interact with the worked examples. An interface is available for teachers so that they can see individual and collective analyses of this logging data for their class. Fully anonymised usage data, identifying neither the school nor pupil, will be available to the researchers. The way this operates is described below.  The teacher will use a special teachers’ interface to register with a username and password. The username is used to classify one school apart from another, but the name itself should not identify the particular school. When teachers are logged in, they will be able to register a group id for each of their classes. They will give the school username and the class-specific group id to pupils. Furthermore, to track individual pupils' progress, the teachers may supply a pupil id to each pupil. Pupils need to enter school, class and pupil id in the student interface before starting to work on any of the worked examples. Teachers can access the data for their classes in a graphical format via the teacher interface, secured by the password the teacher chose.  Teachers can also choose not to give ids to the pupils. This means the data will be collected on a session basis with no way to map schools or classes to any of the data.  For the purposes of the evaluation, the teachers and students will be able to access the system using any web-enabled device.  Note that no association is recorded between an identifiable school, class or pupil and logging information within the system. Such associations, if required, are managed entirely by the teacher, through the choice of suitable school, group and pupil ids. Teachers will be instructed to record their usernames and passwords securely as we will not be able to renew them should they forget them.  The system will collect pupil usage data for the evaluation period 1-28 February 2015. This will be automatically analysed to determine:  -usage patterns during a single session  -usage patterns by the same pupil across multiple sessions, where this is possible.  Data will be retained securely for a five-year period to 1 February 2020.  The number of pupils involved depends on take-up of the system by teachers. There are around 150 teachers who are possible candidates. However, the available worked examples may not fit their current teaching needs, which would reduce participations. |
| 4. DESCRIBE HOW THE PROCEDURES AFFECT THE PARTICIPANTS.  Data will be collected as part of regular classes for pupils. Pupils will be expected to go over several of the examples using the application and gain some knowledge/learn new techniques for solving problems.  As this is part of their on-going education, chosen by their teacher, and the data capture is both automatic and anonymous, there is no particular effect on participants. |
| 5. STATE WHAT IN YOUR OPINION ARE THE ETHICAL ISSUES INVOLVED IN THE PROPOSAL.  Due to the careful set up, ensuring anonymity of classes and pupils, there are no ethical issues. |
| 6. SPECIFY THE NATURE OF THE PARTICIPANTS. INDICATE IF THE RESEARCH INVOLVES CHILDREN OR THOSE WITH MENTAL DISABILITIES OR HANDICAP. IF SO, EXPLAIN THE STEPS TAKEN TO OBTAIN PERMISSION FROM L.E.A.s, HEADTEACHERS, PARENTS, ETC. GIVE A BRIEF DESCRIPTION HERE AND FILL IN THE CHILDREN RESEARCH ETHICAL PLAN. THE FORM MUST BE UPLOADED TOGETHER WITH THE CONSENT AND INFORMATION FORMS.  The participants will be computing science pupils in schools. We do not believe informed consent is required since the application is being used by teachers to enhance the teaching experience of pupils, and we are collecting fully anonymised data for software evaluation purposes only. |

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| 7. STATE IF PAYMENT WILL BE MADE TO SUBJECT.  No payment will be made to the subjects. |
| 8. DESCRIBE THE PROCEDURES FOR ADVERTISING, FOR RECRUITING PARTICIPANTS, AND FOR OBTAINING CONSENT FROM PARTICIPANTS.  See section 3 above. We will not be looking for consent from pupils for the reasons given above, but we will ask for the teachers consent to use the data. Where a teacher does not give consent, he/she should inform us of their username and we will exclude data connected with it from our analyses. Note that the teacher can still analyse his/her own class data. |
| 9. STATE WHETHER THE PROPOSAL IS IN ACCORD WITH THE BPS CODE OF CONDUCT OR THE ESRC FRAMEWORK OF RESEARCH ETHICS.  Yes. |
| 10. DESCRIBE HOW THE PARTICIPANTS' ANONYMITY AND CONFIDENTIALITY WILL BE MAINTAINED.  Optionally, pupils will be given school, group and pupil ids by their teacher. They wouldn’t tell the evaluators any ids so there would be no way of identifying students. If we don’t receive consent from teachers to analyse data associated with their classes and pupils, we will be able to analyse data on a session basis, but we wouldn’t have any way of connecting sessions together in any meaningful way. |
| 11. DATE ON WHICH PROJECT WILL BEGIN AND END.  The project is intended to start on 15th January and end on 15th March, although the main data capture is expected to be in February. |
| 12. LOCATION AT WHICH THE PROJECT WILL BE CARRIED OUT.  Schools in Scotland. |
| 13. DESCRIBE HOW PARTICIPANTS WILL BE DEBRIEFED AT THE END OF THE EXPERIMENT (THIS MUST INCLUDE THE OPPORTUNITY TO CONTACT THE EXPERIMENTER - OR SUPERVISOR - FOR FEEDBACK ON THE GENERAL OUTCOME OF THE EXPERIMENT).  The researcher will give them the opportunity to ask any questions concerning the project they may have.  Furthermore, the researcher will provide a contact number and email if they need further information. A summary report on our findings will be sent to all teachers who supplied an email address. |