

Full Application Form

Filter Questions

- 1 Is your study considered research as defined in the guidance icon information? ☒ Yes ☐ No
- 2 Does your study require external ethical review by either the Health Research Authority (which includes the NHS REC and Social Care REC) or the Ministry of Defence REC?
See guidance icon for further information on the HRA and MOD REC ethical review remit.
- ☐ Yes
☒ No

Data Collection

- 3 Select one category from the list below (categories are defined in the guidance icon).

My study involves:

- ☐ a) Only primary data collection involving human subjects.
- ☐ b) Only analysis of pre-existing human subject data which is not in the public domain and contains identifiable personal data (see guidance icon for definition)
- ☒ c) Both primary data collection involving human subjects and analysis of pre-existing human subject data which is not in the public domain and contains identifiable personal data (see guidance icon for definition)
- ☐ d) Data collection not involving any of the above but presenting sensitive issues
- ☐ e) None of the above

4 Risk Checklist: Please indicate if your study involves any of the following risks:

- ☐ a) The research involve participants who are vulnerable or unable to give informed consent or in a dependent position.
- ☐ b) Participants will take part in the study without their consent or knowledge at the time of participation or deception of some kind will be involved.
- ☐ c) There is a risk that the research topic might lead to disclosures from the participant concerning their involvement in illegal activities or other activities that represent a threat to themselves or others.
- ☐ d) The study may induce psychological stress or anxiety, or produce humiliation or cause harm or negative consequences beyond the risks encountered in a participant's usual everyday life.
- ☐ e) Participation in this research may identify urgent mental health risks, including, but not limited to, suicidal ideation and/or self-harm intent.
- ☐ f) There is a foreseeable likelihood that a participant's capacity to give fully informed consent may diminish throughout the course of the project i.e. early stage dementia, brain injury etc.
- ☐ g) The study involves imaging techniques such as MRI scans or ultrasound.
- ☐ h) The study involves sources of non-ionising radiation (e.g. lasers)
- ☐ i) The study involve physically invasive procedures or the collection of bodily materials (including collection of human tissue for purposes such as DNA/RNA analysis)
- ☒ None of the above.

5 Does the study involve the recruitment of participants under the age of 16?

- ☒ Yes
- ☐ No

5(a) Will 'opt in' informed consent be obtained from the parents/guardians of all participants under the age of 16?

- ☐ Yes
- ☒ No

5(b) Please indicate which of the following applies –

- ☒ (i) The opt-out parental consent process relates only to non-interventional classroom observations and the process has been deemed appropriate by the relevant gatekeeper at the school (see guidance icon for definition of non-interventional classroom observation)
- ☐ (ii) Attempting to gain 'opt-in' informed consent from all parents/guardians would be likely to render impossible or seriously impair the achievement of the objectives of the research, therefore I would like to request an opt-out parental consent process.

Based on your answers to the application filter questions your research project has been categorised as Low Risk.

You can now access an overview of the available sections of the application by selecting the navigate tile in the action panel on the left. Alternatively you can proceed through each section of the application by selecting the next tile.

Please note: Once completed and submitted your application will be processed through the 18 working day low risk review process.

Section A: General Information

A Applicant Details

Title

First Name

Surname

Ms.

Jemima

Bloggs

Department

School of Education, Communication and Society

KCL Email

jemima.bloggs@kcl.ac.uk

A2 Applicant Status

Taught Postgraduate

A7 Faculty/Institute/School

Please refer to the information icon if you are unsure of your Faculty/Institute/School.

Social Science and Public Policy

A8 Course/Qualification

MA Education

A10 Supervisor Details

Title

First Name

Surname

Dr

Richard

Brock

Position

Lecturer in Science Education

Department

School of Education, Communication and Society

Email

richard.brock@kcl.ac.uk

A11 Do you have a medical supervisor?

☐ Yes

☒ No

Title

First Name

Surname

Organisation

Email

What is the role of this investigator?

Section B: Project Information

B1 Project Title

A working title that accurately reflect the aims of the project.

Sample Project (An intervention study using a survey, observation and student assessment data): Using stories to support students' engagement and achievement with Y9 science

B2 Anticipated start date for the collection of data:

01/03/2021

B3 Expected completion date of the project:

01/08/2021

B5 What are the aims and objectives of the project?

Provide the academic/scientific justification of the project as well as detailing and explaining the principal research question, objectives and hypotheses to be tested.

Please Note: Applications to the BDM and PNM RESC should include a full list of references/citations to back up the academic/scientific justification of the project.

Previous research has indicated that students can find the content of science lessons boring, unengaging and devoid of human interest (Osborne & Collins, 2001). The introduction of more narrative content to science lessons has the potential to change this perception of the subject. Stories have been described as 'psychologically privileged' (Willingham, 2004) because there is evidence that the mind processes information in stories differently from that in other sources. Studies have suggested that story telling can foster synchronisation of brain activity between teller and listener (Stephens, Silbert, & Hasson, 2010), that character driven stories can motivate people to cooperate (Lin, Grewal, Morin, Johnson, & Zak, 2013). Narratives can boost the memorisation of information (Bower & Clark, 1969). The ability of stories to change people's beliefs was linked to their ability transport readers or listeners (Green & Brock, 2000). Narratives are more engaging (Britton, Graesser, Glynn, Hamilton, & Penland, 1983) and are processed more quickly than expository texts (Graesser, Singer, & Trabasso, 1994).

This research sets out to examine the effect of the introduction of occasional short narrative elements to science lessons on students' engagement with science and their achievement in the subject. The study will use a quasi-experimental design in which one group is exposed to several stories about science in their lessons which will be compared with a control group who receive normal teaching. The research asks:

What impact does the introduction of occasional short science narratives have on the engagement and achievement of science student in Y10 in a comprehensive school in London?

Bower, G. H., & Clark, M. C. (1969). Narrative stories as mediators for serial learning. *Psychonomic Science*, 14(4), 181–182.
Britton, B. K., Graesser, A. C., Glynn, S. M., Hamilton, T., & Penland, M. (1983). Use of cognitive capacity in reading: Effects of some content features of text*. *Discourse Processes*, 6(1), 39–57.
Graesser, A. C., Singer, M., & Trabasso, T. (1994). Constructing inferences during narrative text comprehension. *Psychological Review*, 101(3), 371–395.
Lin, P.-Y., Grewal, N. S., Morin, C., Johnson, W. D., & Zak, P. J. (2013). Oxytocin Increases the Influence of Public Service Advertisements. *PLoS ONE*, 8(2), e56934.
Osborne, J., & Collins, S. (2001). Pupils' views of the role and value of the science curriculum: a focus-group study. *International Journal of Science Education*, 23(5), 441–467.
Stephens, G. J., Silbert, L. J., & Hasson, U. (2010). Speaker-listener neural coupling underlies successful communication. *Proceedings of the National Academy of Sciences of the United States of America*, 107(32), 14425–30.
Willingham, D. T. (2004). The privileged status of story. *American Educator*, 28(2), 43–51.

B6 Where will the research be conducted? i.e in a facility within the college, in a private organisation, in a public place etc

At a comprehensive school in north London.

B7 If outside of the UK, please state the country/countries in which data collection is expected to occur.

N/A

B8 Selection of methodology from list: (select each that applies)

- ☒ Questionnaires
- ☐ Semi-structured interviews
- ☐ Unstructured Interviews
- ☐ Focus Groups
- ☒ Observation
- ☐ Clinical Procedures or Interventions
- ☐ Non-clinical Procedures or Interventions
- ☐ Randomised Controlled Trial
- ☐ Oral history
- ☒ Analysis of pre-existing data from human participants
- ☐ Audio/video recording or photography in a public place
- ☐ Audio/video recording or photography in a private place
- ☐ Administration of food substances
- ☐ Behavioural/Cognitive Testing
- ☐ Other

If you are using any standardised methods for any of the above selected methodologies, please provide an overview of any standardised documentation to be used. Please provide full names and references where appropriate.

Please note you are not required to submit any standardised forms as supporting documents.

The Colorado Learning Attitudes About Science Survey (CLASS), a widely used instrument to measure students' engagement with science in school, will be used.

Adams, W. K., Perkins, K. K., Podolefsky, N. S., Dubson, M., Finkelstein, N. D., & Wieman, C. E. (2006). New instrument for measuring student beliefs about physics and learning physics: The Colorado Learning Attitudes about Science Survey. *Physical review special topics-physics education research*, 2(1), 010101.

B9 Provide an explanation in lay language outlining each methodology of the study, as identified in question B8.

The research will adopt a quasi-experimental method - that is, it will resemble a traditional scientific experiment by using a control group, who are not exposed to the science stories, and an intervention group, who are, and the outcomes for the two groups will be compared.

For convenience, and ease of access, the research will take place in my own school. Uptake of the voluntary science course, GCSE triple science, is below the national average in my school and it is hoped that greater engagement with science prompted by the use of stories may boost the uptake of triple science. Hence, the research will be conducted with Y9 (students aged 13-14-years old).

In my school, in Y9 there are six mixed-ability groups. These will be assigned randomly to either condition or control condition, with three classes in each category. At the start of the project, all Y9 students will be given the CLASS survey (to get a baseline measure for their engagement with science) and their performance on their most recent end of topic test will be recorded (to get a baseline of achievement). The survey will be carried out in form time, to avoid loss of learning, and takes 8-10 minutes to complete.

Over a period of six weeks, the control group will receive normal teaching. Note that, therefore, it is assumed that students' learning will suffer as a result of being assigned to the control group. In the condition group, the three science teachers will include at least one story (a narrative from the history of science, or a story about interesting contemporary research). The researcher will provide a list of suitable stories to the condition group teachers to include in each of their lessons over the six-week period. Each story will last between 1-3 minutes.

During the teaching period, the researcher will carry out two observations of each class (a total of 12 observations). The observations will occur towards the start and end of the period and open observation will be used to describe student engagement in the lesson and to observe how the teachers in the condition group deploy narrative in their teaching.

At the end of the six week period, the students will again be given the CLASS survey (in form time) and the data from an end of unit assessment (the normal assessments that occur as part of the school assessment policy) at the same time will be collected.

If the summary of your methodology would be supported by a flowchart please attach this here (an editable flowchart can be found via the link in the guidance icon)

B10 I confirm that the researcher who will be administering all tests and/or procedures is competent in the methods.

- ☒ Yes
☐ No

Section C(I): Participants

C1 Detail your projected number of participants and provide justification for this sample size.

Please note: For projects involving mixed methods and/or multiple participant groups, you should provide an estimate of the number of participants taking part in each method.

The research will involve 6 classes, each of which contain approximately 30 students - giving a total of 180 participants. This sample size may allow statistical analysis of differences in performance between the condition and control group.

C2a What are the Inclusion Criteria? Where appropriate explain how you will screen your participants. (the selection criteria should be clearly defined for multiple participant groups)

The students must be:

- a) A member of school X
- b) A current member of a year 9 class (aged 13-14 years old or assigned to the year group)
- c) Have parents who consent to participation and have consented to participation

C2b What are the Exclusion Criteria? Where appropriate explain how you will screen your participants. (the selection criteria should be clearly defined for multiple participant groups)

The students are excluded if:

- a) They are not a member of school X
- b) They are not a current member of a year 9 class (aged 13-14 years old or assigned to the year group)
- c) Their parents, or they themselves have not consented to participation

C3 What are the upper and lower age limits? Provide justification for these where appropriate.

Upper age is 14 years old and the lower 13 as they ages define membership un year 9 in the English school system. This year was chosen as it when students make their first decision about their level of participation in science study (double or triple science).

C4 How will potential participants be identified and approached?

Please note: If different recruitment methods will be used for participant groups, each group should be separately addressed.

First, the gatekeeper, the headteacher of school X, will be approached using the gatekeeper letter attached. The gatekeeper letter sets out the aims of the research and what participation will involve. Once permission has been received from the headteacher, an invitation letter will be sent to a) all parents of students in year 9 using the school email system; and b) all teachers who teach Y9 science using the school email system.

For students: The parental invitation letter will ask parents to express interest in their child participating by emailing the researcher's KCL email address. Once an email expression of interest is received, the researcher will send parents, by email, a copy of the information sheet and consent form, see attached. Parents will be asked to return consent forms to the researcher's KCL email address, within 1 week of receipt. Once parental consent has been received, students whose parents have consented will be invited to a meeting at which the researcher will explain the purposes of the study and what participation will involve. The students will be allow to ask questions, be given a paper copy of the consent form and information sheet, and asked to return the documents within a week.

For teachers: Once teachers respond to the advertisement message to the researcher's KCL email address, they will receive a consent form and information sheet via email. They will be asked to contact the researcher if they have any questions. Potential teacher participants will be given a week to return the consent form via email.

C5 Do you have a current or prior relationship with any potential participants? (This includes professional and/or personal relationships)

- ☒ Yes, I do have a current or prior relationships with potential participants.
- ☐ No, I do not have any current or prior relationships with potential participants.

C5a If you are in a position of influence or authority over potential participants, can you confirm that this could not give rise to a perceived pressure to participate?

Please note: If you are directly involved in the teaching or assessing of participants this is considered a perceived pressure to participate.

- ☒ Yes, there is potential for my existing relationship to give rise to a perceived pressure to participate.
- ☐ No, there is no potential for my existing relationship to give rise to a perceived pressure to participate.

C5b Please outline the existing relationship(s) and explain how you will mitigate any potential pressure to participate.

It will be made clear on the recruitment documents that a) participation is voluntary; b) that a decision to participate or not will not affect existing relationships and c) in the case of students, that a decision not to participate will affect neither assessment nor their ability to engage in normal lessons. If students choose not to participate they will continue in the lessons as normal and will not be the focus of the observation portion of the study, they will not receive a survey, and their existing assessment data will not be used in the study.

C6 Gatekeeper Permission: Will you require an individual or organisation to grant you permission to approach/ access your intended participants? This includes gatekeepers contacting participants on your behalf

- ☒ Yes, I will be using a gatekeeper to access potential participants
- ☐ No, I will not be using a gatekeeper to access potential participants

C6a Will the gatekeeper be in a position of influence or authority over the participants?

- ☒ Yes, the gatekeeper is in a position of influence or authority over participants
- ☐ No, the gatekeeper will not be in a position of influence or authority over participants

C6b Outline who the gatekeeper is and how they will be used to facilitate recruitment.

Please note: Participants must only be approached once appropriate gatekeeper permission has been obtained.

The gatekeeper is the headteacher of school X. They will facilitate recruitment by allowing the researcher to use the school email system to contact parents and teachers.

C6c Explain how you will mitigate any pressure to participate that may be felt by potential participants as a result of the gatekeepers position.

The headteacher will not be informed which year group is the subject of the study so that the identities of the participants will be masked from the gatekeeper.

C7 Please specify any incentives being offered and a justification for their use.

No incentives will be offered

Informed Consent

C8 Will informed consent be sought from all participants?

- ☒ Yes ☐ No

C8a How will informed consent be obtained for each data collection method/participant group? Who will take consent and how will it be recorded?

Note: Justification must be provided if you will not be providing all participants with an information sheet and gaining written consent

For students: The parental invitation letter will ask parents to express interest in their child participating by emailing the researcher's KCL email address. Once an email expression of interest is received, the researcher will send parents, by email, a copy of the information sheet and consent form, see attached. Parents will be asked to return consent forms to the researcher's KCL email address, within 1 week of receipt. Once parental consent has been received, students whose parents have consented will be invited to a meeting at which the researcher will explain the purposes of the study and what participation will involve. The students will be allowed to ask questions, be given a paper copy of the consent form and information sheet, and asked to return the documents within a week.

For teachers: Once teachers respond to the advertisement message to the researcher's KCL email address, they will receive a consent form and information sheet via email. They will be asked to contact the researcher if they have any questions. Potential teacher participants will be given a week to return the consent form via email.

C9 How long will participants be given to decide if they wish to participate?

Please provide justification if participants will be given less than 24 hours

Both groups will be given 1 week in which to consider their decision to participate.

C10 Detail the process by which participants may withdraw from the research both during the research and after it has been completed. A final withdrawal date should also be provided, after which participants may no longer withdraw their data from the study.

Students: Students may withdraw from participating in the survey at any point by ceasing to answer questions. They will be informed that they can withdraw from the observation at any point during the observation by stating that desire to the observer and they will take no further part in the study. The students will be informed they can withdraw their data at any point in the study up till the 1st of June when the data will be incorporated into the final report.

Section E(I): General Data Protection Regulation Requirements

E1 Does the project involve the collection and/or use of personally identifiable information?

Personally identifiable information is data that can be used to identify an individual, either directly or indirectly. This may include names, job titles, photos, video or audio recording, email addresses, usernames, IP addresses, DNA or one or more factors specific to the physical, genetic, mental, economic, cultural, or social identity of that person. See guidance icon for examples of personal data.

Please indicate which of the following applies:

- ☐ a) The project involves the collection and/or use of personally identifiable information
- ☐ b) Personally identifiable information will only be obtained in order to contact potential participants. No further identifying information will be collected as part of the study.
- ☐ c) No personally identifiable information will be collected and/or used for this project

E1b Please indicate which of the following applies:

- ☒ The personal data used for recruitment purposes will not be linked to the anonymous data collected from participants and will not be held for any longer than is necessary for the purposes of recruitment.
- ☐ The identifiable information used for recruitment purposes will be linked to the data collected from the corresponding participant/s (this includes linking participant details to raw data for withdrawal purposes)
- ☒ I confirm that I understand that it is the responsibility of the researcher to ensure that all research data is appropriately handled and stored during and after the project in compliance with College guidelines:
[KCL Research Data Management Guidelines](#)

Section E(II) Data Handling, Protection and Storage

E5 Where will research data be stored during and after the study is completed?

The survey data, aggregated student achievement data and observation data will be kept as encrypted files on the password-protected researcher's KCL OneDrive file sharing site. During observation, the researcher will make notes using a laptop so the data is immediately stored as a file on a password protected site.

E7 How long will research data be stored for after the project is completed?

Guidance on data retention periods can be found in the [King's Data Retention Schedule](#)

For four years after the completion of the study.

E4 Research Dissemination: How will results be disseminated?

- ☒ Internal report (thesis)
- ☒ Journals
- ☒ Conference
- ☐ Other

E10a Will the anonymous data set shared with any third parties and/or be archived for further use?

☐ Yes

☒ No

Section F: Further Analysis Of Pre-Existing Data

F1 Does your study involve the analysis of pre-existing human tissue or human data? (please select one option).

Human Data

F2 Provide details of the type of data to be accessed.

Students' scores in internal science tests will be accessed. These tests typically take place every two weeks as part of the school's normal assessment policy.

F3 Detail how the original consent gained from participants allows for this research.

Consent will first be gained from the headteacher of School X to access the records. Then additional consent will be sought from individual students, their parents and the class teachers.

F4 Explain how data will be handled and stored during and after the study in accordance with the consent given when the data was originally obtained.

Internal test data will be requested from the Head of Science - this will take the form of a spreadsheet with students' first and last names and scores on their science tests over the period. The head of science will be provided a list of names of those students who have consented to the sharing of data and, in their role as data controller, the head of science will ensure only data from those students who have consented to this sharing of data will be sent to the researcher. The names will be used to link the students responses with their scores on the CLASS survey and then the two datasets will be pseudonymised. Both datasets will be stored as an excel file which will be encrypted and stored on a password protected area of the researcher's KCL OneDrive. Only the research will have access to the data. The anonymised data file will be deleted four years after the completion of the project.

F5 Explain how you will obtain formal permissions to access and analyse the data set.

Please note: Permission/approval letters must be available upon request and if available at the point of submission should be attached under section I.

Permission will be requested from the headteacher of school X and the head of science, through a gatekeeper letter (see attached). In addition by sending information sheets and consent forms to both parents and students, permission will be sought to access students' test results.

F6 Provide details of the degree of anonymity of the raw data set.

The raw data set of school assessment data will include students' first and last names.

F7 If the data you intend to access is 'sensitive' (as defined in the guidance icon) please outline why you believe this to be the case, any ethical issues you feel this might raise and provide details as to procedures/protocols in place to address these issues.

N/A

Section H: Insurance, Risks and Ethical Issues

H1 Does the project involve any of the Risk Assessment criteria outlined in the information icon guidance? ☐ Yes ☒ No

H2 I confirm that I have read the exclusion criteria for the College's Clinical Trials and Research Projects Involving Human Subjects Insurance Policy, detailed in the guidance icon, and that:

- ☒ a) This project meets the inclusion criteria of the policy
- ☐ b) This project falls under the exclusion criteria and I have gained approval from the Finance Department, as instructed in the guidance icon
- ☐ c) This project falls under the exclusion criteria but approval has not been granted by the Finance Department

H3 I confirm that my travel insurance arrangements are as follows:

- ☐ a) I will secure College travel insurance (see guidance icon for further details)
- ☐ b) I will secure personal travel insurance
- ☒ c) I do not require travel insurance as I will conduct the research in my country of legal residence
- ☐ d) I will not secure travel insurance

H4 I confirm that if Disclosure & Barring Service clearance is required for my study, this will be obtained prior to the commencement of data collection. ☒ Yes ☐ No ☐ N/A

H5 I confirm that the No Fault Compensation Scheme will be offered to all UK based participants. ☒ Yes ☐ No ☐ N/A

H6 Give the details of any other review body approvals or permissions obtained (including gatekeepers, other Ethics Committees, peer review, R&D permission).

H7 Give details of any other ethical issues which have not been addressed elsewhere in the application and explain how you will mitigate these risks.

Section I: Supporting Documents

I1 Participant Information Sheet

Information Sheet templates can be found under '[Recruitment documents](#)'.

Type	Document Name	File Name	Version Date	Version	Size
Participant Information Sheet	information-sheet-for-parents	information-sheet-for-parents.docx	04/08/2020	1	54.9 KB
Participant Information Sheet	information-sheet-for-teachers	information-sheet-for-teachers.docx	04/08/2020	1	55.1 KB
Participant Information Sheet	information-sheet-for-students	information-sheet-for-students.docx	04/08/2020	1	53.7 KB

Consent form (if applicable)

I2 Consent form (if applicable)

Type	Document Name	File Name	Version Date	Version	Size
Consent Form	Consent Form for parents	Consent Form for parents.docx	04/08/2020	1	36.9 KB
Consent Form	Consent Form for teachers	Consent Form for teachers.docx	04/08/2020	1	36.6 KB
Consent Form	Consent Form for students	Consent Form for students.docx	04/08/2020	1	36.7 KB

Recruitment documents for parents/carers (if applicable)

I3 Information Sheet(s) and Consent Form(s) for parents-carers

Questionnaire/Survey template/s

I4 Questionnaire/Survey template/s

Type	Document Name	File Name	Version Date	Version	Size
Questionnaires	Indicative Survey Questions	Indicative Survey Questions.docx	04/08/2020	1	15.8 KB

Evidence of any other approvals or permissions (includes gatekeeper, R&D, other ethical approvals) (if applicable)

I6 Evidence of any other approvals or permissions (includes gatekeeper, R&D, other ethical approvals)

Approach letters to gatekeeper organisations (if applicable)

I7 Approach letters to gatekeeper organisations

Advertisement document (email, poster, flyer etc) (if applicable)

I8 Advertisement document (email, poster, flyer etc)

Cover Letter (for amendments and modifications) (if applicable)

I9 Cover Letter (for amendments and modifications)

Other (if applicable)

I10 Other

Researcher/Applicant

J1 Researcher/Applicant Signature

I undertake to abide by accepted ethical principles and appropriate code(s) of practice in carrying out this study. The information supplied above is to the best of my knowledge accurate. I have read the Application Guidelines and clearly understand my obligations and the rights of participants, particularly as regards obtaining valid consent. I understand that I must not commence research with human participants until I have received full approval from the ethics committee.

Please note that in order to authorise your application you must sign off using your KCL email address i.e. joe.bloggs@kcl.ac.uk and your KCL password.

Supervisor authorisation for student projects (including PhD)

J2 Supervisor Signature

I confirm that I have read this application and will be acting as the student researcher's supervisor for this project. The proposal is viable and the student has appropriate skills to undertake the research. Participant selection and recruitment procedures, including the Information Sheet(s) to be provided and the manner of obtaining informed consent, are appropriate and the ethical issues arising from the project have been addressed in the application. I understand that research with human participants must not commence without full approval from the ethics committee. I understand that by authorising this application I am confirming that the student has read an appropriate professional code of ethical practice and completed a risk assessment form where appropriate.

Note to applicant: In order for your named supervisor to authorise your application they must have an activated REMAS account. If they have not yet activated their account prior to you requesting their authorisation, they will need to do this by logging into the system.

Supervisor Authorisation For Student Projects (Including PhD)

Supervisors should authorise by entering their full KCL email i.e. joe.bloggs@kcl.ac.uk and KCL password

INFORMATION SHEET FOR PARTICIPANTS

Ethical Clearance Reference Number: **[INSERT ONCE PROVIDED BY REVIEW BODY]**



YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of project

Using stories to support students' engagement and achievement with Y9 science

Invitation Paragraph

I would like to invite you to give permission for your son/daughter to participate in this research project which forms part of my MA education research. Before you decide whether you want your son/daughter to take part, it is important for you to understand why the research is being done and what their participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information.

What is the purpose of the project?

The purpose of the project is to investigate whether introducing more stories about science into Y9 science teaching can improve the engagement and achievement of students at school X in science.

Why has my son/daughter been invited to take part?

Your son/daughter is being invited to participate in this project because they are a student at school X and in year 9. I am inviting year 9 students to participate because this is a crucial year as they make decisions to study double or triple science.

What will happen if my/son daughter takes part?

If you consent, I will contact your son/daughter to explain the aims of the project, what participation will involve and ask them for their consent to participate in the project. If they consent, their class will either receive additional science stories or normal teaching. For those who receive the stories, the teacher will include a story of about 1-3 minutes of lesson time focusing on material from the history of science or cutting-edge research. For example, a teacher might tell the story of Émilie du Châtelet's work on Newtonian mechanics and how she had to disguise herself as a man to attend scientific meetings. The short duration of the stories means that there will be no significant detriment to the teaching received by students. The trial will run over a period of six weeks from the 9th of March 2020 to the 20th April 2020.

I will research the effect of the stories in three ways in which you can choose for your son/daughter to participate. First, I will seek permission from, Ms. X, the head of science to access your son/daughter's science internal test data over the period of the research. Second, I will ask your son/daughter to complete a survey about their attitudes to science at the start and the end of the period. This will happen in free time to avoid loss of learning and take 8-10 minutes to complete. Third, I will observe two lessons your son/daughter is

in during the six-week period. I will sit at the back of the classroom and make general notes about the engagement of students in the class, but I will not record names.

Does my son/daughter have to take part?

Participation is completely voluntary. Your son/daughter should only take part if they want to and choosing not to take part will not disadvantage them in anyway. Their decision will not affect their assessment or my relationship with them in school. Once you have read the information sheet, please contact me if you have any questions that will help you make a decision about giving consent for your son or daughter to take part. If you decide to allow your son daughter to take part we will ask you to sign a consent form and you will be given a copy of this consent form to keep.

Note that the consent process for the two parts of the research are different. Consent for the observation is opt-out. If you do not wish your son/daughter to participate in the observation, tick the appropriate box on the form. I will still carry out the observation but make sure I do not write comments related to their engagement. Consent for the use of their test data is opt-in. Please choose the appropriate option on the consent form.

What are the possible risks of taking part?

No risks are anticipated related to involvement in the research.

What are the possible benefits of taking part?

Your son/daughter will contribute to the development of a new approach to teaching.

Data handling and confidentiality

Your data will be processed in accordance with the General Data Protection Regulation 2016 (GDPR).

- The test data, observation notes and survey responses will be stored on a password protected area of the KCL OneDrive data storage system. The files will be encrypted and password protected. Only I will have access to the files. Your son/daughter's name will be used to link their survey response and test data but will then be deleted so the data cannot be linked to your son/daughter.
- The data in the final report will be written up in such a way that neither the identity of the school or any participants will be revealed to readers.
- In line with KCL data retention policies, your son/daughter's data will be retained for 4 years after the completion of the project.

Data Protection Statement

Your son/daughter's data will be processed in accordance with the General Data Protection Regulation 2016 (GDPR). If you would like more information about how your data will be processed in accordance with GDPR please visit the link below :

<https://www.kcl.ac.uk/research/support/research-ethics/kings-college-london-statement-on-use-of-personal-data-in-research>

What if my son/daughter changes their mind about taking part?

Your son/daughter is free to withdraw at any point during the project, without having to give a reason, until the end of data collection on the 20th of April. Withdrawing from the project will not affect them in any way. After the 20th of April, I will link the survey and test data and delete students' names so it will no longer be possible to withdraw from the research as the data will be pseudonymised (i.e. the response will be linked with assumed names).

What will happen to the results of the project?

The results of the project will be summarised in my MA dissertation thesis. The results may be used to produce publications in academic journals based on my thesis. If you wish to obtain a copy of my thesis, or any of the resulting papers, please contact me at the email address below. The data collected will not be made publicly available.

Who should I contact for further information?

If you have any questions or require more information about this project, please contact me using the following contact details:

Jemima.bloggs@kcl.ac.uk

What if I have further questions, or if something goes wrong?

If this project has harmed your son/daughter in any way or if you wish to make a complaint about the conduct of the project you can contact King's College London using the details below for further advice and information:

Richard Brock, Richard.brock@kcl.ac.uk, Tel: 020 7848 3187
School of Education, Communication and Society, King's College London
Waterloo Bridge Wing, Franklin-Wilkins Building, Waterloo Road, London, SE1 9NH.

Thank you for reading this information sheet and for considering taking part in this research.

INFORMATION SHEET FOR PARTICIPANTS

Ethical Clearance Reference Number: **[INSERT ONCE PROVIDED BY REVIEW BODY]**



YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of project

Using stories to support students' engagement and achievement with Y9 science

Invitation Paragraph

I would like to invite you to participate in this research project which forms part of my MA education research. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what their participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information.

What is the purpose of the project?

The purpose of the project is to investigate whether introducing more stories about science into Y9 science teaching can improve the engagement and achievement of students at school X in science.

Why have I been invited to take part?

You are being invited to participate in this project because you teach year 9 science at school X. I am focusing on year 9 students because this is a crucial year as students make decisions to study double or triple science.

What will happen if I take part?

If you consent, I will send you an information sheet explaining the aims of the project, what participation will involve and ask them for their consent to participate in the project. If you consent, the class you teach will be assigned to either receive additional science stories or normal teaching. If your class is one of those that receive the stories, I will provide you with a booklet of stories, each about 1-3 minutes of lesson time focusing on material from the history of science or cutting-edge research. For example, in a lesson on Newton's laws you might tell the story of Émilie du Châtelet's work on Newtonian mechanics and how she had to disguise herself as a man to attend scientific meetings. The short duration of the stories means that there will be no significant detriment to the teaching received by students. The trial will run over a period of six weeks from the 9th of March 2020 to the 20th April 2020. Your commitment involves, in each lesson over the six-week period, fitting in one story from the booklet. I can send email reminders to include a story, if that would be helpful.

I will research the effect of the stories in three ways. First, I will seek permission from, Ms. X, the head of science to students' science internal test data over the period of the research. Second, I will ask students to complete a survey about their attitudes to science at the start and the end of the period. This will happen inform time to avoid loss of learning

and take 8-10 minutes to complete. Third, I will observe two of your lessons over the six-week period. I will sit at the back of the classroom and make general notes about the engagement of students in the class, but I will not record names. I will not record your name as the class teacher, and I will not assess or comment on the lesson. My lesson observation notes will not be shared and published in an anonymised form.

I am requesting permission to a) access the test data of your students and b) observe two of your lessons during the six-week duration of the study. You can indicate your decision on the consent form.

Do I have to take part?

Participation is completely voluntary. You should only take part if you want to and choosing not to take part will not disadvantage you in anyway. Your decision will not affect your professional or relationship with me in any way. Once you have read the information sheet, please contact me if you have any questions that will help you make a decision about participation. If you decide to take part, I will ask you to sign a consent form and you will be given a copy of this consent form to keep.

What are the possible risks of taking part?

You will have two of your lessons observed over the six-week period.

What are the possible benefits of taking part?

You will be contributing to the development of a new approach to teaching and teachers in both groups will receive a booklet of stories for science teaching (those in the control group will receive the booklet at the end of the project).

Data handling and confidentiality

Your data will be processed in accordance with the General Data Protection Regulation 2016 (GDPR).

- The test data, observation notes and survey responses will be stored on a password protected area of the KCL OneDrive data storage system. The files will be encrypted and password protected. Only I will have access to the files. Your name will not form part of the data set.
- The data in the final report will be written up in such a way that neither the identity of the school or any participants will be revealed to readers.
- In line with KCL data retention policies, your data will be retained for 4 years after the completion of the project.

Data Protection Statement

Your data will be processed in accordance with the General Data Protection Regulation 2016 (GDPR). If you would like more information about how your data will be processed in accordance with GDPR please visit the link below:

<https://www.kcl.ac.uk/research/support/research-ethics/kings-college-london-statement-on-use-of-personal-data-in-research>

What if I change their mind about taking part?

You are free to withdraw at any point during the project, without having to give a reason, until the end of data collection on the 20th of April. Withdrawing from the project will not affect you in any way. After the 20th of April, because the observation notes will not contain your name, it will no longer be possible to withdraw from the research as the data will be pseudonymised (i.e. the data will be linked with assumed names).

What will happen to the results of the project?

The results of the project will be summarised in my MA dissertation thesis. The results may be used to produce publications in academic journals based on my thesis. If you wish to obtain a copy of my thesis, or any of the resulting papers, please contact me at the email address below. The data collected will not be made publicly available.

Who should I contact for further information?

If you have any questions or require more information about this project, please contact me using the following contact details:

Jemima.bloggs@kcl.ac.uk

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Richard Brock, Richard.brock@kcl.ac.uk, Tel: 020 7848 3187
School of Education, Communication and Society, King's College London
Waterloo Bridge Wing, Franklin-Wilkins Building, Waterloo Road, London, SE1 9NH.

Thank you for reading this information sheet and for considering taking part in this research.

INFORMATION SHEET FOR PARTICIPANTS

Ethical Clearance Reference Number: **[INSERT ONCE PROVIDED BY REVIEW BODY]**



YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of project

Using stories to support students' engagement and achievement with Y9 science

Invitation Paragraph

I would like to invite you to take part in a research project as part of my studies at university. Please read this sheet carefully to help you decide if you want to take part. Please ask me if you have any questions.

What is the aim of the project?

The aim of the project is to find out if introducing more stories about science into Y9 science teaching can make students more interested in science.

Why have I been invited to take part?

You are being invited to participate in this project because you are in year 9 at school X. Year 9 is an important year because you will soon make a choice between double and triple science.

What will happen if I take part?

If you decide to take part, I will send you a sheet telling you about the project, what participation will involve and ask them for their consent to participate in the project.

Your class will either get additional science stories or normal teaching. The trial will run over a period of six weeks from the 9th of March 2020 to the 20th April 2020. In order to find out the effect of the stories, I want to ask permission to:

- a) Let Ms. X, the head of science, share your science test data with me
- b) Ask you to complete survey, at the start and end of the trial. This will be done in form time and take 8-10 minutes
- c) I would like to sit at the back and watch two of your science lesson over the period. I will just make general notes, without writing down names, to see how the class finds the teaching.

Do I have to take part?

It is entirely up to you if you want to take part. There will be no bad effects from not taking part. It won't affect your grades, or your relationship with me if you don't want to take part. Please complete the consent form to let me know your decision.

What are the possible risks of taking part?

There are no risks from taking part.

What are the possible benefits of taking part?

You will be helping to create a new form of teaching.

Data handling and confidentiality

Your data will be used in a way that meets the law in England. I will store all the data about you are encrypted files on a password protected OneDrive at Kings College London. When I write up the study, I will not mention the name of the school, or any names of teachers or students so no one will know that you took part. I will keep the data for four years from the end of the project.

Data Protection Statement

Your data will be processed in accordance with the General Data Protection Regulation 2016 (GDPR). If you would like more information about how your data will be processed in accordance with GDPR please visit the link below:

<https://www.kcl.ac.uk/research/support/research-ethics/kings-college-london-statement-on-use-of-personal-data-in-research>

What if I change their mind about taking part?

You can stop taking part, without having to give a reason, until the end of data collection on the 20th of April. Stopping taking part in the project will not affect you in any way. It won't affect your grades or your relationship with your teacher. After the 20th of April, I will remove all names from the data so it will not be possible to take your data out of the project after that date.

What will happen to the results of the project?

The results of the project will be summarised in a report for my Master's degree and I may write about the study for an academic journal. The data won't be made available to public.

Who should I contact for further information?

If you have any questions, please contact me using the following contact details:

Jemima.bloggs@kcl.ac.uk

What if I have further questions, or if something goes wrong?

If this project has harmed you in any way or if you wish to complaint about the research, contact King's College London using the details below:

Version Number 1 04/08/2020

Richard Brock, Richard.brock@kcl.ac.uk, Tel: 020 7848 3187
School of Education, Communication and Society, King's College London
Waterloo Bridge Wing, Franklin-Wilkins Building, Waterloo Road, London, SE1 9NH.

Thank you for reading this information sheet and for considering taking part in this research.

CONSENT FORM FOR PARTICIPANTS IN RESEARCH PROJECTS



Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research

Title of project: Using stories to support students' engagement and achievement with Y9 science	
Ethical review reference number:	Version number: 1 04/08/2020
	Tick or initial
1. I confirm that I have read and understood the information sheet dated 04/08/2020 for the above project. I have had the opportunity to consider the information and asked questions which have been answered to my satisfaction.	
2. I consent voluntarily for my son/daughter's science assessment data to be used in this project.	
3. I consent voluntarily for my son/daughter to participate in the completion of a survey on attitudes to science, on two occasions.	
4. I would like to opt my son/daughter out of the observation part of the study (Note that ticking this box means they will not participate in the observation). I understand that if I choose for my son/daughter to opt-out two lessons will still be observed but no data will be collected on my son/daughter.	
5. I consent to the processing of my son/daughter's personal information for the purposes explained to me in the Information Sheet. I understand that such information will be handled in accordance with the terms of the General Data Protection Regulation (GDPR) and the UK Data Protection Act 2018.	
6. I understand that my son/daughter's information may be subject to review by responsible individuals from the College for monitoring and audit purposes.	
7. I understand that it will not be possible to identify my son/daughter in any research outputs	
8. I understand that the information that my son/daughter submits will be published as a report.	

CONSENT FORM FOR PARTICIPANTS IN RESEARCH PROJECTS



Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research

Title of project: Using stories to support students' engagement and achievement with Y9 science	
Ethical review reference number:	Version number: 1 04/08/2020
	Tick or initial
1. I confirm that I have read and understood the information sheet dated 04/08/2020 for the above project. I have had the opportunity to consider the information and asked questions which have been answered to my satisfaction.	
2. I consent voluntarily for my year 9 students' science assessment data to be used in this project.	
3. I consent voluntarily for my year 9 science lesson to be observed by the researcher on two occasions.	
4. I consent to the processing of my personal information for the purposes explained to me in the Information Sheet. I understand that such information will be handled in accordance with the terms of the General Data Protection Regulation (GDPR) and the UK Data Protection Act 2018.	
5. I understand that my information may be subject to review by responsible individuals from the College for monitoring and audit purposes.	
6. I understand that it will not be possible to identify me in any research outputs	
7. I understand that the information that I submit will be published as a report .	

CONSENT FORM FOR PARTICIPANTS IN RESEARCH PROJECTS



Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research

Title of project: Using stories to support students' engagement and achievement with Y9 science	
Ethical review reference number:	Version number: 1 04/08/2020
	Tick or initial
1. I have read and understood the information sheet. I have had the chance to think about the information and ask any questions .	
2. I agree that my science assessment data can be used in this project .	
3. I agree to take a survey, in March and again in April, about my views about science.	
4. I would like to opt out of being observed in a lesson (If you tick this box you <u>will not be observed</u>).	
5. I agree for my data to be stored as described on the information sheet.	
6. I agree to managers at King 's College London checking that my data is correctly used.	
7. I understand that my information will be used in report s.	
8. I understand that no one will be able to tell who I am from the reports on the project.	

Indicative Survey Questions

The survey questions are adapted from the Colorado Learning Attitudes about Science Survey (Adams, Perkins, Podolefsky, Dubson, Finkelstein, & Wieman, 2006).

1. A significant problem in learning science is being able to memorize all the information I need to know.

Strongly Disagree 1 2 3 4 5 Strongly Agree
2. When I am solving a science problem, I try to decide what would be a reasonable value for the answer.

Strongly Disagree 1 2 3 4 5 Strongly Agree
3. I think about the science I experience in everyday life.

Strongly Disagree 1 2 3 4 5 Strongly Agree
4. It is useful for me to do lots and lots of problems when learning science. Strongly

Disagree 1 2 3 4 5 Strongly Agree
5. After I study a topic in science and feel that I understand it, I have difficulty solving problems on the same topic.

Strongly Disagree 1 2 3 4 5 Strongly Agree
6. Knowledge in science consists of many disconnected topics.

Strongly Disagree 1 2 3 4 5 Strongly Agree
7. As physicists learn more, most science ideas we use today are likely to be proven wrong.

Strongly Disagree 1 2 3 4 5 Strongly Agree
8. I find that reading the text in detail is a good way for me to learn science.

Strongly Disagree 1 2 3 4 5 Strongly Agree
9. I am not satisfied until I understand why something works the way it does.

Strongly Disagree 1 2 3 4 5 Strongly Agree
10. I cannot learn science if the teacher does not explain things well in class.

Strongly Disagree 1 2 3 4 5 Strongly Agree

11. I study science to learn knowledge that will be useful in my life outside of school.

Strongly Disagree 1 2 3 4 5 Strongly Agree

Adams, W. K., Perkins, K. K., Podolefsky, N. S., Dubson, M., Finkelstein, N. D., & Wieman, C. E. (2006). New instrument for measuring student beliefs about physics and learning physics: The Colorado Learning Attitudes about Science Survey. *Physical review special topics-physics education research* , 2(1), 010101.