A guide to carrying out small-scale classroom-based research

The aim of this guide is to give you an overview of how you could carry out your own small-scale study into an aspect of professional practice in your school. We hope that it will inspire you to embark on your own research project and guide you along the way.

Why do research?

The Redhill Teaching School Alliance is looking for people who want to investigate classroom and school practices to find out what works best. Research like this, carried out within the context of our own schools, even when done on a small scale, can have a big influence on helping schools to improve and is immensely powerful for teachers.

Carrying out your own research project is an excellent professional development opportunity allowing you to reflect on your craft with the aim of improving it. It can also help schools with implementing their priorities and evaluating the impact. This is often when school-based research is at its most effective and you are ideally placed to investigate practices within your school, helping you to gain a better understanding of what works best in that particular context.

The timescale is entirely flexible; a small-scale study could be carried out over the course of a term or year. And, although it may start small, it could grow further in the long term and lead to involving other people, possibly in other schools.
Where does the process start?

You will be begin by identifying an area that you wish to investigate further and you may already have a clear idea of what this is. This choice might be guided by your school’s priorities or it might be an area of interest to you individually.

Next, you need to develop research questions within that area (see box below for examples). These questions will often start out quite general but should become more specific as you develop them (or as your research progresses). Having one or more clear, specific and measurable research questions enables you to focus on what you are trying to find out. It helps to inform how you will carry out your research, what data you will need to collect and how you will analyse this evidence.

When planning research questions, always have a clear idea of the changes you would ideally want your research to bring about. This is a crucial stage and one that is worth devoting the necessary time to as it will give a clear direction to the rest of your work on the project.

Examples of research questions

- How confident are Key Stage 3 teachers about their knowledge and understanding of Science and how does this affect their lesson planning?
- How well do Year 9 students understand the historical concepts of change and continuity and how can the department evolve practice to improve this?
- Do noise levels have any impact upon on-task and off-task behaviours?
- Does the wait-time after questioning a student affect their level of thinking?
- What impact does using comment-only or grade marking have on reading comprehension?
- What difficulties do students have when preparing writing tasks at Key Stage 4?

Ideally, your research questions will reference the intervention or area you are exploring, the outcome to be measured and the context in which it is happening.

What else should be considered?

Research has a moral dimension and you will need to consider the ethics of your research as you design and carry out your project. It is important to have a clear awareness of the purpose and benefits of your research from the outset, keeping people informed and seeking the necessary permission from people where you feel it is appropriate.

Give consideration to any confidential or sensitive issues as you work, such as whether people will not be named in your research or whether total anonymity is necessary (where even you as the researcher do not know which people responses came from).

What has been found out already?

You might choose at this stage to search through existing literature to see what has already been found out by research in your chosen area. This may help to put the work you do into a wider context and help you to focus your own research.

It is likely that there are already books and journal articles containing research studies in the field you are investigating. Some of this information might be found easily via the Internet but the alliance can help you to search wider than this. It is hoped that in the very near future Nottingham Trent University will be able to provide access to their library and online resources for staff engaged in research to allow for more in-depth searches through research journals and other publications.

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Collecting your evidence

Research questions will influence the approach that needs to be taken to collect the necessary evidence to answer them. This evidence will be qualitative (non-numeric data), quantitative (involving numeric data) or a mixture of both.

Think carefully about the population you want to investigate and the size of the sample from within that you want to collect data from. This has to be manageable for you, whilst still providing reliable data to analyse. Randomly choosing your sample may be a useful way of preventing bias in your evidence.

There are a variety of methods that you could use to gather your data, including:

- **Questionnaires** - a commonly used method that can often make the analysis of data easier. Care has to be taken with the wording of questions to make sure that they are not unclear or ambiguous. This is crucial as you may not be present when the questions are being answered. Questionnaires can be delivered on paper or online using a tool such as Survey Monkey (which the alliance subscribes to and can make available for you to use).

- **Interviews** - these can prove more adaptable than questionnaires as you can steer questions in the direction required. However, they are more time-consuming and you have to be careful to avoid bias in the way the interview questions are asked and adapted.

- **Testing** - data from tests carried out before an intervention is trialled (pre-test) and afterwards (post-test) can be used to quantitatively show whether the intervention has had a noticeable effect. Using this approach requires your research to be designed carefully to ensure that the effect of the intervention is clear against other factors.

- **Currently available data** - you should consider whether there is data already available that could be used in your research. This might include exam or test results.

What does it all mean?

Careful analysis of the evidence you have collected will help you to draw conclusions about what you have found out in answer to the research questions. How you interpret your findings is a vital part of the process and analysis of quantitative data may require the use of statistical techniques at this stage.

Research like this can be really powerful for busy teachers, especially when it also shows how it will have an impact upon the area of investigation. Indeed, this may well be how the effectiveness of your project is judged. You should try to support your conclusions with evidence, refer to research literature if appropriate and, where possible, remain critical of practices and the data you have collected.

You may also be in a position to reflect on where your research could lead to next. Other research questions might be developed as a result or your current research could be expanded, widening the sample by working with colleagues in your school or other schools across the alliance.

Presenting your findings

We aim to make the research we do as accessible to our colleagues as possible; in terms of its relevance and how easily it can be digested and put into practice in their own teaching and within their own school context.

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We are looking to use a variety of ways to present our research findings, including concise reports and posters to summarise the key points. Sharing across the widest possible audience will be made possible using the Redhill Teaching School Alliance website (www.redhilltsa.org.uk) and we will investigate other ways that our work can be shared. We are keen for our researchers to regularly post to the research blog on our website: this keeps people updated on your progress and also helps to provide support and inspiration to others carrying out or considering similar work.
What you can do next

Visit the Redhill Teaching School Alliance website (www.redhilltsa.org.uk) for more details and further information about educational research, including current projects underway across the alliance.

If you are interested in carrying out your own small-scale research then contact Chris West, Assistant Headteacher at The Redhill Academy (details over the page). He co-ordinates research across the alliance and can advise you on the best way to proceed, as well as providing ongoing support and guidance, putting you into contact with other people carrying out similar projects.

Further Reading

This guide is intended to give you an overview of the processes involved in carrying out your own small-scale research project in your school. A range of books and other resources were used (see list below) along with support from Nottingham Trent University.

Further information on these titles is available from the alliance.

Bell, J., Doing Your Research Project (Open Up Study Skills), 2010, Open University Press
Hitchcock, G., Hughes, D., Research and the Teacher: A Qualitative Introduction to School-based Research, 2002, Routledge
Punch, K., Introduction to Social Research: Quantitative and Qualitative Approaches, 2013, Sage Publications

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