

Active Enquiring Minds

Guidance for Adults

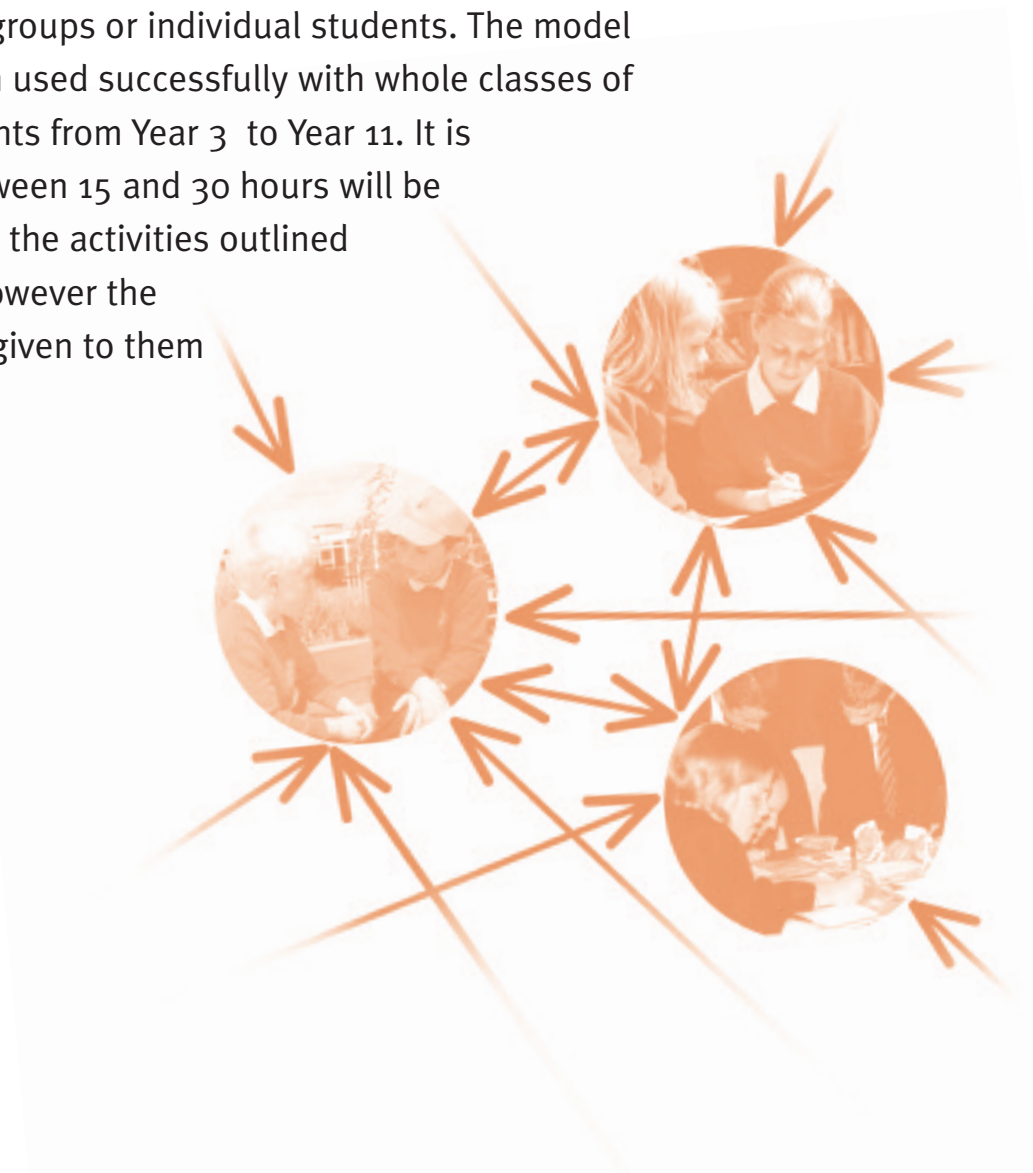
seeking to develop and support
young researchers in schools



How to use this guidance

Evidence shows that supporting young people undertaking their own research can have powerful benefits for the young people themselves, their teachers, schools and communities. However there are significant ethical and practical implications underpinning such work. In the light of this we open this guidance by highlighting some key benefits as well as some key cautions. It is important that you read this section before moving onto the practical sections. If you have any questions about this guidance please do not hesitate to contact FLARE.

This guidance is set out in three parts: benefits and influences; challenges and cautions and getting started: a step-by-step guide to introducing the research process to a whole class, small groups or individual students. The model presented has been used successfully with whole classes of mixed-ability students from Year 3 to Year 11. It is envisaged that between 15 and 30 hours will be needed to carry out the activities outlined in this guidance. However the activities and time given to them can be adapted.



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Benefits and influences

You may have seen presentations by students of their research or you may never have considered young people as effective researchers before. This may be your first engagement with research or you may have extensive experience in this area. Whatever background you come from this guidance is intended to introduce you to the inspiring, fascinating and challenging field of developing and supporting young researchers.

Pupil participation is a popular topic in schools at present and much has been written about the many and varied forms of effectively engaging students in decision-making processes in schools. The UN Convention on the Rights of the Child, Every Child Matters and the current OFSTED framework are key drivers for increasing children and young people's participation in decision making (UN, 1989; DfES, 2004a; Ofsted, 2005). This is needed to ensure that young people's experience of schools and other services are relevant to their needs in an ever-changing world and also to ensure that society benefits from their contributions .

Pupil participation, in practice, means opening up opportunities for decision-making with children and young people as partners engaging in dialogue, conflict resolution, negotiation and compromise – all important life skills. Children and young people's personal development and our democracy will benefit from their learning about sharing power, as well as taking and sharing responsibility.

DfES (2004b: Para. 1.2)

This guidance is not intended as an additional burden to schools, teachers and young people but an encouragement to engage in a process that many adults and young people have found to inspire and motivate them. Involvement in research can provide engaging contexts for exploring young people's perspectives and learning, teaching and school life in general. It can also support students in developing and applying a range of key skills: communication, enquiry, information processing, ICT, thinking skills, application of number and problem solving . Importantly young people's research can also extend into the life of their communities. Evidence from those working with young researchers over a number of years testifies to significant gains for students, teachers and schools, inspiring work and motivation.

Gains for students

- developing a positive sense of self and agency
- developing inquiring minds and learning new skills
- developing social competences and new relationships
- reflecting on their own learning
- a chance to be active and creative

Gains for teachers

- experiencing a different way of working with students
- seeing changes in students
- creating new partnerships with students
- gaining insights that help their own professional development

Gains for schools

- creating a learning culture
- improving teaching and learning
- evaluating the curriculum
- developing a distinct ethos and identity for the school

(Fielding and Bragg, 2003: 15;19; 22)

Harnessing the enquiry and enthusiasm of students can prove very powerful in bringing about changes in their own lives and the lives of their schools and communities. This potential for transformation brings with it a number of responsibilities on the part of those involved. Part 2 considers these areas.

Challenges and cautions

The following headings are drawn from practical experience of developing young researchers and will begin to give you a feel for the work. These areas may seem daunting, and may not make sense until you have begun to work through the guidance. However with careful thought and discussion with interested others they will help to equip you with the insights needed to support young researchers.



Figure 1 Areas to consider when developing young researchers in school (Frost, 2007).

The child's contribution

Unless research is already well established in your school it is unlikely young people will approach you to initiate their own research, although this would be wonderful if they did. In the light of this you will face decisions about which children you will be working with and their capacities. Choosing confident, articulate and capable students can be important for establishing the position of young researchers in schools however this can also be seen as elitist and disempowering by other students so you will need to think very carefully about this. You will also need to consider how many students you want to work with? Will you select them? Will they volunteer? When will you work together? What implications will this have for them and others?

The adult's contribution

To ensure young people have a positive first experience of research it is important to consider the general culture within your school. Is it a place where genuine student participation is valued by senior management and staff in general? Under what conditions might research be well received and where might you encounter difficulties? It is important to discuss with your headteacher your desire to introduce young people to research skills and seek to understand any concerns he or she may have. It is also important that any adults seeking to support young researchers are sensitive and reflective learners themselves with good relationships with students and staff. It is important they have a willingness to develop their own understanding of the research process and are able to anticipate and manage ethical dilemmas that may arise. In Appendix 1 there are some examples of ethical dilemmas that have arisen in the course of developing young researchers. These are engaging to discuss with colleagues in order to reflect on how you might deal with similar situations arising in your work.

The school context

What is your motivation for wanting to introduce young people to research? There can be a fine line between activity that is undertaken to engage young people in the ups and downs of a genuine research process and one which is rushed, fragmented or pursued in order to 'tick the right boxes'. Researchers always need to take into account time, resource and financial constraints so it

is important for you to think through the practicalities and implications for students of when and where you will work and how they will gain access to the resources they may need. It is also important for young researchers to realise they will experience some of the same frustrations as more experienced or adult researchers with regard to wanting to change things. It is better to help young people have a realistic view of what they can change rather than raising expectations too high. For example they may be able to change an area of the school environment through their work or they may be able to provide valuable information that could aid change undertaken by others. Choosing topics will need to be sensitively approached to ensure students remain motivated by having as much power as possible to decide for themselves what they will research, within ethical and practical constraints of course. Although this guidance is set within the context of school improvement it still allows for young people to think of and choose from a range of topics within this theme. However you may want to support young people in pursuing their own themes around their personal interests, themes that arouse their curiosity or act on something they feel strongly about or want to change in the wider world (Kellett, 2005).

The role of adults

One of the biggest challenges for adults developing young researchers is getting an appropriate balance between supporting and ‘controlling’. There may be times when you need to explore with young people why an avenue of research would be unethical or impractical and support them in thinking why this is the case and of an alternative. However it is essential not to remove decision-making from young researchers in order to fit school or staff priorities as this will quickly become demotivating for them and you may miss out on some valuable new perspectives.

Adults can play a range of roles in developing young researchers – from teacher and facilitator of specific skills and processes to research assistant. In this latter role the adult may need to be available to type up transcripts of interviews or assist with literacy needs when writing reports or gaining access to ICT equipment. Again it is important for young people to experience and manage as much of the practical research process as possible and for you to support their planning in such a way as to ensure this process is manageable for them.

Classroom management and resources

It is important to think about how you will work with the young researchers. If you are working with a whole class it may be unmanageable to support every student in an individual project, so you may want to work with groups. The nature and dynamics of the group will influence all areas of their research so it is wise to think about how you will ensure all students have equal access to decision making in the group, especially those with EAL, SEN or challenging behaviour. What would be the advantages and disadvantages of different types of grouping? What are the resource, space, time and staffing implications?

‘Teaching ethics ethically’

This guidance has been structured in such a way that students have the opportunity to engage with a range of data collection methods before planning their own research. This is important so that students can gain first hand experience of undertaking and being on the receiving end of data collection. Opportunities for reflecting on ethical considerations are built in to these activities. During your interactions with students, whether during a session focused on ethics or not, make the most of modelling to young people what it means to act ethically. This is a great way of encouraging appreciation of and respect for others’ views and feelings.

It is especially important for young researchers to understand the need for participants in their research to feel able to trust them. This can be supported by planning research sensitively and safely, providing information to participants about the research, asking for their consent to take part in the project and to know that they can stop participating at any time. You will also want to provide anonymity for participants whether that is at the research design stage (e.g. choosing enough participants so that individuals do not stand out), the data collection or reporting stage. It is worth bearing in mind that if you are planning to use video to collect data it is very hard to ensure that people in the background have given their consent to being filmed and that you can guarantee anonymity for all involved. Equally you will need to think carefully about whether people’s and school’s real names and photos will be used in research reports. This is why thinking ahead is so important when developing young researchers.

In-school research

It is important to think ahead about the potential implications for other staff and students of the young researchers work and not lead them unwittingly into unnecessary conflict or negative experiences. For example observations of teachers by students encounter obvious professional sensitivities that need to be given consideration. It is important not to avoid thinking about these issues but to support the young researchers in thinking through how they can act ethically to work with others. This can apply especially to gaining access to students or staff in order to collect data bearing in mind other's timetable obligations. It is important not to raise students' expectations unrealistically of what their research may be able to change but to help them understand that all researchers face constraints. However it is highly motivating if they can receive support from staff who are also interested in bringing about real change in an area. Again care will need to be taken to ensure the adults' agendas do not overshadow those of the young researcher's.

Out-of-school research

Researching topics outside of the school can be very valuable but will need to be discussed with the headteacher. This is so that the head knows that students will be safe undertaking their research and is confident that you have thought about all the ethical and practical considerations. The headteacher will also want to make sure that the research promotes the school's good reputation and will not upset anyone outside school unnecessarily. Any research that takes place in school or out will need the headteacher's permission and parental permission may be needed in addition to this.

It may also be more expensive and difficult to contact people outside of school as well as the young researchers needing staff supervision. There may be times when students cannot access the people they want to collect data from outside of school and an adult research assistant may help them for example through carrying out phone interviews. There is nothing wrong with this and it can be a good opportunity to discuss with the young researchers how an adult undertaking their data collection may receive different data than if they were doing it themselves.

Safeguarding young researchers/participants

There are obvious safety considerations when young researchers are working outside of the school setting and thought needs to be given to the nature of the responses students may receive to their data collection from people outside of the school setting, for example through postal questionnaires. If treated courteously and the nature of the research is explained clearly to them the majority of people may be happy to participate but you will still need to bear in mind how you will handle undesirable responses that students may receive. You may want to agree with students in advance that you will read all of the responses they get but bear in mind this could increase your workload unless you share it with someone else.

An equally challenging area for young researchers can be reading and understanding adult handwriting, language and concepts in the responses they receive. This is a particular challenge for adults supporting young researchers when collating and analysing data, it is important to ensure the integrity of the adult's response is maintained through discussing the responses with students. However the challenge is to not take over the young person's analysis with your own. This may be something you want to discuss with the young researchers prior to analysis to ensure they ask for help if they do not understand the data they receive and check that it is alright for you to raise questions about their analysis if needed. This questioning and being challenged is an important part of the research experience. If researchers are to increase their knowledge and understanding, or insight into an area it is important to have their methods and outcomes challenged constructively and publicly.

Young researchers and the wider research community

Until work published by young researchers becomes commonplace and easily accessible to them it will remain difficult for them to learn from research that is appropriate to their age and interests. Please encourage your young researchers to apply for a FLARE Certificate of Enquiry. Through doing this we will be able to build up a searchable bank of studies by young people that students and staff can use to inform their thinking around particular issues, methods and approaches pertinent to young researchers. It will also enable us to consider how best to provide support for and encourage leadership by young people within this vital and emerging sector of the research community. Links to useful websites with examples of research by children and young people on can be found at the end of this guidance.

Part Two

Getting started – working through this booklet

The model of research provided in this guide allows for between 15 and 30 hours of planned research including the preparation. It is aimed at a class of 30 mixed-ability students but can be adapted for small numbers and groups. The student booklets are aimed at students working independently with reading skills at national curriculum Level 3+. Students below this level can still benefit from the activities but will need help with reading. They will benefit more from the whole class approaches described in this teacher's guide.

Before you start:

Have you...	Considerations
...discussed developing young researchers with your headteacher and secured his or her permission?	
...considered which students you want to work with and why?	
...considered how you will select the students you will be working with?	
...considered how many students you will work with and how you will group them?	
...considered how much time you have available for this work?	
...considered when you will do this work?	
...considered where you will do this work?	
...considered how you will discuss and negotiate with the young people, the nature of your role and how you will provide support?	
...read the rest of this booklet and planned your time well in order to provide the students, your self and your school with a positive experience of research?	

Before giving out the pupil research booklets a good activity to undertake with pupils is described below. This activity, repeated after the research work has been carried out, will allow you to gauge gains in pupils' knowledge and understanding of research.

Step 1 Perceptions of research

Aim: To explore students' perceptions of research

This can be repeated at the end of the project to assess how much the students' understanding has developed.

Time: 15 mins

Resources: Flip chart sheets and post-it pads for each group. CD – Slide 1, laptop + projector

Preparation: Write the headings 'We think research is...' And 'Our experience of research is...' on each sheet. Place post-it note pads on tables for each group.

Activity: Explain that you will be introducing the students to the research process and supporting them as they undertake their own research projects over the coming weeks. However you do not know what they already know about research and want to find out. Ask each child to take a post-it note, write their name on it, and write down on separate post-its their responses to the following:

- 'We think research is...'
- What research have you been involved in, if any?

They can complete as many post-its as necessary to capture all their responses and place them on the sheets under the headings. Discuss each groups' answers briefly as a class.



To introduce the idea of young peoples' research having a valuable contribution to play to others' understanding, it is suggested you read one of the extracts in Step 2 to your young researchers, (page 16 or 17).

Give out the student booklets and tell pupils there are other examples of research issues on page 3. The points on page 4 can reinforce ideas you came up with on the post-its in the previous activity.

Step 2 Being an expert researcher

Aim: To introduce students to the work and responsibilities of young researchers.

This activity provides the basis for thinking about what research is and what young researchers do.

Time: 15 mins

Resources: One outline of young people's research below, depending on the students you are working with, and the key points to go with the outline.

CD – Slide 2, laptop + projector or colour images on card and student booklets.

Preparation: It is highly recommended you read the full versions of the papers you will be introducing. They are brief, fascinating and of high quality. Downloadable versions are available from The Children's Research Centre at the Open University

<http://childrens-research-centre.open.ac.uk/research.html>

You may want to consider speaking to the students about the primary or secondary aged researchers' work rather than reading the outlines or full papers to them. The better you know the papers the more confident you will be and the more value it will lend to the young researchers' work. It is important to tell students that researchers aim to find out 'the truth' about what they investigate but that can be hard, if not impossible as people's experiences and perspectives vary so much. This is why it is important for researchers to publish their work so that others can question what they've found out and more learning can happen as a result.

Also discuss with the students the problems they are likely to experience if they try and look for published reports of projects on the Internet in the areas they are interested in by researchers their age. Although there is an increasing amount of research being done by young people much of it is not published beyond the classroom or school. This means they should not get discouraged if they cannot find any and all the more reason for them to make sure they get their own work published through their school and FLARE websites.

Activity: Share an appropriate account with the students you are working with.

When you have shared the account/s with the students explain that you are going to introduce them to three important responsibilities of being a researcher and think about what makes Carlini and Barry (p 16) or O'Brien (p 17) good researchers.

Show Slide 2 or introduce student booklets, p5.

Introduce the three terms 'ethical', 'sceptical', 'systematic' with the accompanying images to help students remember the terms. Now discuss the following points with the students:

- Can you think of any times when the young researchers were ethical, sceptical, systematic?
- If adults had carried out this research instead of children what differences, if any, do you think there might have been in the research?

Key general points you could draw attention to:

General

- Adults may not have noticed what was happening to the young people in the same way or at all or not seen it as interesting or important.
- The children may have felt more or less comfortable talking to adults during interviews and may have told them different things in turn affecting the outcomes.
- If participating children's views were not kept anonymous they might have been scared to talk in case people laughed at their comments.
- They planned their research thoughtfully and according to the time and resources available.

There are also other points specific to each project at the bottom of each article that could be raised.

Pupils can now look at page 5 in their student booklet and see the same representation of the three key terms for researchers that you have just been discussing with them. From page 6 in the student's guide it is written to allow individual pupils to conduct research by themselves needing little direct support, although you will need to consider the needs of your pupils to know the level of support they will need. However should you wish pupils to work in pairs or groups the following activities can be organised instead.

Where pupil co-operation is strong a pair or group could share one central booklet. Where these skills are weaker or you think the students will benefit more from discussing and working as a class the following structure helps build co-operation.

Primary Example

Primary aged research outline

'Hey I'm nine not six!' A small scale investigation of looking younger than your age at school

Anna Carlini and Emma Barry (In Kellett, 2005)

Introduction

Anna and Emma were in Year 5 and their two friends, Kaz and Rose, were the same age as them but looked as though they were six years old. Anna and Emma noticed their friends were treated differently by other children in the playground. They thought it would be an interesting subject to investigate and asked Kaz and Rose (whose names have been changed in the report) if they could observe them in the playground for a week and then interview them. Kaz and Rose agreed.

Methodology

Anna and Emma observed Kaz and Rose during break and lunch times and spoke their notes into a dictaphone. Then they interviewed them using a tape recorder.

Findings

From their observations they found out the girls were treated like cuddly dolls, tried hard to get attention and made actions linked to their small size. From their interviews they found out there were good and bad things about looking younger than your age. For example Kaz was given lollies at the chip shop while people thought Rose was younger than her six year old sister.

Conclusion

Anna and Emma found out their friends liked the good but not the bad things about looking younger than their age. If they did their research again they would ask some different questions to get better data. They also thought that adults would have got different answers if they had done this research.

Specific points to raise about Carlini and Barry's research

Ethical

- They asked K and R's permission to research them.
- They changed Kaz and Rose's names in the report to keep their responses anonymous.

Sceptical

- They did not trust the information from their observations alone to get a 'true' picture of what was happening so they used interviews to explore data.
- They considered the process and felt they would make changes if they did the research again.

Systematic

- They identified themes from their observation data and used these to plan their interviews.

Secondary Example

Secondary aged research outline

'How does death affect children?'

Paul O'Brien (In Kellett, 2005)

Introduction

Paul was interested in how children are affected by death and how it might change their behaviour. He was interested in the subject because he wanted to see if it played a part in the behaviour of some children he knew. He also wanted to find out if children were affected differently depending on whether it was a pet or a close or distant relative that had died and what they thought death was. He found and used a study by an American adult researcher to help him think about what young people his age might think about death.

Methodology

Paul knew that talking about death may be upsetting for people so he sent out a short questionnaire to 160 students in Years 9 - 12 asking them if they had experienced a pet or relative dying and if they would mind talking to him about it. It took him three weeks to count and sort all of their replies. In the end he decided to interview eight friends in Year 7 as he thought they would feel more comfortable talking to him. He did the interviews in the ICT suite as it was private and asked his friends to speak into a dictaphone or write down their answers.

Discussion and conclusion

Paul was surprised to find that 99% of the people he surveyed had experienced a pet or relative dying before the age of 12. He found amongst other things that people grieved for different lengths of time depending on the type of person they were, not how close they were to the pet or relative. Paul would like to do more research into whether experiencing death makes people bully other children to express their hurt.

Specific points to raise about O'Brien's research

Ethical

- He realised people might find it upsetting to talk about death so he tried to make people feel more comfortable by researching friends, a private space to talk and the option of writing answers.
- He asked people's permission to research them.

Sceptical

- He realised he needed to learn from other researchers to help him where appropriate.
- He questioned his own assumptions about what he'd find out.
- He reflected on the investigation and identified a further issue arising from the research.

Systematic

- He gained a broader picture of young people's perceptions before choosing a smaller group to explore the subject in more depth.

Step 3 What is research?

Aim: To allow students to reflect on their initial ideas about the purposes of research and the role of data.

Time: 10 mins

Resources: CD – Slide 3, laptop + projector or colour images on card and student booklets

Preparation: None

Activity: Now you've introduced the students to examples of other young people's research you could ask them to think again about what research is about and/or put Slide 3 on the CD just to remind them. It can help us:

- Know more about things
- Question things
- Change things
- Solve problems
- Find things out by collecting data

Data are information made up of numbers, words or pictures. When you think carefully about your data and identify patterns or themes in what they say you can use them to make decisions about your research. For example:

- Anna and Emma thought about what observations told them about K and R's experience and grouped these experiences under three headings. Their themes helped them plan the questions for their interviews.
- Paul found out that 99% of the young people he surveyed had experienced the death of a pet or relative before the age of 12. This made him think how important it was to understand how death affected young people.

Step 4 Deciding what to find out or change

Aim: To support students in deciding a research focus

Time: 30 mins

Resources: Flip chart sheets, post-it pads for each group and 6 strips of 3 sticky dots for each student (in six different colours as each student will need their own coloured dots). CD – Slides 4 - 8, laptop + projector.

Preparation: As introduced at the beginning of this guidance there are a number of areas students could research. The following three examples will help students to stimulate students thinking and get started. They can be used for exploring the following areas:

- Example 1 for a general school improvement focus,
- Example 2 for a general interests (inside and out of school) focus
- Example 3 is for a subject area focus.

You can of course devise your own headings to get students thinking broadly about a range of possible areas to research.

Example 1

If we could wave a magic wand...

We would make our school better by...

We would make the pupils feel happier and safer by...

We would help pupils to learn better by...

We would change our school environment to help pupils feel happier and achieve more by...

(Adapted from Kellett, 2005)

Example 2

Think Sheet – Getting started

What are our hobbies and interests?

What do we feel strongly about?

What are we curious about?

What would we like to change if we could?

(Adapted from Kellett, 2005)

Example 3

Choosing a research focus in your subject area – Getting started

What works well?

What are we interested in?

What do we feel strongly about?

What are we curious about?

What would we like to improve if we could?

(Adapted from Kellett, 2005)

Decide on one of the above examples and write the headings on the flip chart sheets. Prepare one sheet for each group, leaving enough space under each heading for students to eventually place a line of post-its as in the example below. The yellow square is a post-it note.

Sheet 1

If we could wave a magic wand...

We would make our school better by...



**Having
more to
do at
playtime**

We would make the pupils feel happier and safer by...

We would help pupils to learn better by...

We would change our school environment to help pupils feel happier and achieve more by...

Place post-it note pads and strips of sticky dots on tables for each group.

Preparation Next you will need to prepare the voting sheet (Sheet 2) Draw out one voting sheet as below on the flip chart sheets. Prepare one sheet for each group, leaving enough space in each row for students to eventually place a post-it. e.g.

Sheet 2

Voting

Areas we could research in school



Vote for your top 3 choices

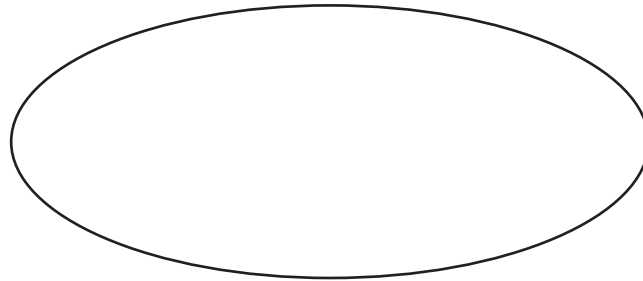


**Having
more
lessons
outside**

For the end of this activity you'll need to produce 'focus refining' sheets for each group (use explained shortly). One for each group of Sheet 3 and Sheet 4.

Sheet 3

Things we want to find out about...



(Adapted from Kellett, 2005)

Sheet 4

Our research focus is:

What most interests you about this topic?

What exactly are you trying to find out?

Where and how could you find this out?

Are there any age issues?

Are there any gender issues?

What are the time frames I need to work to?

Activity: Explain that you will be helping the students to think about what they want to find out or change. Read out the headings on Sheet 1 and make sure everyone understands what they mean. Ask each student to write their response/s to each statement on post-its and stick them under the headings. They can stick more than one post-it on each.

Sheet 1

If we could wave a magic wand...

We would make our school better by...

We would make the pupils feel happier and safer by...

We would help pupils to learn better by...

We would change our school environment to help pupils feel happier and achieve more by...

Having more to do at playtime

Activity

When the students have done this ask them to look at what each other has written and if they don't understand any post-its ask the group member who wrote it to explain what it means to them.

Next ask each student to select one post-it from Sheet 1 that they are most interested in researching and place it on the voting sheet (Sheet 2). When every group member has done this make sure they understand what every post-it means so they know what they are voting for and tell them they have 3 sticky dots each to vote for the 3 post-its they would most like to research. e.g.

Sheet 2

Voting

Areas we could research in school	Vote for your top 3 choices
<input type="checkbox"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<input type="checkbox"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
<input type="checkbox"/>	<input type="radio"/> <input type="radio"/>
<input type="checkbox"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
<input type="checkbox"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
<input type="checkbox"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>

Having more lessons outside

Each child places their own 3 coloured dots on their top 3 choices

If there is a draw then vote again to determine which one will be the research topic.

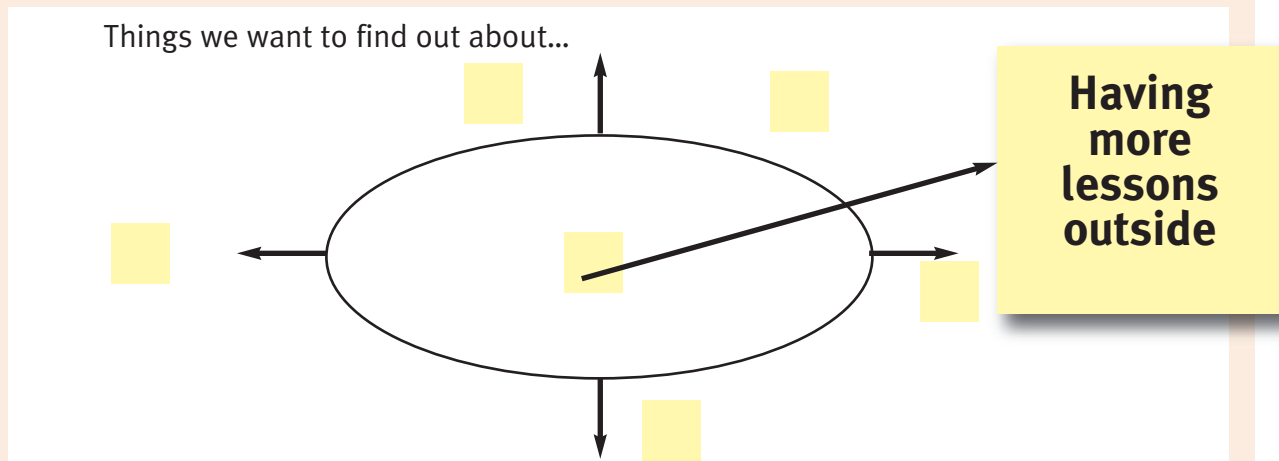
Expanding and refining the research focus

Now that the students have decided on their research focus, if you think you do not have much time or feel your students need help in thinking more widely about their topic, then you can do the following activity (particularly useful when working with younger children).

Activity

Place the most popular post-it from the voting sheet (Sheet 2) in the middle of Sheet 3. Ask the group to now write down further questions on post-its about what they would like to find out about this area and place them around the question. When students have completed this, save these sheets as you can return to them later to help you devise questions for questionnaires or interviews should you choose these methods.

Sheet 3



The following alternative or additional activity links to page 9 in the young researcher's booklet. Ask students to place the most popular post-it at the top of the sheet and then complete other post-its in response to the other headings. Most students will need some help thinking and discussing possibilities around these areas.

Activity

Our research focus is



Having more lessons outside

What most interests you about this topic?



What exactly are you trying to find out?



Where and how could you find this out?



Are there any age issues?



Are there any gender issues?



What are the time frames we need to work to?



(Adapted from Kellett, 2005)

Step 5 Data collection methods

The data collection methods carousel

All pupils whether working individually or in groups will need to gain experience of the following five research methods as this will help to inform their own research. However if time does not allow you can focus on a reduced or combined number of methods instead. For example in Carlini and Barry's research they used both observation and interview and in O'Brien's he used questionnaires and interviews.

The data collection carousel is a key activity to the success of this research introduction and the part where you as the teacher need to prepare in advance the necessary amount of materials for all pupils to have a copy. There are five types of data collection; scale-rated questionnaires, written questionnaires, interviews, systematic and naturalistic observation and using pictures. The activity involves each group of six students (based on a class of 30) spending 10 – 20 minutes, over one or two sessions, on each table activity. You can vary the length of time and number of sessions according to the needs of the students. You will need a table for each type of activity as well as clipboards for the observation activities and a folder for each student to keep completed examples of their work. For pupils working independently using the young researcher's booklet, their attention should be drawn to the data collection methods in the student research support pack.

A general ethical point

It is worth thinking about the status of the data the students will produce in this session before you start. What can often happen in a school setting is that we say how important it is for participants' responses to remain anonymous and then spend time during this session looking over students' shoulders reading what they've written, as we might do in a normal lesson. The point of this session is for the students to try out the different methods not for you to collect data from them. Make it clear to them at the beginning of the session that if they want to answer the questions honestly during the carousel and really do not want anyone to know what they write, it is wise for them not to put their name on the sheets at all or just put a pretend name that only they

know. Another danger worth discussing is that sometimes other students or teachers may be interested in what they are doing and come over and read their responses, not realising it is private data. Just knowing this will help students to think about the kind of response they want to make to the questions. It will also help them think about how participants in their research may feel about answering their questions depending on where they are and who they are with.

Aim: To introduce students to a range of ways to collect data and evaluate these methods for their strengths, weaknesses and ethical challenges

Time: 10 minutes introduction and 5 x 10 - 20 minutes spread over 1 or 2 sessions with 10 minutes evaluation at the end of the session

Resources: This session works very well but does need a fair amount of photocopiable resources. You will need access to different coloured papers. A folder for each pupil will help them manage their collection of evidence as they move around the activity tables. CD – Slide 9, Slide 10, laptop + projector

Preparation: This session needs a fair amount of advance preparation. This is presented in specific detail below.

Resources to prepare and photocopy in advance for the carousel

There are 7 different styles of scale-rated questionnaires and 5 different styles of written questionnaires all adapted from 'Consulting Pupils' by MacBeath et al. (2003). Examples of these can be found in pages 5 – 11 of the 'Research Support Pack'. The work sheets are A5 in size. You will need one copy of each questionnaire per student. It is a good idea to photocopy each kind of questionnaire on its own colour paper so that pupils can see which ones they have completed. Copies of the interview and observation schedules and the picture resource are also in the pack.

Photograph of suggested carousel layout with resources. See individual resource lists and photos of layout for each table below. Information about each of the data collection methods below can be found in the accompanying research support pack.

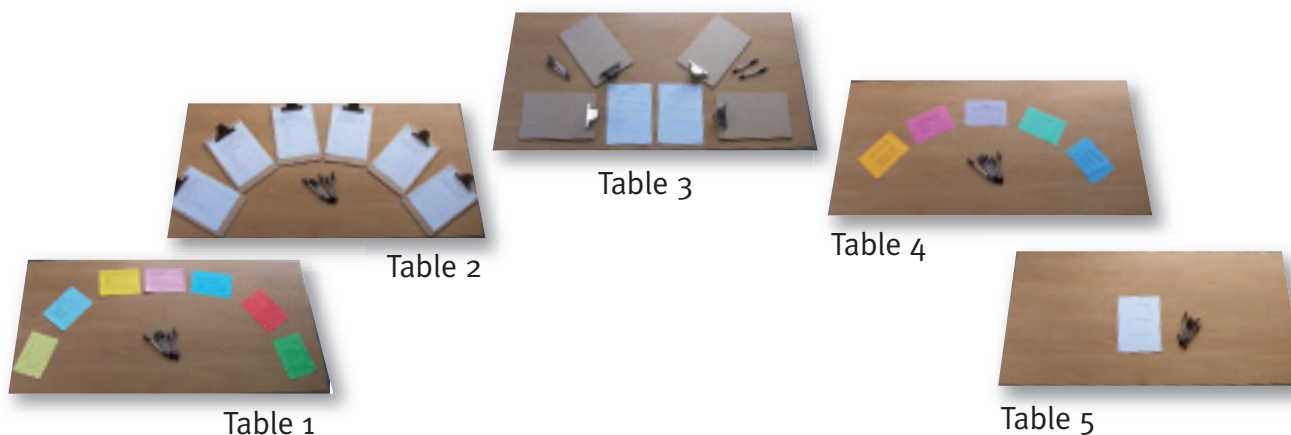


Table 1 Scale-rated questionnaires

Table 2 Naturalistic and systematic observations

Table 3 Interviews

Table 4 Written questionnaires

Table 5 Pictures

You will need chairs, folders for students' individual papers and pens/pencils at each table

Photograph of Table 1 resources



Examples 1 – 7 on pages 5 – 9 of the 'Research Support Pack'

List of Table 1 resources

30 A5 copies of the following questionnaires

- Smiley faces to circle or colour in'
- Words to circle
- Numbers to circle
- Boxes to tick
- The spot check
- The two dimension questionnaire
- The double checklist

Photograph of Table 2 resources



Examples 1 and 2 on pages 27 – 28 of the 'Research Support Pack'

List of Table 2 resources

- 30 A4 copies of the naturalistic observation schedule
- 30 A4 copies of the systematic observation schedules
- 6 clipboards

Photograph of Table 3 resources



Examples 1 and 2 on pages 19 – 20 of the 'Research Support Pack'

List of Table 3 resources

- 30 A4 copies of the open questions interview schedule
- 30 A4 copies of the closed questions interview schedule
- 4 clipboards

Photograph of Table 4 resources



Examples 8 - 12 on pages 10 – 12 of the 'Research Support Pack'

List of Table 4 resources

- 30 A5 copies of the following questionnaires
- The questionnaire with some open questions
 - The 'How did I do?' log
 - The force field
 - Sentence completion (personal views)
 - Sentence completion (feelings)

Photograph of Table 5 resources



List of Table 5 resources

30 A4 copies of the picture sheet

Activity: Ask the five groups of 6 students to sit at any table with resources. Explain briefly that they will be spending a period of time (between 10 and 20 minutes depending on how long you think the students will need) on each table activity before you ask them to move on to the next activity. They will have a chance to try every activity which will give them a chance to think about how they might like to collect their own data and what strengths and weaknesses there are with different methods. Explain that it is also a time for them to experience what the methods feel like ethically so that they can understand how people might feel about being asked to provide data using a particular method.

Go through simple instructions for each activity:

Table 1 Students should fill in as many questionnaires as they can in the time available.

Table 2 3 students will need a clipboard with a naturalistic observation sheet and 3 students will need a clipboard with a systematic observation sheet, (see pages 26 to 31 of the research support pack). These 6 students then have 5 minutes (if they have 10 minutes on the activity) to try these different types of observation before you ask them to swap and try the other observation schedule. The most important thing is that they must ask someone who is not in their group if they can observe them. If that person says 'no' they must accept this and ask someone else.

Table 3 The group needs to split into two groups of 3 students. One student will need to be willing to be interviewed while the other two students in the group will need clipboards with interview schedules with open questions. One will be the interviewer and the other will scribe the interviewee's answers. These 6 students then have 5 minutes (if they have 10 minutes on the activity) to try the interviews with open questions. Then ask them to swap and try the interview with closed questions.

Table 4 Students should fill in as many questionnaires as they can in the time available.

Table 5 Students should draw pictures and annotate them to illustrate their answers to the statements on the picture sheet.

Activity

The groups can now begin the carousel with you just reminding the observation and interview groups when to swap over within the group. After the allotted time ask each group to move clockwise on to the next table, taking the sheets they have just completed with them in their own folders. These will be a useful resource for when they are planning their own data collection methods later.

Evaluating the activities

Ask students to think about when they were trying out the different methods and what they found

- Easy?
- Hard?
- Helpful?
- Unhelpful?
- Embarrassing?

Put up Slide 9 with the evaluation table and ask students for their opinions about the strengths and weaknesses of using the methods with particular age groups or how they behaved when they were being observed etc. There are some points on the table below that are helpful for raising with students if they do not come up with the points themselves. There are likely to be lots of other points raised too.

	Ethical issues	Strengths	Weaknesses
Scale-rated questionnaires	<ul style="list-style-type: none"> • Make sure the questionnaire you give to someone can be read and understood by them 	<ul style="list-style-type: none"> • Some are easier to complete than others • Quick to complete 	<ul style="list-style-type: none"> • Some need more explaining than others
Observations	<ul style="list-style-type: none"> • People can get too close when they observe others 	<ul style="list-style-type: none"> • Naturalistic observation helps you record more behaviour 	<ul style="list-style-type: none"> • People can change their behaviour when they know you are observing them which makes your data less reliable
Interviews	<ul style="list-style-type: none"> • People can put others under pressure when they are asking them questions which they should not 	<ul style="list-style-type: none"> • Open questions can give you more data • Closed questions can make sure you do not get too much data 	<ul style="list-style-type: none"> • Open questions can give you too much data • Closed questions might limit the data you get
Open-ended questionnaires	<ul style="list-style-type: none"> • Make sure the questionnaire you give to someone can be read by them and they can write the answer 	<ul style="list-style-type: none"> • By using open ended questions you can get more data 	<ul style="list-style-type: none"> • People might not like doing so much writing
Pictures	<ul style="list-style-type: none"> • If you were to use photos instead of drawing it might be even easier for people but you must make sure that only people who want to be in the photo are in it. 	<ul style="list-style-type: none"> • This method could be suitable for younger children 	<ul style="list-style-type: none"> • You might not be able to understand someone's drawing or writing

Step 6 Analysing data

Following the data collection carousel activity there are different ways you can proceed with the research process depending on the age and motivation of your students. To maintain a higher level of interest and pace you may want to move straight on to allowing students to design their own research projects, dealing with the analysis as you come to it, (see Step 7). However it is very valuable to spend some time now looking at how to analyse data. This will help students to design their data collection methods in ways that ensure the analysis is manageable and appropriate for the question being asked. For example, this could help them avoid preparing a questionnaire which is too open ended or has too many questions and provides too much data for them to analyse in the time available.

Whichever way you choose to proceed the following activity can help students begin to gain an understanding of data analysis. The activity will introduce them to looking for key words or key ideas in their data. They will give these words and ideas simple code words to reduce the amount of data they have and help them see the main themes running through their responses. They will count responses and think about what the results tell them. They will also be introduced to ‘memoing’ which means writing short notes, or memos, about any thoughts they have about the data while analysing it.

Although the resources for this activity are typewritten it is important to remember that in future students may experience difficulties reading other people’s handwriting or understanding the language or concepts others are using when analysing data. You may want to mention this to students so they can anticipate possible challenges ahead rather than feel discouraged by them. These challenges can be overcome by discussion with students and allowing them to use codes that have meaning for them as well as capture the meaning of the data. For example, students may want to find out what teachers think makes a good lesson. A teacher may use the word ‘differentiation’ whereas a student may want to code this as ‘making the work suitable for different students’.

Aim: To introduce students to using codes, memoing and counting to analyse data

Time: 15 – 20 minutes

**Resources
and**

preparation: 15 A4 copies of the ‘Smoking questionnaire’ sheet
(see page 41 in the ‘Research Support Pack’)

15 A4 copies of the ‘Summary sheet for smoking questionnaires’ (see page 42 in the ‘Research Support Pack’)

Post-it notes

CD – Slides 11 and 12, laptop + projector

Smoking questionnaire sheet

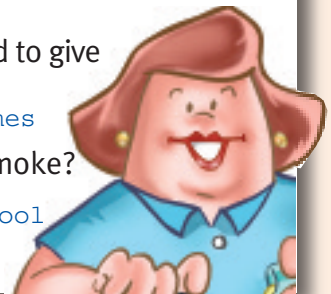
Person A

- 1 Why did you start smoking?
Because my friends were doing it and I wanted to look cool
- 2 Why do you smoke?
Because I can't stop
- 3 Do you want to smoke?
No
- 4 What is a good thing about smoking?
I get fresh air when I go outside to smoke
- 5 Have you ever tried to give up smoking?
Millions of times!
- 6 Why do people smoke?
Because they get addicted and can't stop



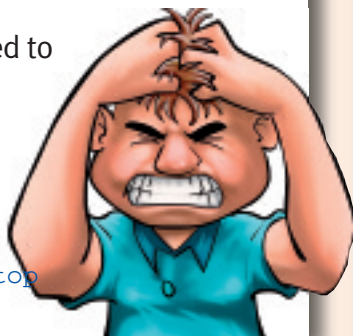
Person B

- 1 Why did you start smoking?
Coz I wanted to look like a film star
- 2 Why do you smoke?
Don?t know
- 3 Do you want to smoke?
Yes
- 4 What is a good thing about smoking?
Makes me look older
- 5 Have you ever tried to give up smoking?
A couple of times
- 6 Why do people smoke?
Coz it looks cool



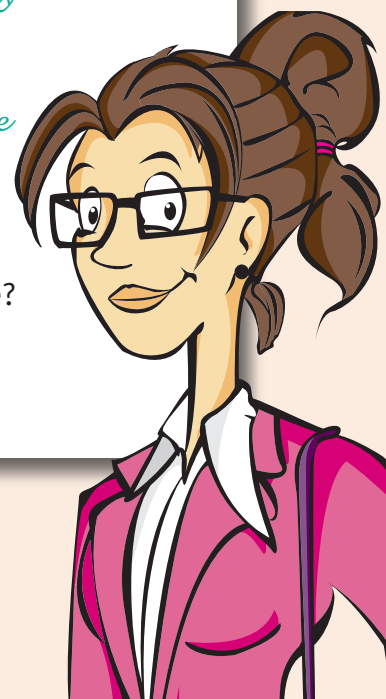
Person C

- 1 Why did you start smoking?
My friends all smoke
- 2 Why do you smoke?
Can?t give up
- 3 Do you want to smoke?
No
- 4 What is a good thing about smoking?
Nothing
- 5 Have you ever tried to give up smoking?
Yeah loads!
- 6 Why do people smoke?
Coz they can?t stop



Person D

- 1 Why did you start smoking?
My mum made me
- 2 Why do you smoke?
?
- 3 Do you want to smoke?
Not really
- 4 What is a good thing about smoking?
Flies leave me alone
- 5 Have you ever tried to give up smoking?
A few times
- 6 Why do people smoke?
?



Summary sheet for smoking questionnaires

Question	A	B	C	D	Themes/Totals
1. Why did you start smoking?	Friends Look cool	Film star	Friends	Mum	Want to look cool Peer pressure Family pressure
2. Why do you smoke?	Can't stop	Don't know	Can't stop	Don't know	Can't stop Don't know
3. Do you want to smoke?	Y N	Y N	Y N	Y N	Yes = 1 No = 3
4. What is a good thing about smoking?	Fresh air	Look older	Nothing	Keep flies away	Fresh air Look older Nothing Keep flies away
5. Have you ever tried to give up smoking?	Y N	Y N	Y N	Y N	Yes = 4 No = 0
6. Why do people smoke?	Addicted	Looks cool	Can't stop	Don't know	Addicted Looks cool Don't know

Activity: The students will need to work in pairs for this activity. Give each pair a 'Smoking questionnaire sheet', a 'Summary sheet for smoking questionnaires' sheet and a few post-it notes. You can explain that the questions on the questionnaire were devised by a group of Year 3 students who were interested in finding out about why people smoke. Also explain that the post-it notes are for making notes of any thoughts or questions that spring to mind about the data while they are analysing it. For example 'What is addiction?'

Key words /codes

Ask the students to read the first question and choose some key words that would describe why Person A started smoking. Two possible key words have been written on the summary sheet already. Depending on the students you are working with you may want to explain that they can call these key words 'codes' as they

are code words that represent key ideas in the data. However you may prefer to keep things simple by just using the term key words. Now ask them to read the second question and it's response and think of a code for this. An example code has already been given on the summary sheet. Students may want to use a different code which is fine and a good point for discussion. Question 3 requires students to put a ring around the 'Y' or 'N'. They can now have a go at completing the rest of the summary sheet for Person A and see if and why their answers differ from those on the summary sheet. After this they can have a go at completing the whole sheet together.

Key words /codes

When the summary sheet has been completed ask the students to see if they can put any of the codes into groups, or themes. This has been done for you on the example above although the students may have generated different codes or themes. These differences can again provide stimulating starting points for discussion about why different people have chosen different codes and themes. It is a good point to highlight that all analyses will have some element of bias in them which researchers need to be aware of. This activity usually generates some laughter or heated discussion about whether Person D is telling the truth. This is another good opportunity for discussing ethics and how important it is to keep questioning (what is found out) but also to treat people's responses with respect even if they appear unusual or outside of our experience. Sometimes the more unusual responses may give a greater insight into a topic.

Finally ask the students if they would like to share and discuss with the class any memos they have written. You could also draw attention to the reduction of data from the amount of words on the questionnaires to the small number of themes they have now. Coding and analysis should always reduce data!

Step 7 Designing an ethical research project

Aim: To support students in designing an ethical research project

Time: 15 – 20 minutes

Resources: Start by showing the research design slide, Slide 13, laptop + projector up on the board, you will also need a blank copy of this sheet for each group.

Preparation: 1 research design sheet for each group drawn on flip chart paper.

Activity: The students will need to work in their groups for this activity and their attention needs to be drawn back to the research focus or question they decided on in Step 4.

Start by showing the research design slide on the board and discuss the following. Explain that each group will be discussing and filling in their sheet. Any good ideas and difficulties can then be discussed as a class.

Research question

This still needs to be general at this stage as designing the tools for collecting data will help students to think more about specific questions they need to ask.

Who will you ask?

Sometimes researchers do not have the time or resources to collect data from everyone they want to so they choose a smaller sample group of people who are similar to the larger group they want to ask. For example, instead of sending a questionnaire to every student in their school they might want to send it to 2 boys and 2 girls in each year group. Sending out 10 questionnaires may not sound as though it will generate much data but it will still provide useful information which is manageable to analyse. Bear in mind though that it is not usual to get all of the questionnaires sent out returned so allowances will need to be made when planning.

Students will need to make sure though that the group is large enough to provide anonymity for people. For example, if students were surveying views about the PE department and there was only one teacher it would not be ethical to report the student views on mass but the teacher's views individually. It may be appropriate to do this if the teacher gives their consent to being identified. However this may mean they do not give such full responses to questions if they know their views can be linked to them.

Which method?

The method or methods students choose needs to take into account, how much access they have to the people they want to collect data from and, the resources and time they have available.

Where and when?

The research support packs provide practical and ethical considerations for the methods introduced in this guidance. Students will need to plan practical arrangements.

How will you analyse it?

It is important to think about how the chosen data collection method will be analysed in advance of carrying out the research. This is to make sure that students do not suddenly end up with an overwhelming amount of data they cannot then reduce or make sense of.

Group	Research question	Who?	Which method?	Where?When?	How will you analyse it?
Group 1	What can we do to improve lunch times?	2 boys and 2 girls from each year group	Questionnaire	By asking people to fill in questionnaires during registration	Design an analysis sheet that matches the questionnaire

Step 8 Preparing to collect and analyse data

When the students have completed their research design sheet you will need to guide them as they design and arrange the resources for collecting their data and think about how they will analyse this.

It is likely that between them the groups will have decided to use a range of data collection methods. Information about how to develop each of the methods the students experienced in the data collection carousel is contained in the 'Research Support Pack'. You may want to direct groups to the section of the pack that deals with the method they want to use rather than approach this as a whole class. However it would be helpful for groups to share the work involved as they prepare. The pack also contains guidance on how to analyse and present data. You will also need to decide whether students will have the opportunity and time to pilot their methods or not.

To pilot or not to pilot?

Deciding on questions for questionnaires and interviews or foci for observations or photographs can be difficult. It can be very useful to trial, or pilot, the data collection method students have designed before using them to collect data from a large number of people. This will show students if people are comfortable taking part in their research, whether they are getting meaningful responses to their questions/activity, whether their IT equipment is suitable and they are able to analyse their data. It is important though to keep any piloting that takes place simple as it might slow down the pace of the work.

It's a good idea to choose two or three people similar to the group they have chosen to collect data from. Ask them if they will try out the chosen research method. As a double check they could also ask the pilot group the following questions:

- Did you understand what you had to do?
- Was there anything you felt uncomfortable about?
- Do you have any comments that would help make our research method better?

If they find there are problems they can put them right before doing their research for real.

Step 9 **Carrying out research**


In the 'Research Support Pack' there are checklists for students to follow to make sure they have all the resources and help they need for using each data collection method. It will be important for you to be sure that students have planned what they have to do and when and who will do the different tasks within the research. For example while some are carrying out the research others may want to be preparing the outline of their research report or presentation.

You will also need to arrange to meet the groups on a regular basis to ensure they are on track to complete their research on time and discuss any ethical or practical matters. It is also important for you to arrange somewhere for students to store their data securely.

While students are beginning to learn how to research it is important for you to ensure that other staff in the school know about the students' work. This can make it easier for students when they want to gain permission from their own or other teachers to carry out work for their projects. It is also important that student researchers think carefully about and gain this permission otherwise unnecessary friction can be caused by unexpected interruptions to lessons or the students' research. Tension caused by poor communication between all parties can potentially sour what would otherwise be a very positive learning experience. Keeping research going in school is one of the hardest parts for students and the adults who support them because of all the competing demands on everyone's time and resources. However with careful planning it is possible.

Step 10 **Evaluating and sharing research**

When students have completed their research it is important to think about what they found out, what the implications are and how they would improve their research. This can form the basis of a very brief research report or they could write a longer report or dictate the content of their report to someone else to write for them. This last option can sometimes be helpful as students are often tiring by the time they reach the end of their research, or may find writing hard. It



can be a shame for students to do high quality and interesting research but not have the energy to represent this well to others. However it is important that anyone helping the students produce their final report ensures it is the students' words that are used not those of the adult scribe.

Writing a full research report

The following outline can help provide a structure for a final report of the students' research.

Introduction

- What you wanted to find out
- Why you were interested in this
- Include anything other people have already found out about your subject
- Include your research question

Methodology

- Who you did your research with
- How you decided on your sample
- Describe how you collected the data to answer your research questions in detail
- The time scales of your study
- What you did to make sure your research was ethical

Findings

- Include graphs, tables and descriptive findings

Discussion

- Write about what you found out from your results, your interpretation of your findings and any implications of this?

Conclusion

- Write about the conclusions you can draw and what other research might be possible from the first steps you have made.

References

- Include a list of references for any work you have used.

Appendices

- These sometimes contain tables of 'raw data'; blank questionnaires; interview transcripts.

(Kellett, 2005)

Sharing the students' research

Three common ways researchers share their findings are through publishing a report in a book or journal, presenting their work on an on-line research site, or presenting their work at a conference. Students could choose one or more of the following ways to share their research.

- Produce a display
- Make a verbal presentation to:
 - o Their class
 - o The school council
 - o An assembly
 - o The Headteacher
 - o The Governing Body
 - o A group of parents
 - o Other schools
 - o Other researchers
- Create a powerpoint presentation
- Write a report
- Publish the outcomes of their research on the school web site
- Publish the outcomes of their research on the FLARE web site run by Essex Local Authority. As part of its commitment to promoting the work of young researchers Essex Local Authority will ensure that students' research is published on the Essex FLARE website (www.essexflare.org)

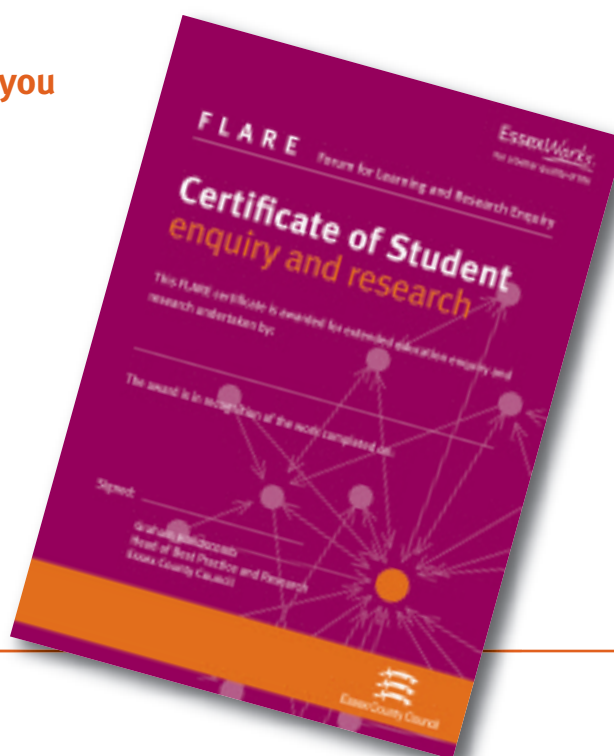
Applying for a FLARE Certificate of Enquiry and Research

In addition to sharing their research with others in school students may want to apply for a FLARE Certificate of Enquiry and Research. They will need your support in order to do this. In the back of the student research guides there is a tear-off page that needs to be completed with brief details about the student and their research. You will need to sign this to say you support the student receiving the certificate and that they have shared their research in school in some way. If the student would like to share their research on the FLARE website they need to indicate this and have the form signed by their headteacher.

The form should then be returned to: Graham Handscomb,
County Hall, PO Box 47, CM2 6WN

We wish you and the students you work with every success!

FLARE



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Visit our site: www.essexflare.org

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- Kellett, M. (2005) 'How to Develop Children as Researchers', London: Paul Chapman Publishing
- Kirby, P. (1999) 'Involving young researchers: How to enable young people to design and conduct research', York: Joseph Rowntree Foundation
- OFSTED, (2005) 'Framework 2005: Framework for the inspection of schools in England from September 2005'. Retrieved <http://www.ofsted.gov.uk>
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- Rudduck, J. and Flutter, J. (2004) 'How to Improve your School', London: Continuum
- Rudduck, J. and McIntyre, D. (2007) 'Improving Learning Through Consulting Pupils', London: Routledge
- UN (1989) 'Conventions on the Rights of the Child'. Geneva: UN

Useful Resources

Books and papers

- Alderson, P. and Morrow, V. (2004) 'Ethics, social research and consulting with children and young people', Essex: Barnado's
- Fielding, M. and Bragg, S. (2003) 'Students as Researchers: Making a Difference' Cambridge: Pearson Publishing
- Frost, R. (2007) Developing the skills of seven and eight year old researchers: a whole class approach, *Educational Action Research*, 15 (3) pp 441 – 458
- Frost, R. and Holden, G. (2008) Student voice and future schools: building partnerships for student participation, *Improving Schools*, 11 (1) March
- Kellett, M. (2005) 'How to Develop Children as Researchers', London: Paul Chapman Publishing
- Kirby, P. (1999) 'Involving young researchers: How to enable young people to design and conduct research', York: Joseph Rowntree Foundation
- MacBeath, J., Demetriou, H., Rudduck, J., and Myers, K. (2003) 'Consulting Pupils: A Toolkit for Teachers', Cambridge: Pearson Publishing

Useful Websites

<http://childrens-research-centre.open.ac.uk>

This is the website for the Open University's Children's' Research Centre. This site is all about children by children. Its primary objective is to empower children and young people as active researchers.

<http://www.youparticipate.org.uk>

This is the HCD Student Partnership website at the University of Cambridge Faculty of Education and has examples of research by children and young people.

<http://www.essexflare.org>

This is the website for FLARE and is dedicated to promoting enquiry and research in the Essex education community.

Scenarios

Scenario 1 - Cruelty to animals

A group of Y4 researchers think that cruelty to animals is mean and have decided they want to find out a range of questions around why people are cruel to animals. They send out a questionnaire to four Y6 students. One of the Y6 students takes the questionnaire home to his family who own a farm. The mother writes a long, strongly worded, letter to the class teacher asking why he is teaching the children to hold one-sided romantic notions of animal welfare as the family have to engage in pest control in order to manage their farm effectively. The mother asks the students and class teacher to consider a lot of challenging questions around commonly held perceptions about animal cruelty in the letter. The class teacher is not the adult leading the development of young researchers and is very upset at receiving the letter.

Imagine you are the adult leading the development of young researchers in this school. You have just arrived for your weekly research session with the class and walked into this situation. How would you deal with it?

What actually happened:

- The adult leading the research talked with and listened sensitively to the class teacher and approached the headteacher to discuss the matter,
- The researcher discussed the points the parent raised with the group of pupils and another group of Y4 pupils who were researching a similar topic. This was an excellent opportunity for helping the pupils consider other viewpoints,
- The class teacher and researcher met the parent after school and thanked her for her letter, explained the context of the research (that it was exploratory not brainwashing) and said what a productive opportunity it was for the children. There were no further problems.

Scenario 2 - Sharing research publicly

Some Y9 researchers with poor literacy skills have worked really hard on their research once a week for nearly a term. They have completed their analysis but are now completely disinterested in writing a report about their work.

What do you do next?

What actually happened:

- The students produced a powerpoint presentation instead,
- It is good to explore a range of ways that students can present their work which keeps their enthusiasm alive and gets the information across

Scenario 3 - Classroom observations

Some Y9 students want to research how much recycling different departments do and decide they will observe some lessons in a range of different subjects. The adult leading the young researchers' development receives complaints from some teachers that some student researchers have been missing their lessons. The student researchers doing the observations also complain that some teachers have been happy to let them observe in their classes while other teachers have been hostile.

Why do you think this situation has arisen and what would you do to prevent it happening again in future?

What actually happened and what you could do next:

- There was a breakdown in communication between the student researchers, the adult leading them and the other teachers,
- In future it would be important to ensure that the whole school was aware of the student researcher initiative and, even if this was not possible, for the adult leading the student researcher development to discuss an appropriate ethical protocol for classroom observations with the students. This would include asking teachers for their permission to release students from their classes as well as permission to observe. It may be worth making this a written protocol, signed by a senior manager, the adult leading the research and the teachers the students want to approach.

Scenario 4 - Murder

A Y5 teacher and a university lecturer are developing Y5 researchers in school. The students can choose their own topics for investigation. One boy with low self-confidence wants to investigate murder. The teacher wants to allow the boy to pursue this while the lecturer thinks it is inappropriate and wants to dissuade him.

If this situation arose in your school with a young researcher you were developing what would be your response and why? What do you think about the adults responses and why they made them?

What actually happened:

- The class teacher spoke with the pupil and found out that in his home country he had seen a relative murdered as well as seeing someone murdered in England. This had upset the pupil and caused him to want to find out why people murder.
- The university lecturer was worried the situation would become very sensitive while the teacher knew that many of her pupils had experienced very difficult personal circumstances,
- In the end the pupil pursued the research which involved asking peers and the Police about the area. The pupil had wanted to interview convicted murderers but the teacher would not allow this for the pupil's safety. The pupil gained a great deal of confidence through pursuing the research.

Scenario 5 - Smoking

Some Y3 researchers want to find out why people smoke. They want to interview family members in school about why they smoke and have one afternoon each week for two weeks to collect their data. You have spoken with them about some difficulties about doing this, (e.g. their family members live all around the country). You suggest that a quicker way of getting their data could be to send questionnaires out to adults, however the headteacher is not happy for the children to survey random adults at the school or their families.

You are the adult leading the young researchers development what do you do next?

What actually happened:

- The adult leading the research also realised there may be public relations implications for the school with regard to inviting families in to school to take part in the research e.g. Some adults may not think it appropriate for such young children to be investigating why adults smoke even if they have chosen this topic themselves or the adults may feel uncomfortable being quizzed by their younger family members which may heighten family tensions around smoking, putting the children in a vulnerable position.
- The adult leading the research approached the headteacher to seek her advice and they decided that given the sensitivity of the area and the short timescale that it was better to ask a small sample of anonymous college students who were not known to the school but which the adult researcher had access to.

Scenario 6 - 'Where does God live?'

Some Y3 researchers have received back ten questionnaires they sent out asking adults a number of questions including 'Where does God live?' They receive back answers to these questions that are handwritten, use words like 'omnipresent' and are up to three lines long.

How do you prepare to support these young researchers without 'taking over' their analysis?

What actually happened:

- The adult leading the research discussed the answers with the pupils to ensure they could read the answers and understand the language and concepts. The adult gave the pupils the choice of using the new words they had learned or their own terms. The pupils used their own terms.

(Scenarios 1, 3 and 5: Frost, 2006; Scenario 2: Roberts and Nash, 2007; Scenario 4: Lindridge, 2006)

Appendix 2 PowerPoint slides for use with activities

You may find the following slides helpful when you are using the pages they relate to in the guidance.

Slide	Page Number
1	13
2	14
3	19
4	20
5	20
6	20
7	20
8	20
9	28
10	28
11	35
12	35
13	49

Perceptions of research

Slide 1

Expert researchers are...

Ethical
Your research must not harm the people involved.
(pupils' voice, 2015)

Logical
You need to question everything you find out.

Systematic
You need to research in a logical step-by-step way.

Slide 2

Why do we do research?

It can help us:

- know more about things
- question things
- change things
- solve problems
- find things out by collecting data

Slide 3

If we could wave a magic wand...

- We would make our school better by...
- We would make the pupils feel happier and safer by...
- We would learn better by ...
- We would make our school environment better by...

Slide 4

Think Sheet – Getting started

- What are our hobbies and interests?
- What do we feel strongly about?
- What are we curious about?
- What would we like to change if we could?

Slide 5

Choosing a research focus in your subject area

- What works well?
- What are we interested in?
- What do we feel strongly about?
- What are we curious about?
- What would we like to improve if we could?

Slide 6

Voting

Areas we could research in school	Vote for your top 3 choices
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Slide 7

Things we want to find out about.....

Slide 8

Data collection methods carousel

	Methods	Strengths	Weaknesses
	Questionnaires (scale rated)		
	Questionnaires (open ended)		
	Interviews		
	Observation (naturalistic, systematic)		
	Picture (photographs, drawing)		

Slide 9

Collecting two types of data

- Numerical or **quantitative** data
 E.g. Scale-rated questionnaires, systematic observation and interviews using closed questions.
- Descriptive or **qualitative** data
 E.g. Interviews using open-questions, naturalistic observation, open-ended questionnaires and image-based methods.
- You can collect both types in one project.

Slide 10

Questionnaire A

- 1 Why did you start smoking?
Because my friends were doing it and I wanted to look cool
- 2 Why do you smoke?
Because I can't stop
- 3 Do you want to smoke?
No
- 4 What is a good thing about smoking?
I get fresh air when I go outside to smoke
- 5 Have you ever tried to give up smoking?
Millions of times!
- 6 Why do people smoke?
Because they get addicted and can't stop

Slide 11

Summary sheet

Question	A	B	C	D	Therapist Total
1. Why did you start smoking?	4				
2. Why do you smoke?	4				
3. Do you want to smoke?	Y	F	F	Y	See 4
4. What is a good thing about smoking?					See 4
5. Have you ever tried to give up smoking?	Y	F	F	Y	See 4
6. Why do people smoke?					

Slide 12

Research design

Group	Research question	What?	What method?	When?	How will you analyse it?

Slide 13







This document has been published by

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