Pupil researchers generation X: educating pupils as active participants

An investigation into gathering sensitive information from early adolescents

Jenny E. Symonds   University of Cambridge

Context

Involving pupils as empirical researchers within school settings assists in bringing their voices to the fore of school administration (Rudduck and Flutter, 2000) and educational theory. Pupil researchers are empowered in this process by developing their social and technical skills, by forming relationships with non-familial adults and by taking responsibility for the quality of schooling. When pupils are involved as interviewers, co-constructors of surveys and general 'fact finders', data are obtained within avenues that align with pupils' social worlds and cognitive functioning. This should increase the authenticity of data by gathering that which otherwise would be inaccessible to adults (Fielding and Bragg, 2003). Despite the potential for data to be improved in this manner, there are implicit problems in the process such as pupil bias and limited background knowledge (Pollard, 1985). Pupils' age-specific abilities in constructing and interpreting information may produce data that are simplistic compared with those gathered by an adult researcher. Furthermore, when pupils are involved as researchers on a 'tokenistic' level, and where the adult and pupil researcher hierarchy is heavily imbalanced, their capacities for participation become limited (Frost, 2007, p. 442), hindering any benefits that might be incurred. This article discusses these restrictions and benefits brought to light by the pupil researcher movement from a developmental psychological perspective, using the findings from a pilot study, and suggests that they are inherent in pupil participation in general. To obtain these benefits in all types of study, it proposes the notion of educating pupils as 'active' participants who are engaged as informed, reflective respondents, as opposed to being passive subjects of survey or interview investigation.

Pupil researchers generation X

A pilot study was conducted in May 2007 in a middle school in the east of England to evaluate the effectiveness of a range of methods in uncovering sensitive information on early adolescent psychology. The study informed

a longitudinal ethnographic investigation into the relationship between early adolescent psychological development and middle and secondary school environments. The topic of research had been approved by the Cambridge Psychology Research Ethics Committee. Ten Year 7 pupils (age 11–12) took part in a four-hour 'research methods investigation workshop' that spanned two days. Here they were engaged in a series of activities designed to gather information on their anticipations, experiences and reflections of using a particular method. Pupils evaluated the methods of generating interview questions, peer and self interviews, stimulated video recall, projective tests and social and geographic mapping. Each method either removed the researcher's presence or was audio, visual or audiovisual in nature. Consequentially these methods are proposed to have good face validity for young people, enhancing the ecological validity of data and minimising the risk of attrition.

The sample

The sample consisted of ten pupils from one Year 7 form class. They were purposely chosen to represent a range of demographic characteristics which were later tested by a short questionnaire that gathered data on pupils' ages, levels of achievement, socio-economic status and ethnicity. Pupils were ethnically homogeneous (white) and of a similar age (median 11 years 2 months, range 0.74 per cent of a year). Seven out of ten pupils were classed as high achievers. Pupils were mixed in socio-economic status and were children of workers who ranged in occupation from semi-routine and routine jobs to managerial and professional occupations.

A letter of consent was signed and returned by pupils' parents before the study was conducted. This letter ensured the pupils' right to withdraw from the study at any time and promised complete confidentiality and individual anonymity in accordance with the British Educational Research Association (BERA, 2004) and the British Psychological Society's (BPS, 2006) ethical guidelines.

Research methods investigation workshop

Session one

In the first workshop session pupils were given colourful illustrated booklets that contained information on research methods and instructions for data-gathering activities. The first page introduced the purpose of the study and the pupils' part in this as student researchers (Figure 1).

> Your thoughts and feelings about growing up and becoming a young adult can sometimes be easy or at times be difficult to talk about. Sometimes we shut down and don't want to discuss how we feel, while at other times we want everyone to know how we are feeling. By taking part in this short research project, you will learn about the different 'methods' that education researchers use when they do research in schools. You may get to try out
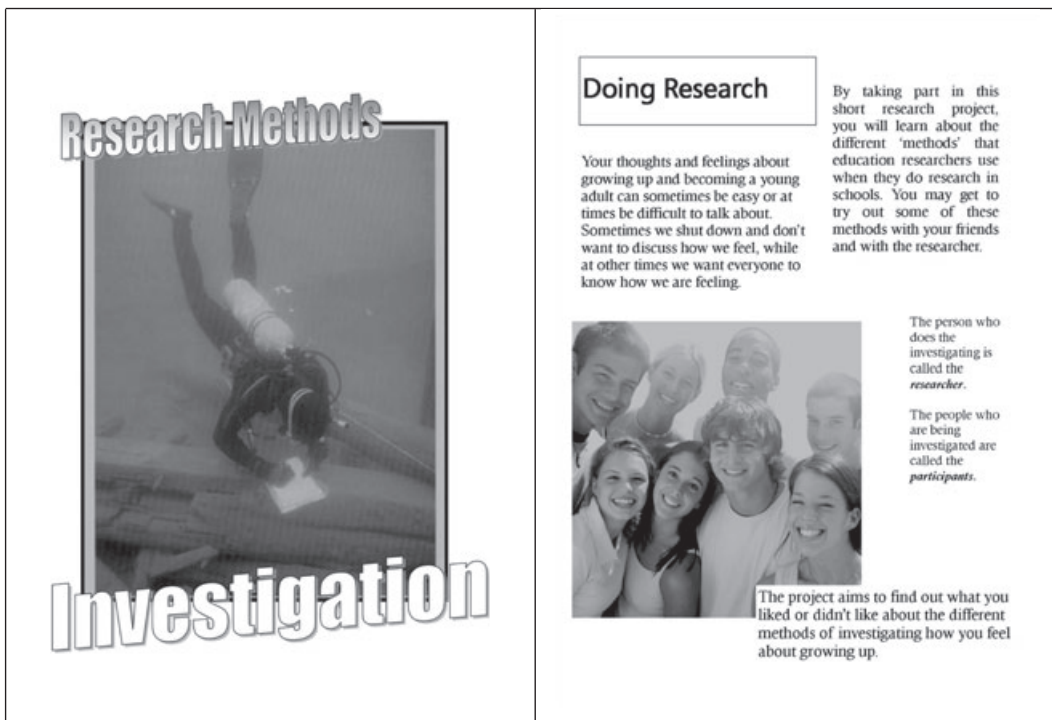
Figure 1 Research methods investigation booklet: introduction

some of these methods with your friends and with the researcher. The project aims to find out what you liked or didn't like about the different methods of investigating how you feel about growing up.

Second, a double spread of pages (Figure 2) briefly explained the format and uses of the following methods: observation, interviews, video observation, stimulated video recall, video diaries, projective tests, MP3 diaries, e-mails, maps and diagrams. Pupils were guided through these pages by the researcher, who then led a discussion on research and on research methods.

Next, pupils were asked to complete a table that prompted them to share their anticipations of using a particular method. They were asked to comment on what they thought would be the best things and the worst things about using the methods for participants in general. Then they were asked to reveal the things (if any) about the method that they might be uncomfortable with as participants. Finally they were prompted to consider whether they might be able to show their feelings by using this method.

To end the session, pupils generated three questions about growing up that they would ask to a friend or someone of the same age. Their experiences of doing this were explored during a focus group interview where they discussed the types of questions that were raised and the potential barriers to using them, or questions of a more sensitive nature, in research.

The questions were transcribed and turned into an interview schedule that was employed in the second session.

Session two

Here, pupils worked individually and in pairs to evaluate the techniques of peer and self interviews, stimulated video recall, projective tests and the construction of social and geographical maps.

1 Pupils involved in the peer and self interviews were taught to make sound-recordings using a digital voice recorder and an MP3 player. Next they used a 'quiet room' to conduct interviews, using the pupil-generated interview question schedule. Pupils either interviewed each other in friendship pairs or used the written questions to interview themselves.

2 In the stimulated video recall sessions, individual pupils watched a video snippet of themselves in class that had been recorded previously by the researcher. Following this they responded to pre-written questions about their behaviour in the snippet. This technique of stimulated recall is commonly used by psychologists to prompt the surfacing of memories through the application of visual or auditory cues (e.g. Kochevar and Fox, 1980).

3 Pupils involved in the projective tests activity were given ten pictures in which people of a similar age to themselves were engaged in various poses and interactions. The pupils were asked to comment on what the people in the pictures might be thinking and feeling. This technique aims to uncover trends and incidences in pupils' interpretations that reveal clues about their psychology.

4 Lastly, the social and geographical map activities required pupils to draw either a map of the school and label it according to their feelings about classrooms, buildings or 'hang-out areas' and the social aspects of these, or to draw a genealogy of their peer network at school.

After they had finished the activities, the pupils completed a table, parallel to that in session one, which prompted their reflections on using a particular method. Through triangulating the information from the tables, it was possible to compare pupils' anticipations with their experiences.

Findings

The pilot study found that pupils were most anxious about sharing information on physical changes. They had negative anticipations of having an adult researcher present and wanted to give a good impression in peer interviews. In general, pupils felt under pressure to respond and not 'look silly', which in some cases led to the manufacture of 'artificial' responses. This is a similar finding to Gilligan's (1991), where a female adolescent interviewee voiced

Methods of Investigation

Observation
The researcher writes notes about what they see in a class-room or on the playground. Most often they just look at the things that one or two people do in class.

Interviews
The researcher will ask questions to one or more people. These questions are often written down before the interview begins. The interview can be recorded with a tape recorder or digital sound recorder (like an MP3 player).

Video Diaries
Participants make a short video that is shown to the researcher. The video can be about the participant's school or home life. In the video, participants can interview their friends or other people, or record interesting places or things of special interest to them.

Video Recording
A video camera records what happens in class. Afterwards the researcher watches the video and decides which parts are interesting. These parts can be written out and ordered into themes.

Sometimes the video will be played back to the people who are in it, who are then asked to talk about what they did when they were being recorded. This is called *stimulated video recall*.

Projective Tests
Cartoons or pictures of people are shown to the participants. The participants are asked to talk about what they see in the pictures.

MP3 Diaries
Like email diaries, participants record an 'audio diary' using an MP3 player or digital sound recorder. The participants can make recordings as often or as little as they like, and can do this anywhere they have the MP3

Texting and Phone Messages
Mobile phones are used to keep the participants and the researcher in touch during the day, after school or in the school holidays. Participants can talk to the researcher over the phone, text the researcher or leave phone messages.

Emails
The researcher emails the participants and asks them questions. The participants reply by email. Participants can keep an email diary which they send to the researcher at the end of each day or each week. This is a good way of finding out what the participants do in the school holidays.

Maps and Diagrams
Participants draw maps of a place, like their school. On the maps, participants label places that they feel are important or are interesting. Maps can be real or imaginary. They can show places or relationships between people.

Figure 2 Research methods investigation booklet: explanation of methods

her uncertainty about the validity of her answers. The interviewee remarked that 'if I had interviewed here on another day, or if I were a different person . . . [the interviewer] would get "very different things" especially because a lot of the questions you asked are not questions that I have ever put to myself . . . and afterwards I wondered, you know, did I really mean that . . .' (p. 15). Pupils also anticipated that they would be uncomfortable being interviewed in a formal setting and recommended to the researcher for interviews to take place in a location of the interviewee's choosing.

Pupils felt some discomfort with using recording equipment and having their statements recorded, as 'you could not rewind it, you did not hear'. They evidently would have liked to have more control over the recording equipment so that they could play back their recordings to check for mistakes and data that might have embarrassed them. The pupils were also uncomfortable about the information being used by the researcher for a purpose they were not familiar with.

Pre-interview, pupils reported concerns about answering 'private' or 'personal' questions. However, their concerns were alleviated by accessing the questions prior to interview. Their experiences of peer interview were generally positive, with pupils remarking that it was 'easy to say what you thought' and 'enjoyable'. Studies have shown that the stronger a social network the more similar accents become (Chambers, 2003). This is likely to apply to peer groups within schools. When being interviewed, pupils' understanding of the questions may have been aided by familiarity with their peer's syntax, pitch and use of variation (different expression of the same words) in voice. Furthermore, the context of peer-to-peer relations may have dictated the general form of language used on both sides. This interview scenario, as opposed to one where the researcher uses the 'language of adults' to interview the pupils, may more naturally reflect adolescent social realities.

Pupils similarly enjoyed the self interview, where it was found to be 'like talking to yourself, as you could say anything'. This technique reverts spoken questions to written questions, reducing a layer in the perception/interpretation network that would occur with an interviewer present. The strength of this method in gathering unbiased responses is perhaps therefore dependent on the comfort awarded to the participant in terms of the proposed information use and control over the recording equipment, whereas the peer interviews are subject to this and, further, to the interviewer–interviewee dynamic.

The questions generated by pupils for the interviews were simplistic, similar to those constructed by Year 6 pupils in a study by Christensen and James (2001). The lack of complexity of questions is therefore thought to be 'age-appropriate' for this year group (according to their demography) and to be related to their conceptual development. The peer interviewers read the questions to their interviewees without elaboration or further prompting, and likewise the interviewees' responses were basic. The process of asking simple questions without elaboration and receiving unelaborated

responses limited the amount of psychological information that was gathered from the pupils in this manner. This raises the question of how to utilise pupils' implicit knowledge of their interests and everyday lives in interviews and surveys without reducing the scope of the data to be gathered. It is suggested that some type of scaffolding occur to assist pupils to develop more complex research questions, or to allow them to interview in a manner that prompts more detailed replies. Any attempts at this should consider issues of validity when scaffolding out of the pupils' 'natural range'.

A developmental perspective

The pilot study found that pupils were concerned for their privacy, felt under pressure in various ways to give data and were notably comfortable when being interviewed by their friends. These findings are likely to reflect the experiences of interviewees of any age, yet also these experiences may in some ways be 'developmental specific'. Here it is proposed that pupils' perceptions are influenced by their individual development, which is taken as their current psychological and physical state. In developmental psychology the current sample of Year 7 pupils can be categorised as 'early adolescents' (Eccles, 1999), or individuals of 10–14 years of age who are experiencing puberty. Individuals experience alterations in body size and shape, the secretion of sex hormones and the maturation of reproductive organs. At around age 11 or 12 changes in the brain occur where neural connections speed up as they become insulated by myelin (TLRP, 2007) and the synaptic mass surrounding them (commonly known as 'grey matter') increases sharply, then is sloughed away during a period of synaptic pruning (Blakemore and Choudhury, 2006). These physical changes are likely to influence pupils' psychology as they develop from children into young adults.

Although these changes are likely to provoke differential psychological responses it is also thought that to some extent they result in similarities in thought and behaviour among this age group. Eccles and Midgley (1989) outline several of these 'characteristics' of early adolescent psychological development:

1   Increased desire for autonomy.
2   Increased salience of identity issues.
3   Increased peer orientation.
4   Increased importance of sexuality.
5   Increased self-focus and self-consciousness.
6   Increased cognitive capacity, with movement towards formal operational (abstract) thought.

Like any domain of psychology, each of these characteristics does not operate in isolation but is likely to be interrelated with the others, albeit to different

extents. The potential relationship between these characteristics is construed below as an overview of early adolescent psychological development.

Early adolescents are likely to require increased physical and psychological autonomy in order to begin the transition from dependent young people to independent, reproductive adults. This is aided by the development in sophistication of their goal-directed partnerships with parents and carers (Allen and Land, 1999). It is also assisted by early adolescents' integration into peer networks within which they can explore and develop elements of self-identity such as gender roles (Youdell, 2005), practise sexuality behaviours (Eyre *et al.*, 1998), and build social mechanisms to help support their autonomy. Consequentially, peers become of great importance to early adolescents. The development of sexuality, self-identity and peer-group roles is likely to increase early adolescents' self-consciousnesses, manifest for some in a sharpened focus on appearance (Shapka and Keating, 2005).

Functioning alongside and almost certainly moderating these phenomena are early adolescents' increased capacity for abstract thought, a feature of development that is most likely linked with the aforementioned changes in the brain that occur around the time of puberty. Developmental psychologist Vygotsky (1978) referred to early adolescence as a time of 'transformation' where individuals begin to 'think in concepts', as opposed to the more visually oriented thought of childhood. He states that entirely new modes of thinking are created, allowing understanding to be deeper and more expansive. Similarly, Piaget's renowned stage theory of cognitive development (Inhelder and Piaget, 1958) describes the onset of adolescence (or around age 11) as the beginning of formal operational thought where individuals fragment their conceptions and empirical observations, which, combined with increased powers of rationalisation, leads to a shift in cognitive function.

This conceptual shift and the individual psychological changes described in the preceding paragraph can be related to the findings from the pilot study of pupils' anxieties and enjoyments of, and limitations in, participating in particular research methods. Figure 3 shows the prospective relationship between the developmental characteristics (displayed in grey boxes) and the findings (displayed in white boxes). It includes as a further characteristic the notion of hierarchy between the adult researcher and pupils, which although it is not restricted to early adolescence is nevertheless inherent in their state of physical and social development.

Educating pupils as active participants

Considering their developmental characteristics, the psychosocial needs of early adolescents are likely to be different from those of children. Erikson (1950) divides the life span into eight stages, each distinguished by a specific developmental task that leads to a psychological outcome. The developmental characteristics mentioned in this article can be conceived of as such 'tasks'
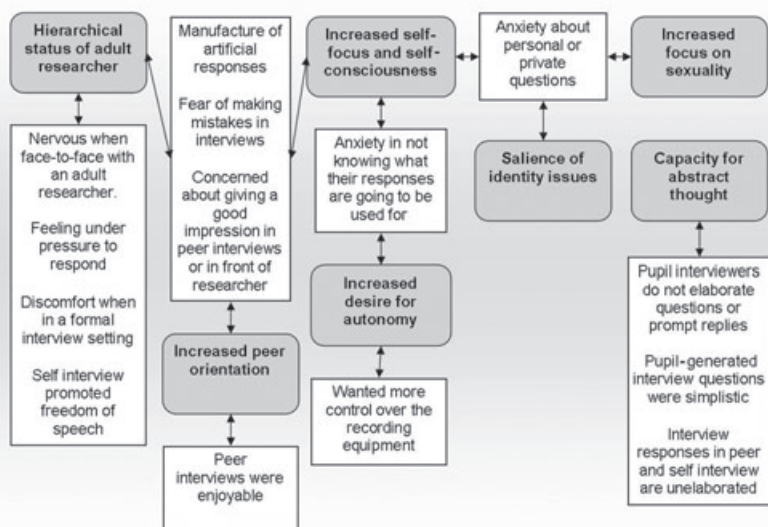
Figure 3 Pupils' evaluations and reflections of research methods in relation to their developmental characteristics as early adolescents

of early adolescence. Potentially, then, barriers to these tasks or failure to appropriately address these needs can lead to 'regressive' (Eccles, 1999) psychosocial development. Figure 3 mainly reveals negative relationships between the experiences of the pupil participants and their psychological development. Such inappropriate research scenarios are likely to have a harmful impact on pupils' psychology and are found in this study to reduce the validity of pupils' responses.

To address these problems, researchers are encouraged to have both a professional and a 'civic' interest in facilitating positive, developmentally appropriate experiences for early adolescent participants. This humanistic perspective is advocated by Erikson (1968), who states that aiding prosocial development in adolescence is the responsibility not just of the adolescent but of wider society in general. Some suggestions of how researchers might do this are given in Table 1. To summarise these: pupils should be provided with more control over their responses to support their autonomy, potential threats to their self-esteem and self consciousness should be removed, their capacity for abstract thought should be encouraged by appropriately scaffolding their cognition and the hierarchy of the pupil–researcher relationship should be reduced by increasing familiarity with the researcher and the purposes of the research. A balance must be struck between allowing pupils autonomy and scaffolding their cognition, resulting in a more even power

Table 1 Barriers to expression and proposals for their removal

Barriers	Solutions
Anxieties about being asked personal or private questions	Tutor pupils on their right to not respond to alleviate concerns. Show pupils the interview questions prior to the interview
Nervous when face-to-face with an adult researcher	Engage the pupils in an activity where they gain familiarity with the researcher
Concerned about giving a good impression in peer interviews or in front of adult researcher	Discuss the interviewer's expectations and the importance of giving honest viable data. Use self interview if appropriate
Feeling under pressure to respond	Tutor pupils on their right to not respond to alleviate concerns. Engage the pupils in an activity where they gain familiarity with the researcher
Fear of making mistakes in interviews and general discomfort in being recorded	Show pupils the interview questions prior to the interview. Allow pupils to make a test recording prior to the official interview. Allow pupils to rewind and edit recordings
Uncomfortable when using recording equipment to record peer or self interviews	Give pupils plenty of practice in using recording equipment before the interview
Manufacture of artificial responses	Tutor pupils on the importance of giving honest answers to construct viable education research. Tutor pupils on their rights to not respond to alleviate concerns
Discomfort when in a formal interview setting	Allow pupils to choose the interview location. Provide refreshments if appropriate
Anxiety in not knowing what their responses are going to be used for	Thoroughly brief pupils on the structure and purposes of the research, as appropriate. Encourage them to query the research. Tutor pupils on their rights to information privacy and anonymity
Pupil-generated interview questions are simplistic or Pupil interviewers do not elaborate questions or prompt replies	Assist pupils by scaffolding 'model' questions and by encouraging them to construct questions with multiple clauses
	Provide a generic prompt card that encourages pupils to consider the question from different angles
	Train pupils in semi-structured interviewing techniques such as prompting, pausing and elaborating
or Interview responses in peer and self interview are unelaborated	Show and, if appropriate, read and discuss the interview questions with pupils before interview to check for understanding and to prompt reflective answers

relationship between pupils and the adult researcher. Such activities should eventuate in more authentic responses from participants by reducing the barriers to their expression and by increasing their 'ownership' of, and hence personal stake in, the overall education research outcomes. By providing data of a higher quality and developmentally appropriate experiences for early adolescent participants, researchers are addressing their recommended professional and civic responsibilities.

Conclusion

In research, each data-gathering situation varies in its approach to 'educating' pupils as participants. Researchers commonly communicate anonymity and withdrawal rights to their participants. However, the extent to which early adolescents understand these concepts or to which their concerns are alleviated by this process is uncertain. Despite giving similar information to participants in my own study, their anxieties about responding and about the purposes of the research were manifest. When pupils have limited or no experience as participants, and when their developmental needs are thwarted by current methods of investigation, a restructuring of their interactions with researchers is called for. It is suggested that researchers take note of the framework proposed above and modify these suggestions to suit their individual research purposes, allowing pupils to contribute as 'active' participants instead of being passive subjects of investigation. In this, researchers can create more developmentally appropriate research experiences for early adolescent participants.

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Address for correspondence

Faculty of Education, University of Cambridge. *E-mail* jes81@cam.ac.uk