

Key features of unit 14, QCA scheme of work (Case study 9.2 overview)

Pupils work with a remote partner in another school to collect common, agreed data for a specific topic. This forms a complete data set and is concluded by a pupil report on findings.

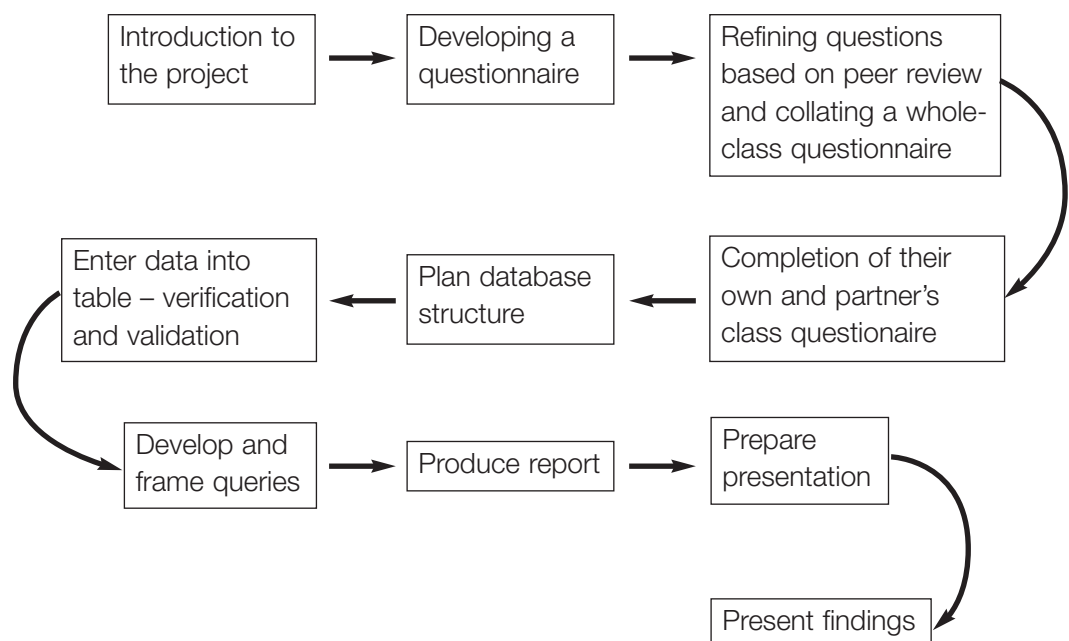
The following suggestions could equally be carried out between different classes of pupils within the same school, with the data collection and transference being supported by electronic communication, and with the resultant information being disseminated on the Internet.

A great deal of teacher preparation is needed for this unit. Teachers will need to:

- identify a broad project focus – perhaps related to issues developed from Citizenship – but not all the specifics of the data to be exchanged between the classes;
- identify the parameters for the project;
- agree upon the expected outcomes;
- identify the parameters for data structures;
- identify parameters for communicating the results of data enquiries and information dissemination.

Notionally this unit requires pupils to work in groups. Pupils will be required to keep *either* a project diary of their activity and contribution to group success *or* project documentation based around the system life cycle.

The timeline for this project



The basic project plan accounts for ten one-hour lessons. There are opportunities to spend time on the development of knowledge, skills and abilities appropriate to the perceived abilities of the pupils. These opportunities can be built into the project plan, as pupils identify and require them.

Working with the project plan

Introduction to the project

- *Introduce the broad project focus to the pupils.*
- *Explore overall outcome and requirements.*
- *Pupils identify software to meet the outcomes.*
- *Pupils identify 'teaching' necessary in order to fulfil the requirements.*
- *Establish starting and end points for the project.*
- *Build a project plan – adding elements of teaching identified with the group as being important to their success.*
- *Ensure that pupils are aware that the project plan sets the structure of their work over the next few weeks – it establishes deadlines.*
- *Use a Gantt chart to establish time lines and review points.*
- *Use a project diary to record their individual contributions to group discussions, and group work or full project documentation.*

Developing the questionnaire

- *Starter to focus on pupils' understanding of the role of a questionnaire in collecting data.*
- *Explore different types of questions and the answers they elicit.*
- *Establish a basic set of questions as a foundation.*
- *Each group to develop four or five questions of their own to supplement the 'basic' questionnaire.*
- *Check understanding for types of responses expected. (Differentiation – expect some pupils to use yes/no responses and others to go for more detailed responses). Questions to be input into wordprocessing software, and saved in the shared area. Plenary to focus on individual contributions, reflections on learning and recording results in the project diary.*

Refining questions based on peer review and collating a whole-class questionnaire

- *Project basic questions for class reviewing as the starter.*
- *Groups present their supplementary questions with comments on suitability and responses expected from the questions.*

- *During this process some questions will be duplicated – pupils need to know this is normal. They should record that their contribution to the questionnaire included a duplicated question. Feedback becomes pacier as lesson progresses.*
- *Agree on a design for ‘class’ questionnaire; copy required questions into basic questionnaire, and select appropriate logos and related items from shared area as part of their design.*
- *Verify that all questions have been included and all work has been saved appropriately. Send questionnaire to partners.*
- *Record developments made and contributions to group work.*

Completion of partner class questionnaire

- *Pupils appraise the structure of the questionnaire, its fitness for purpose, the types of data response they expect to be offering when completing the questionnaire.*
- *Cover issues of personalisation of data, the Data Protection Act, sourcing answers to factual questions.*
- *Groups set tasks to complete specific sections of the questionnaire.*
- *Careful review of validation process – GIGO and perhaps another element that should be covered. Questionnaires should be legible, and responses spelled correctly/consistently.*

Plan database structure

- *Identified as separate element of project plan but use opportunities to work on this over time. Use as a ‘fall-back’ if partner questionnaires cannot be delivered to schedule.*
- *Planning phase is important: Link of database structure to the questionnaire – is there a need for input screens – will data entry be to a table – will everyone input all the questionnaires – how is the data to be merged if groups are inputting small numbers of questionnaires?*
- *The basic structure can be set up by the teacher with pupils involved in adding fields and designing data input processes.*
- *Validation and verification very important – if all the field names are the same then merging data files will be error free – if there are errors/misspellings/changes in capitalisation then the process will not run smoothly.*

Enter data into table – verification and validation

- *Should not require the pupils to enter copious amounts of data.*
- *Continuing recognition of importance of validation and verification.*
- *Merging datafiles to contribute to a larger datafile seen as important outcome: efficiency is important concept to grasp.*

- *Demonstrate merging of datafiles – the actual merging could be after the lesson is finished, in preparation for the next lesson.*
- *Plenary on benefits of data merging and on potential difficulties – this will further exemplify the importance of validation and verification.*

Develop and frame queries

- *Link back to the questions identified as contribution to class database.*
- *Monitor responses against actual results.*
- *Identify purpose of the reports – they are needed to answer questions about data collected.*
- *Use examples from 'basic database' to exemplify how queries can be framed.*
- *Pupils develop, test and refine their queries, keeping a record of the processes: for example, moving from simple to complex queries.*

Produce report

- *Explore whether the database software has report-generation facilities – possible teaching point.*
- *Report to include responses to queries plus interpreted graphical representation.*
- *Consider writing frames for some pupils.*
- *Time to reflect on design, improvements.*
- *Consider medium of presentation – how are groups going to summarise what they have discovered? How are they going to explain the processes they went through – are they going to consider strengths and weaknesses? What would they have done differently? Pasting their findings into a presentation file may be an area for revision, as may be the saving of their work in html format.*

Presentations

- *Concentrate on analysis and review elements completed.*
- *Use opportunities for assessment of and for learning.*
- *Identify pupils who will need additional support during the next unit.*